



Impact of
COVID-19 on
vaccination
in France

RESEARCH ON THE HUMAN AND SOCIAL ASPECTS OF VACCINATION IN FRANCE SINCE COVID-19

1st Edition

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The ICOVAC-France project and the SHS-vaccination-France network

This report was written as part of the ICOVAC-France project. This project, funded by the ANRS- MIE, tracks the evolution of attitudes to vaccines and vaccine controversies after the first years of the Covid-19 pandemic. For more details on this project, visit: shs-vaccination-france.com/le-projet.

One of the aims of the ICOVAC-France project is to encourage interdisciplinary dialogue on vaccination issues. In addition to this report, the ICOVAC-France team has set up the SHS- Vaccination-France network to bring together researchers working on the human and social aspects of vaccination in France and those working on this subject in other countries. It also aims to disseminate information about publications and events on the subject via a newsletter. For more information on this network and to join, go to the website (shs-vaccination-france.com).

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Summary

Research into the human and social aspects of vaccination has developed spectacularly in France since the start of the Covid-19 epidemic. It has attracted researchers from a wide range of humanities and social sciences disciplines, as well as from medical disciplines interested in all aspects of vaccination.

The dynamism and richness of the work produced since 2020 in France provide an opportunity to make considerable progress in understanding the human and social aspects of vaccination. Conversely, the detailed, interdisciplinary analysis of the case of Covid-19 vaccination in France is also likely to lead to general theoretical advances in the humanities, social sciences and public health.

However, this abundance and diversity can paradoxically act as an obstacle to realising this potential. The profusion of studies and the silos of disciplinary publications can limit the circulation of results and analyses. The aim of this report is to open up this research and encourage the accumulation of knowledge by offering a survey and summary of the work carried out on vaccination in France since the beginning of 2020. The report, published in English and French, will be updated annually to include new publications and results.

The chapters are presented as a summary of available knowledge, a survey of published works and the identification of blind spots in research on each of the themes. In particular, we will show that most existing research has focused on public attitudes and behaviour. However, the human and social sciences can shed light on a wide range of aspects of vaccination, including organisational issues, public decision-making processes, inequalities in access, ethical issues, social mobilisation, public controversies, and even the way in which research is conducted and how expertise is organized.

The report is divided into five chapters. The first deals with the issue of vaccine recommendations and the expertise on which they are based. The second deals with the organisation of vaccination campaigns and vaccination policies. The third looks at research into vaccination attitudes and behaviour, while the fourth looks at healthcare professionals. Finally, the last chapter deals with communication, public mobilisation and media debates generated around vaccines.

The main target audience is researchers: researchers in the humanities, social sciences and medical sciences working on the issue of vaccination in France, specialists in vaccination in other countries interested in the French experience and, lastly, researchers wishing to compare their findings on another research subject with work on vaccination. But we also hope that this report will be of use to those working in public health and in healthcare more generally.

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| Introduction



The Covid-19 pandemic was one of the biggest health crises in recent French history. As of 4 October 2023, it is estimated that circulation of the SARS COV-2 virus has been responsible for almost 40 million infections and reinfections, 168,000 deaths and more than one million hospital admissions in France^a. To fight this virus, the French authorities deployed a wide range of interventions, including three complete or partial lockdowns and the promotion of preventive measures, including isolation in the event of contamination. Above all, from the very end of 2020, the pandemic gave rise to the biggest vaccination campaign in French history. According to the Cour des Comptes, by the beginning of September 2022, nearly 54 million French people had received an initial course and 40 million had received one or more booster doses^b. Almost all generations have been vaccinated, with more than 80% of children aged 12 and over having received at least one dose by May 2023. This was also the case for 10% of children aged 10 and 11 and 3% of children aged 5 to 9^c.

The Covid-19 vaccination campaign was not just a major organisational challenge for the health authorities. The pervasiveness of the epidemic risk in the daily lives of French people, the scale of the restrictions on social life, the duration of the roll-out and the introduction of a health pass from mid-2021, have made this vaccination campaign a collective social event charged with meaning for a large proportion of French people.

The scale and social importance of this vaccination campaign can be seen in the unprecedented growth in humanities and social sciences (HSS) research into vaccination during this period. The political and media importance of vaccines and the funds made available to researchers by public funding bodies helped to attract a large number of researchers to the subject, while perpetuating the research efforts begun before the pandemic. For example, the French National Research Agency (ANR), one of the main public sources of funding for research projects in France, has set up several specific funding schemes dedicated to Covid-19. Through these schemes, it has allocated more than €1.6 million to 13 human and

social science projects dealing at least in part with vaccination^d.

This research has been carried out by researchers rooted in the great diversity of disciplines from the humanities and social sciences (sociology, political science, anthropology, economics, philosophy, communication science, computational social science, etc.) who have seen it as an opportunity to test their analytical frameworks and hypotheses and to develop new lines of theoretical thought in order to contribute to the advancement of their discipline. But it has also been carried out by researchers rooted in the field of public health, and who have come to this question through their concern for the health consequences of vaccination behaviour.

This interest in the issue of vaccination from a great variety of researchers provides an opportunity to make considerable progress in understanding the human and social aspects of vaccination. Conversely, the intensive production of data and analyses rooted in a wide range of perspectives means that analysis of the case of Covid-19 vaccination in France is likely to lead to general theoretical advances in the humanities, social sciences and public health.

However, the incredible abundance of French research and the diversity of the places where it was produced during the pandemic can paradoxically act as potential obstacles to realising its full potential and drawing evidence-based lessons from the pandemic. For example, identifying relevant information and analyses is hampered by the difficulty of processing such a large volume of publications and their distribution across different disciplinary publication silos. For non-French-speaking researchers, the fact that a large proportion of these analyses are published in French is another obstacle. It should also be pointed out that many aspects of the campaign and the reactions of the French people have been documented by actors outside the academic world. For example, polling institutes produced a dizzying number of surveys documenting the opinions of the French at all stages of the campaign on a wide range of aspects of the vaccination. We should also mention the role of the general news media in uncovering some of the political decision-making processes and organisational issues involved in this campaign. Finally, we should also mention state institutions or parliamentary committees which, thanks to their ability to obtain information from political

a) <https://covid19.who.int/region/euro/country/fr>, <https://covidtracker.fr/france/>

b) *Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes*, Cour des Comptes, Paris, December 2022, p73

c) <https://covidtracker.fr/vaccintracker/>

d) This figure was provided to the authors of the ANR report.

decision-makers and the various State institutions, were able to produce reports compiling a wealth of information inaccessible elsewhere. As well as generally being written in French, these documents are not referenced in the databases usually used by researchers to carry out their literature reviews.

All these factors make it difficult for researchers interested in the French experience, whether French or foreign, to have a clear idea of existing work and data, and to distinguish evidence-based analyses from common assumptions contradicted by the facts. Or, more simply, they are massive time-wasters for researchers.

Freely accessible and updated annually

The aim of this report is to help open up research on the human and social aspects of vaccination and to encourage the progress of knowledge in this field by compiling as exhaustive a list as possible of the work carried out on this subject since the beginning of 2020, and to present the main findings. The progress of this knowledge can only be built on a rich understanding of the context in which vaccination campaigns take place. This report will therefore also set out to describe in broad strokes the way in which vaccination against Covid-19 was carried out in France, the debates it gave rise to and its place in the vaccination and political landscape of the period.

In addition, this report will be updated annually to include new publications and results - particularly from the social sciences and humanities, which can take a long time to be published. Our aim is to provide a regularly updated resource that is freely accessible, making it easier for researchers interested in vaccination in France to find their way around the complex landscape of this research.

Some existing publication formats help to open up disciplinary research, such as systematic literature reviews, publication in interdisciplinary journals and monographs. However, the former are constrained by the need for conciseness and focus, while the latter are constrained by editorial requirements and the difficulties of reaching wide circulation. The format we are proposing - a freely accessible report with no word limits - is not intended to replace existing formats, and especially not peer-reviewed articles. We are simply proposing an alternative publication format that is complementary and specifically

adapted to the challenges posed to research by the occasional explosion of work on a specific subject.

This report will cover the period since the start of the Covid-19 pandemic in France, but will not be restricted to work on vaccines against this disease. Particular attention will obviously be paid to vaccination against Covid-19 as this is the focus of most of the work identified.

We hope that this report will be of use to a number of audiences. The main target audience is researchers in the humanities and social sciences and in the medical sciences working on the issue of vaccination in France, specialists in vaccination in other countries interested in the French experience, and, finally, researchers interested in comparing their results concerning another object of research with work on vaccination. With this initiative we wish to encourage dialogue and collaboration between researchers in the various humanities and social sciences (HSS); between the HSS and the medical sciences; and between French researchers and colleagues abroad. We also hope that it will encourage the dissemination of lessons learned from the case of vaccination well beyond the community of vaccination specialists. But we also hope that this report will be of use to those involved in public health: public decision-makers in this field, those working in the field involved in vaccination campaigns, those working in France, in other countries or involved in international bodies. We believe that it will shed light on some of the concrete issues they have faced during this period and continue to face. To further these aims, we have chosen to produce this report in both French and English.

A report that will be improved with each new edition thanks to reader feedback

This report will be updated annually to include publications that could not be included in this initial version. Our literature search ended at the end of June 2023^a. More recent publications are therefore not included in this report, but will be included in subsequent updates. This update therefore concerns articles published too late to be included in the report or released after its publication. But it also includes publications that we may have missed when writing this first version.

To compile this report, we relied on a combination of searches of scientific article databases (in particular pubmed and CAIRN for HSS in French) and organic identification over the last three years. The latter method was particularly important because of the issues relating to the ecosystem of scientific publication on vaccine issues during the Covid-19 pandemic mentioned in the previous paragraphs, but also because of the inclusion of academic formats other than articles published in academic journals (preprints, book chapters, books). For this reason, it is very likely - if not certain - that the list of works cited is not exhaustive and that it reflects the specific position of its authors in the field of research on vaccination: a team mainly rooted in the field of sociology and having developed numerous collaborations with public health researchers. This anchoring is likely to have had an influence both on the publications we have been able to identify and on the perspectives we propose in the various chapters of this report.

For all these reasons, we strongly encourage readers to inform us of any publications that we may have missed by contacting the authors of the report directly^b. But we also invite you to let us know of any errors or inaccuracies that we may have made, suggestions for improvement and any other form of constructive criticism that would help to improve subsequent versions of this report^c.

a) This is also the month in which the websites cited in this report were consulted. For the sake of readability, we will not reproduce this consultation date (30/06/2023) each time we indicate the link to a website.

b) Contact: jeremy.ward @inserm.fr

c) We also very much welcome messages expressing satisfaction and encouragement, as well as giving us indications of which parts of the report were most useful.

A format designed to make it easier to navigate the complex landscape of research

The quality of the information available is a major issue for the analysis of any aspect of vaccination, including its most human and social aspects. For this reason, we will be placing particular emphasis on work published in legitimate scientific formats that involves peer review (articles, books and chapters in scientific journals). However, as we shall see, on many topics these publications are rare, very partial or non-existent. This reflects either the absence of work done on the subject or the fact that it has not yet been published. Furthermore, on many topics, such as changes in vaccination coverage or vaccination intentions, the most descriptive work is often published outside peer-reviewed journals. Yet such descriptive work is necessary for the formulation of fruitful hypotheses and analyses. For these reasons, we will also refer to reports and notes presenting empirical data or analyses that have not been peer-reviewed. Finally, on certain topics, much of the analysis and information was published in the press at the time the vaccination campaign was rolled out. For example, experts in the social sciences or people involved in vaccination were interviewed or wrote editorials to highlight issues that were emerging in the field. In addition, a number of details about how the campaign was being carried out in certain marginalised areas, the actual decision-making processes within the government and the objectives endorsed by the campaign's decision-makers were described by journalists covering the campaign, and in particular published in certain media offering high-quality investigative and/or health journalism. In these cases, in the absence of other references and in the spirit of encouraging reflection on these subjects, we will rely on press articles.

In the process, we will try to show as clearly as possible the nature of the work on which we rely, and in particular whether or not it has been peer-reviewed (in particular by indicating PR when the publication has been peer-reviewed and NPR when it has not). In addition, we will make distinctions in the way they are cited and referenced. Only works based on research, i.e. produced by researchers or clearly setting out the data used and the methodology employed, will be listed as references and indicated in the bibliography. Press articles, parliamentary reports and other documents will simply be footnoted at the point in the text where we use them.

One of the aims of this report is to make it easier to navigate the landscape of research on the social aspects of vaccination in France. We have provided each chapter with its own bibliography to make it easier to identify works of interest to researchers with a focus on certain topics. It should be noted that this bibliography - like the numbered references in the text - will be restricted to the field covered in this report: work relating to the period of the COVID-19 epidemic in France. References to work relating to the pre-Covid-19 period, to vaccination in other countries or to topics other than vaccination (structuring of expertise, organisation of the healthcare system, concerns about the risk of Covid-19, etc.) will be indicated in the footnotes and will not appear in the bibliographies at the end of the chapter and at the end of the report. This choice is meant to make it easier to navigate the already complex and rich landscape of work that forms the core of this report.

The report also includes a bibliography listing all the works cited at the end of the document. This general bibliography will be organised in three parts. We begin by listing the works published in academic formats - articles, books, book chapters - in alphabetical order by author. We will then present the research notes, followed by the descriptive notes published by polling institutes during this period. As these last two types of format correspond to a desire to disseminate results and analyses quickly, we will present them in chronological order. We also provide a summary of these notes.

Report outline and general comments

Before presenting the chapters of this report, it should be noted that much of the work published has focused on public attitudes and behaviour, and has studied this subject using the questionnaire survey method. Public attitudes and behaviours have traditionally been seen as the social sciences' and humanities main focus when it comes to vaccines and other health issues.

Yet "public acceptability" is far from being the only angle from which the humanities and social sciences can address vaccine issues. Indeed, all aspects of vaccination are the product of human activity and take place in social contexts, including scientific research. The humanities and social sciences can therefore shed light on a wide range of aspects of vaccination, including organisational issues, public

decision-making processes, inequalities in access to healthcare, ethical issues, social mobilisation, public controversies, and even the way in which research is conducted and expertise organised. Consequently, the structure of this report aims to reflect this potential diversity, despite the fact that some aspects have been less investigated than others - at least at this point in time. We hope that if some chapters are short or based on few peer-reviewed publications, we will be able to expand them in later versions. A second consequence is that it may be difficult to place very clear boundaries on the scope covered by this report. Its objective is obviously not to review the state of knowledge on the medical aspects of viruses and the way in which the various vaccines manage to combat them. However, human activity and vaccination behaviour are essential factors in the spread of the virus. An extensive approach would lead us to include all epidemiological work on the effect of vaccination on the health of the French. Instead, we have opted for a stricter approach, consisting of including only those studies that produce data on the human and social aspects of vaccination or contribute directly to the debate on these issues. This approach has led us, for example, to include work using modelling tools to predict the potential impact of vaccination behaviour on the spread of the pandemic. This work is generally carried out by interdisciplinary teams building an interface between medical sciences, data sciences and behavioural sciences. As well as constituting a potential forum for dialogue between the humanities and social sciences and the medical sciences, this work often places at its heart behavioural theories from psychology, economics and even sociology, and uses attitudinal or behavioural data to formulate its scenarios.

The report is divided into five chapters. The chapters are presented as a summary of available knowledge, published works and blind spots in research on each theme. The separation of these different aspects is obviously somewhat artificial. In particular, some works are at the interface of several chapters. In order to make this report easier to use for finding information, we have therefore chosen to mention the works in question in several chapters.

The first chapter is devoted to the issue of vaccine recommendations and the expertise on which they are based. It outlines the main actors in the field of expertise in France and the chronology of these recommendations. We also present a few points concerning the debates they have provoked, before

concluding on the need to develop work on these issues.

The second deals with the organisation of vaccination campaigns and the construction of vaccination policies. We present the public decision-making process relating to vaccination against Covid-19, the stages in the roll-out of this campaign, the public debates that accompanied them, and the main issues identified in publications on the subject. In particular, this chapter discusses the ethical issues surrounding mandatory vaccination.

Chapter three reviews research on vaccination attitudes and behaviour. This is the largest chapter, reflecting the dynamism of research on these issues in France. We begin by tracing changes in attitudes to the initial Covid-19 vaccination schedule. We then discuss attitudes to booster shots and the various Covid-19 vaccines available. We then look at comparisons between France and other countries, before moving on to the vaccination of children. We then look at the socio-cultural roots of vaccination against Covid-19, before concluding with two sections devoted to vaccines other than Covid-19 and vaccination in general.

Chapter four looks at healthcare workers and the professions involved in vaccination campaigns more generally. We begin by tracing the chronology of the participation of different types of healthcare workers in the Covid-19 vaccination campaign, both as vaccinators and as those vaccinated. We then review the current state of knowledge about the evolution of their relationship with vaccination and their vaccination coverage. We then address the issue of the suspension of the non-vaccinated healthcare workers when the health pass was introduced in the summer of 2021, followed by their reinstatement. We then highlight the heterogeneous nature of attitudes towards vaccines, depending not only on professions but also on socio-demographic and social characteristics, beliefs about vaccines and confidence in those involved in vaccination policy. We then devote a section to the specific situation of the French Overseas Departments and Regions before presenting the rare data available on interactions between healthcare professionals and members of the public. Finally, we look at data relating to vaccines other than those against Covid-19.

The last chapter deals with the communicational aspects, public mobilisation and media debates generated by vaccines. We adopt a broad definition of communication that extends to face-to-face interactions in everyday sociability. We review the literature on the criticism of vaccines against Covid-19, before discussing what is known about the public defence of these vaccines. We then look at the positions taken by party representatives before moving on to the coverage provided by the general news media. Finally, we look at mobilisation on social media, what we know about how controversies are received by different segments of the public and intervention research on vaccination.



Chapter 1:

Vaccination
recommendations, their
evolution and the debates
they have elicited

This chapter will focus on vaccine research, expertise and recommendations in France. We stated in the introduction that this report covers the period of the Covid-19 epidemic but is not limited to vaccination against this disease. Nevertheless, this chapter will focus particularly on vaccination against COVID-19, as the formulation of recommendations on this subject and their updating have been the focus of much of the period. This subject is all the more central to this chapter as it is necessary, for the remainder of the report, to clarify the complex chronology of these recommendations and the organisation of the French vaccination expertise system.

Large-scale vaccination campaigns against Covid-19 were made possible by advances in scientific research. In France, as in most other countries, the roll-out of a new vaccination aims to be based on scientific data. To achieve this, political decision-makers mobilise expert bodies whose role is to take stock of what is known about the disease and the measures available to combat viruses - including vaccines - and to make recommendations on their use.

The issue of translating scientific knowledge into recommendations for action is traditionally seen as falling within the domain of public health, if not medicine. However, the humanities and social sciences have long been produced tools that provide a better understanding of the way in which scientific knowledge is produced (or not) and treated in the institutional processes leading to political decisions^a. In particular, they shed light on the mechanisms by which official recommendations and discourse may deviate from the evidence-based norm. For example, they can shed light on the mechanisms by which economic or political factors can influence the publication of research results, or the mechanisms by which certain results of scientific research are ignored in the production of recommendations and statements by health authorities. But they can also shed light on the internal processes of scientific research and their consequences for official recommendations. For example, they can highlight

the processes by which internal research mechanisms lead to certain avenues of research being ignored or under-investigated, or those that explain disagreements between scientists. On the subject of vaccine recommendations against Covid-19 in France, this area of research has unfortunately been little developed to date, and work in progress has not yet been published.

We will begin by outlining the main actors involved in expert appraisal in France, then present the chronology of these recommendations and some of the debates they have sparked off, before concluding with a discussion of the blind spots in research on these issues.

Vaccine Expertise in France during the Covid-19 Epidemic: A proliferation of bodies

The Commission Technique des Vaccinations (CTV, Technical Commission on Vaccinations) at the Haute Autorité de Santé (HAS, French National Authority for Health) is the main body providing expert advice on vaccination issues in France. The HAS is a public agency responsible for providing expert advice on health issues.

One of the many expert committees it hosts is the CTV^b which, for example, is the French representative on the National Immunization Advisory Groups (NITAGs) organised as a network by the World Health Organisation (WHO)^c. However, during the Covid-19 epidemic, a number of expert bodies were created at the government's initiative to give their opinion on vaccination. The Conseil Scientifique COVID-19 (Covid-19 Scientific Council), set up on 11 March 2020 to advise the Government on all scientific aspects of the emerging epidemic, is one such body^d. The Comité Analyse Recherche Expertise (CARE) was created on 20 March to advise the government on aspects relating to the conduct of research^e. More

a) For overviews, see in particular: Eyal G., Medvetz T., *The Oxford Handbook of Expertise and Democratic Politics*, Oxford University Press, Oxford, 592p., 2023. Frickel S., Moore K., *The New Political Sociology of Science: Institutions, Networks, and Power*, University of Wisconsin Press, Madison, 520p., 2006. Henry E., Gilbert C., Jouzel JN., Marichalar P., *Dictionnaire critique de l'expertise*, Presses de Sciences Po, Paris, 376 p., 2015. Hauray B., Boullier H, Gaudillière JP, Michel H., *Conflict of interest and medicine: knowledge, practices and mobilizations*, Routledge, New York, 251p., 2022.

b) It should be noted that one of the authors of this report (JW) is a member of this committee since 2020 (see conflicts of interest section).

c) [https://www.who.int/europe/groups/national-immunization-technical-advisory-groups-\(nitags\)](https://www.who.int/europe/groups/national-immunization-technical-advisory-groups-(nitags))

d) The composition of this committee has changed over time. For the initial composition, see: https://sante.gouv.fr/IMG/pdf/avis_conseil_scientifique_12_mars_2020.pdf. For a presentation of the evolution of this composition, see https://fr.wikipedia.org/wiki/Conseil_scientifique_Covid-19

e) The composition of this committee is presented here: <https://sante.gouv.fr/archives/archives-presse/archives-brevs/article/installation->

importantly for the subject of this report, several bodies were set up to inform the Government specifically about vaccine issues relating to Covid-19. In July 2020, the Comité Scientifique sur les Vaccins COVID-19 (Scientific Committee on COVID-19 Vaccines)^a was set up to advise the Government on aspects relating to Covid-19 vaccine research and production. On 3 December, a Conseil d'orientation de la stratégie vaccinale (COSV, Vaccine Strategy Steering Committee) was set up to advise the Government on “scientific, medical and societal aspects of the design and strategic implementation of vaccination policy”^b. In January, it was announced that a citizens’ collective on vaccination would be set up at the Economic, Social and Environmental Council (CESE) at the request of the Prime Minister^c (Collectif Citoyen sur la Vaccination). This collective, made up of 35 members of the public selected randomly, was tasked with monitoring the vaccination campaign and issuing opinions and recommendations. As was pointed out by a number of actors when these bodies were set up, and later by the Cour des Comptes in its report on the vaccination campaign^d, the areas they cover overlap to a large extent, leaving room for the formulation of contradictory opinions. But many other expert groups (such as the Haut Conseil à la Santé Publique, HCSP, and the Comité Consultatif National d’Ethique, CCNE), learned societies, professional orders and personalities expressed their views on vaccination during the epidemic. In addition to these French bodies, there were also foreign researchers and expert groups from other countries (such as the NITAGS in other countries).

The evolution of recommendations when the first vaccines were introduced and in the early stages of the vaccination campaign

The publication of the genetic code of the SARS-COV-2 virus in the first few weeks of the Covid-19 epidemic enabled a very large community of researchers to work on this virus. A large number of pharmaceutical laboratories have begun work on producing a vaccine, using a wide range of methods and platforms to induce immunity. For example, as of 8 April 2020, the Coalition for Epidemic Preparedness Innovations had already identified 115 candidate vaccines developed by more than 70 laboratories based on a wide variety of technologies, including messenger RNA^e.

Despite this, before the summer of 2020, the prospect of having sufficiently effective vaccines to obtain marketing authorisation by the end of the year was presented as unrealistic by many vaccination specialists in the media. However, on 9, 16 and 22 November 2020, Pfizer, Moderna and Astra Zeneca issued press releases announcing the initial results of clinical trials for their vaccines. These results were very promising, with efficacy against infection of 90%, 94% and 70% respectively announced^f. In France, these announcements were greeted by the press with a combination of hope and caution^g. One aspect of this caution centred on criticism of the choice to publish these results through press releases rather than scientific journals. But it is also important to note that from this point onwards, a number of people expressed their doubts or uncertainties about the efficacy or safety of these vaccines^h. This was particularly true of political figures^{1,2} as well as doctors and researchers with no particular expertise in vaccine issues (see chapter 5). But it was also the case for leading French researchers in fields of

du-comite-analyse-recherche-et-expertise-care

a) <https://www.assemblee-nationale.fr/dyn/operdata/CRCANR5L15S2021PO420120N036.html>. For the composition of this committee, see <https://www.covireivac.fr/qui-sommes-nous/le-comite-scientifique-sur-les-vaccins-covid-19>

b) It should be noted that one of the authors of this report (PPW) was a member of this committee between December 2020 and July 2022 (see conflicts of interest section).

c) Collectif citoyen sur la campagne de vaccination contre le COVID-19. *Travaux sur l'obligation vaccinale et la facilitation de la vaccination pour les publics réticents*. 10 (2021).

d) Cour des Comptes, *La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes*, Cour des Comptes, Paris, December 2022.

e) Thanh Le, T. et al. *The COVID-19 vaccine development landscape*. *Nature Reviews Drug Discovery* 19, 305-306 (2020).

f) It should be noted that Astra Zeneca also announced a week later a much higher efficacy based on data from a sub-part of their data.

g) Didactic explanations of the reasons behind the relatively rapid production of these vaccines have been presented in a number of media, such as: Lewandowsky et al, *The COVID-19 vaccine communication handbook. A practical guide for improving vaccine communication and fighting misinformation*, Available at: <https://sks.to/c19vax>

h) https://www.lemonde.fr/planete/article/2020/12/09/covid-19-medecins-et-scientifiques-demandent-plus-de-transparence-sur-les-etudes-des-vaccins_6062691_3244.html

expertise that overlapped with vaccines^a. Some of these statements did not directly question the value of these vaccines, but emphasized the importance of waiting for their scientific assessment through peer review and by the health authorities. In particular, some highlighted the weakness of the information provided by the laboratories in their press releases and the limits of the knowledge generated by clinical trials. These discussions focused in particular on messenger RNA technology. It is important to note that, at least until the launch of the vaccination campaign, communication from the Government and representatives of the circles of expertise most directly involved in the campaign (CTV, COSV) was also characterised by great caution, insisting on the need to wait for official assessments and pharmacovigilance over the long term.

Initially, the opinions expressed by these various groups focused mainly on preparing for a future vaccination campaign and the need to prioritise groups at particular risk of developing severe forms of Covid-19^b. We will look at the evolution of the groups to whom vaccination was opened in the next chapter. Opinions then focused on assessing the place of each vaccine in the vaccination strategy, against a backdrop of very rapid changes in the epidemic, with the emergence of new variants and new data on vaccines. The first vaccines to be recommended by the Haute Autorité de la Santé were COMIRNATY (Pfizer-BioNTech, messenger RNA vaccine) on 24 December 2020 for people aged 16 and over, the Moderna COVID-19 mRNA vaccine on 8 January 2021 for people aged 18 and over (messenger RNA vaccine), the AZD1222 then Vaxzevria vaccine (AstraZeneca and Oxford University, viral vector vaccine) for people aged 18 to 65 on 2 February 2021, and, on 12 March 2021, the AD26.COV2.S (Janssen and Johnson & Johnson, viral vector vaccine) for people aged 18 and over. It is worth noting that these advisories emphasised the lack of data on the ability of vaccines to prevent transmission, a subject that will be the center of particular debate later in the

epidemic. It should also be noted that in the early months of the campaign, the HAS recommended messenger RNA vaccines as a priority, firstly for the most vulnerable^c and then for the areas most affected by the arrival of new variants of interest^d, before finally recommending them as a priority regardless of the situation.

Following reports of thromboembolic events and coagulation disorders in several European countries, the French National Agency for the Safety of Medicines and Health Products (ANSM) suspended the use of the AstraZeneca vaccine in France on 15 March 2021^e. On 19 March, the suspension was lifted by the Prime Minister, and the HAS published new recommendations for the vaccine (restricting it to people aged 55 and over). The question of a possible increase in the risk of cardiac events following vaccination against Covid-19 has subsequently been widely discussed by the various circles of experts and researchers in the field. It should also be noted that some cases of serious adverse events following vaccination, particularly among healthcare professionals, had been discussed in the press before the suspension and re-evaluation of the AstraZeneca vaccine^f. However, these cases received much less coverage. Other adverse events whose link with Covid-19 vaccination were widely discussed throughout the epidemic included menstrual cycle disturbances and facial paralysis.

a) See for example: <https://www.radiofrance.fr/franceinter/vaccins-arn-messenger-les-craintes-du-professeur-eric-caumes-loin-de-faire-l-unanimite-2573668>

b) See for example: CARE, Conseil scientifique COVID-19 & Comité Vaccin COVID-19. Vaccins contre le SARS-COV-2: Une stratégie de vaccination. 24, (2020). Conseil d'Orientation de la Stratégie Vaccinale. Note du 13 janvier 2021 relative à la vaccination en très haute priorité des personnes à très haut risque. 2 (2021). Haute Autorité de la Santé. Stratégie de vaccination contre le Sars-Cov-2 - Recommandations préliminaires sur la stratégie de priorisation des populations à vacciner. 58 (2020)

c) This led to AstraZeneca's vaccine being recommended mainly for healthcare professionals in the early stages of the campaign: Haute Autorité de la Santé. Stratégie de vaccination contre la Covid-19 Place du Covid-19 Vaccine AstraZeneca®. 83 (2021).

d) Haute Autorité de la Santé. Stratégie vaccinale contre la Covid-19: impact potentiel de la circulation des variants du SARS CoV-2 sur la stratégie. 33 (2021).

e) <https://ansm.sante.fr/actualites/suspension-temporaire-par-mesure-de-precaution-de-lutilisation-du-vaccin-astrazeneca-en-france-dans-lattente-dun-avis-de-lagence-europeenne-du-medicament-ema>

For a more precise description of the timing of this suspension, see: Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022, p22.

f) <https://www.midilibre.fr/2021/03/22/astrazeneca-un-etudiant-en-medecine-de-24-ans-decede-10-jours-apres-sa-vaccination-an-open-inquiry-9443545.php>

From summer 2021: extension of recommendations to minors and booster shots

With the arrival of summer 2021, the main recommendations initially concerned the extension of vaccination to minors. Following the extension of the marketing authorisation for Pfizer's vaccine to 12-15 year-olds, the HAS recommended this extension of the indication at the beginning of June, arguing in particular that for adolescents without comorbidities "in certain hypotheses of virus circulation, failure to vaccinate adolescents would expose them to the risk of targeted school closure measures affecting them again. Vaccinating adolescents would therefore have clear individual psychological and social benefits^a. The same process applied to the Moderna vaccine at the end of July 2021, but in a different context, with the French President announcing the introduction of a health pass that would make it much easier for those vaccinated to take part in social activities. This health pass would apply to all French people aged 12 and over (see the sections dedicated to the health pass and vaccination requirements in chapters 2, 3 and 5). The question of vaccinating the under-12s arose later, at the very end of 2021, with the marketing authorisation of the COMIRNATY vaccine (Pfizer-BioNTech) adapted for children aged 5-11. This vaccination was the subject of an opinion issued by the Haute Autorité de la Santé (HAS) on 20 December 2021, which made this vaccination possible without formally recommending it^b. The wording the HAS used reflected the lack of enthusiasm among a large number of public health specialists for this vaccination of young children and the accelerated spread of the Omicron variant. To continue with the vaccination of children, in December 2022 the HAS recommended the vaccination of children aged between 6 months and 4 years at risk of severe forms of Covid-19 and of those living in the environment of immunocompromised people or people who do not respond to vaccination.

From autumn 2021 onwards, the main issue became the question of booster vaccinations: not only the groups concerned, but also the spacing of the doses, with studies showing a significant reduction in the effectiveness of vaccination a few months after the injection. On October 6, the HAS recommended vaccination with the Comirnaty booster (Pfizer) for all adults from 6 months after completion of the first vaccination schedule (3 months for the over-80s, residents of hospitals for dependent elderly people (EHPADs) or long-term care units (USLDs) and immunocompromised people). The booster proposed by Moderna (SPIKEVAX) received the same recommendation on November 8. From May 2022, the recommendation for future boosters only concerned the populations most at risk of developing a severe form of the disease and healthcare workers^c.

Finally, from 2022 onwards, new vaccines became recommended for use for initial vaccination. The NUVAXOVID vaccine (Novavax) was recommended by the HAS on 14 January 2022. It is based on recombinant protein technology and an adjuvant. Similarly, the VidPrevtyn Beta vaccine (Sanofi Pasteur, recombinant protein technology) became recommended on 8 December 2022. One of the arguments put forward in favour of their introduction into the portfolio of accessible vaccines for the initial schedule was to provide an alternative to messenger RNA vaccines for people still refusing to undergo an initial schedule with this type of vaccine. However, at the end of 2022, the HAS recommended that priority be given to new vaccines specifically targeting the most recently circulating variants. It also recommended concurrent vaccination against influenza.

a) Haute Autorité de la Santé. *Stratégie de vaccination contre la Covid-19 Place du vaccin à ARNm COMIRNATY® chez les 12- 15 ans.* 123 (2021).

b) "The HAS proposes that parents who so wish should be able to have their child(ren) aged the availability of doses in paediatric formulations". Haute Autorité de la Santé. *Stratégie de vaccination contre la Covid-19 – Place du vaccin à ARNm COMIRNATY® chez les 5-11 ans.* 149 (2021), p130.

c) Haute Autorité de la Santé. *Stratégie de vaccination contre la Covid-19 – Anticipation des scénarios possibles à l'automne 2022.* 12 (2022).

Conclusion

This summary of the succession of opinions that have guided vaccine policy against COVID-19 is a necessary preamble to the rest of this report. But it also highlights a whole range of social science and humanities issues that have not been addressed in relation to vaccination against Covid-19. For example, a number of researchers have produced an initial analysis of the institutional logics that led to the proliferation of ad hoc expert bodies in France during the epidemic, their implications for crisis management and the different philosophies of expertise that were deployed^a. This analysis has not been applied to the specific question of vaccine recommendations and their place in crisis management. Similarly, studies have looked at the controversies between researchers and doctors over other aspects of the epidemic, such as the use of hydroxychloroquine as a treatment or the origin of the SARS-COV-2 virus^b. Our description of the various opinions has focused on those produced by the bodies that are the closest to the political decision-makers and has given little space to exposing the disagreements between experts on these issues. The issues we will be addressing in the remainder of this report would benefit greatly from analyses of controversies on a variety of subjects, such as the ability of vaccines to prevent transmission, the importance of modelling^c, long

Covid, the comparison of clinical trial data with real-life data, ways of measuring the effectiveness of vaccines in a context of rapid disease evolution, and the organisation of pharmacovigilance and the interpretation of the weak signals it produces. For example, we have been able to ascertain from a rapid and non-systematic monitoring of the media debates of the period that there were many disagreements between experts, particularly on the relevance of suspending the use of the Astra Zeneca vaccine and reassessing its recommendation after the pharmacosurveillance warnings of March 2021, on the value of vaccinating minors and above all on the ability of vaccines to limit the circulation of the virus. Studies focusing more closely on the workings of these different groups of experts and their relationships with political decision-makers and crisis management would also be very valuable^d. It should be noted, however, that some researchers interested in the rationale behind the structuring of the research field during the Covid-19 epidemic have started applying this analysis to the case of vaccines against this disease, dealing in particular with the role of private companies in research, the imposition of randomised clinical trials in evaluation and the regulation of conflicts of interest^{[3]e}. We will evoke these analyses further in the next chapter as they focus on the production of vaccines rather than the structuring of expertise on this subject. With regard to the organisation of research into vaccines against Covid-19, we should also mention the existence of research aimed at understanding the reasons why volunteers take part in clinical trials^[4-6].

a) See for example: H Bergeron, O Borraz, P Castel, F Dedieu, *Covid-19: une crise organisationnelle*, Presses de Sciences Po, Paris, 220p., 2020. Borraz, O. & Jacobsson, B. *Organizing Expertise During a Crisis. France and Sweden in the Fight Against Covid-19*. *Journal of Organizational Sociology* 1, 73-107 (2023). D Benamouzig, *Un sociologue au Conseil Scientifique*, in M Lazar et al, "Le monde d'aujourd'hui", pp45-60, Presses de Sciences Po, Paris, 2020. L Atlani-Duault, F Chauvin, Y Yazdanpanah, B Lina, D Benamouzig, L Bouadma, PL Druais, A Hoang, MA Grard, D Malvy, JF Delfraissy, *France's COVID-19 response: balancing conflicting public health traditions*, *The Lancet*, vol 396(10246), p.219-221, 2020. SR Rozenblum, *France's Multidimensional COVID-19 Response*, in Greer SL, King EJ, Massard da Fonseca E, Peralta-Santos A (eds) *Coronavirus politics - The Comparative Politics and Policy of COVID-19*, pp. 264-279.

b) See for example: L Berlivet, I Löwy, *Hydroxychloroquine Controversies: Clinical Trials, Epistemology, and the Democratization of Science*, *Medical Anthropology Quarterly* 34(4), p. 525-41, 2020. E Schultz, JK Ward, *Science under Covid-19's magnifying glass: Lessons from the first months of the chloroquine debate in the French press*, *Journal of Sociology*, vol 58 (1), p. 76 - 94, 2021. Jouvenet M. *Controverses sur l'origine du SARS-CoV-2 - L'hypothèse de la " fuite de laboratoire " et la production des connaissances en virologie*, *Zilsel*, (2,11), pp307-335, 2022.

c) *The place of modelling in epidemic management and in public health research, for example, is the subject of work in progress, part of which we hope will focus on vaccine policies. See for example: Berthier, S., Lagadec, P. & Bourgain, C. [Modèles] Faux, mais fondamentaux. Sesame* 12, 50-53 (2022).

d) *For an initial mapping of institutional expertise on vaccines during the COVID-19 epidemic, see for example the assessment carried out by the Haute Autorité de la Santé in 2023: Haute Autorité de la Santé. L'expertise publique en santé en situation de crise. 238* (2022).

e) Auray B., *Santé publique et capitalisme pharmaceutique*, *AOC media - Analyse Opinion Critique*, 4 May 2021. <https://aoc.media/analyse/2021/05/03/sante-publique-et-capitalisme-pharmaceutique/>

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Chapter 2:

Organisation
of the vaccination campaign
and policy-making

Introduction

This chapter is devoted to the organisational aspects of the vaccination campaign. As with the previous section, this aspect of the vaccination campaign has not yet been the subject of many publications in the social sciences and humanities. However, a very full description of the decision-making process for the vaccination strategy and its deployment can be found in reports produced by various government institutions, such as the Office parlementaire d'évaluation des choix scientifiques et technologiques (OPECST), the National Assembly's social affairs committee and, above all, the Cour des Comptes, particularly the December 2022 report on the Covid-19 vaccination campaign^a. In addition to these documents, journalists' investigations published in the press and revealed as the vaccination campaign unfolded helped to make public a certain amount of information that had not been communicated by the decision-makers. Also, social scientists (political scientists, economists, health policy specialists, etc.) played a major role in the public debates sparked by the vaccination campaign, giving interviews and publishing opinion pieces and analyses in various media. For this reason, and pending academic publications guaranteeing a certain reliability of information and analysis, there will be many references to press articles in this

section. Finally, as the decision-making processes that governed this vaccination campaign are a direct continuation of those put in place in the early stages of the pandemic, work on the latter can provide additional insight.

In this section, we will briefly present the public decision-making process relating to vaccination against Covid-19, the stages in the roll-out of this campaign, the public debates that accompanied them and the main issues identified in publications on the subject. We will rely mainly on the above-mentioned reports but, for the sake of readability, we will not quote them systematically. On the other hand, we will systematically cite all the other sources used.

The campaign in a few figures

Before going into the (relative) details of the vaccination campaign against Covid-19, it may be useful to present its scale in a few figures.

The magnitude of the campaign was well summarized by the Cour des Comptes^b. At the beginning of September 2022, 149.3 million doses had been administered since the start of the campaign. The campaign had cost €7.6 billion between 2020 and 2022. By way of comparison, this cost represents 15% of all health insurance expenditure "directly attributable to the health crisis", and this vaccination is said to have prevented "38,700 deaths of people aged 60 and over in France", to which should be added deaths among the younger, hospital stays and other forms of burden of the disease.

The specificity of this campaign lies not only in its scale, cost and target audience (mainly adults, unlike most systematic vaccinations in France, which tend to target young children). It also lies in the vaccination methods used, as the majority of injections (67%) were carried out in vaccination centres set up specifically for this campaign, or whose organisation had been significantly modified for it. It's also worth noting that a large proportion of these injections were given in pharmacies (see graph 2.1), which until now have only been involved in vaccination against the flu.

a) See in particular: Cour des Comptes, La Vaccination contre la COVID-19: Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022. La Provoté, S., Lassarade F., Eliaou JF., Leseul G., La stratégie vaccinale contre la Covid-19, OPECST pour l'Assemblée Nationale et le Sénat, Rapport n°3695/234, Paris, December 2020. Leseul G., La Provoté, S., Lassarade F., Les effets indésirables des vaccins contre la Covid-19 et le système de pharmacovigilance français, OPECST pour l'Assemblée Nationale et le Sénat, Rapport n°5263/659, Paris, Juin 2022. Bazin A., Assassi E., Rapport fait au nom de la commission d'enquête sur l'influence croissante des cabinets de conseil privés sur les politiques publiques sur « Un phénomène tentaculaire: l'influence croissante des cabinets de conseil sur les politiques publiques », Sénat, Rapport n°578, Paris, March 2022.

See also: Cour des comptes, Les achats liés à la crise sanitaire financés par les dotations exceptionnelles de l'assurance maladie à Santé Publique France, Cour des Comptes, Paris, 2021.

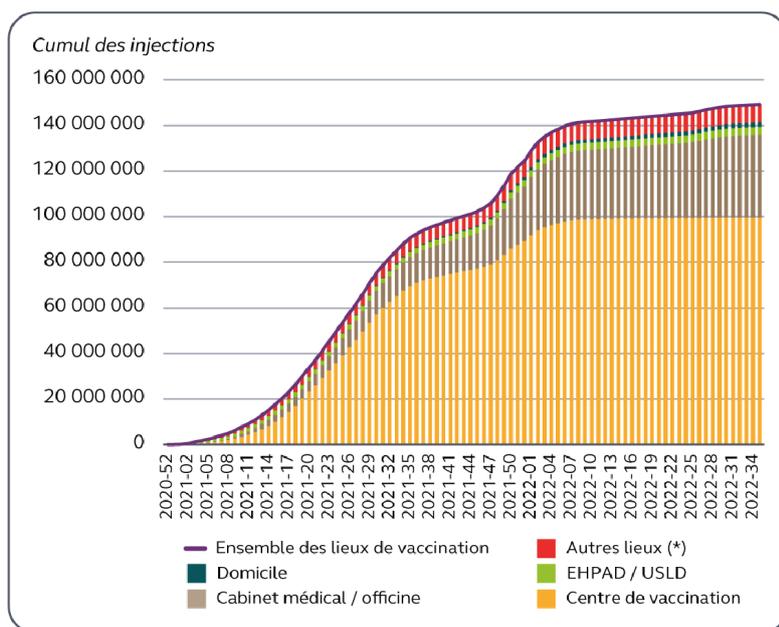
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Pittet D., Boone L., Moulin AM, Briet R., Parneix P., Mission indépendante nationale sur l'évaluation de la gestion de la crise Covid-19 et sur l'anticipation des risques pandémiques- Rapport final, Mission indépendante nationale sur l'évaluation de la gestion de la crise Covid-19 et sur l'anticipation des risques pandémiques, March 2021.

Deseyne C., Henno O., Meunier M., Rapport d'information fait au nom de la commission des affaires sociales sur l'adéquation du passe vaccinal à l'évolution de l'épidémie de COVID-19, Sénat, Rapport n°537, Paris, February 2022.

b) Cour des Comptes, La Vaccination contre la COVID-19: Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December, 2022.

Figure 2.1: Share of types of vaccination site in the progress of the Covid-19 vaccination campaign



Source : données Cnam sous data.gouv – graphique Cour des Comptes – données début septembre 2022
Note : autres lieux : entreprises et autres

Who steered the vaccination policy during the pandemic?

The steering and organisation of the Covid-19 vaccination campaign is a continuation of the initial phases of pandemic management. It involved many of the same actors who were at the heart of the initial epidemic response (including the President of the Republic and the Defence Council), and relied on new bodies created specifically to manage this crisis. In the previous chapter, we mentioned the main scientific bodies involved in vaccine issues during the pandemic: the Haute Autorité de la Santé, the Comité d’orientation de la Stratégie Vaccinale, the Conseil Scientifique Covid-19, the CARE committee, the Conseil Scientifique Vaccin COVID-19 and the Collectif Citoyen sur la Vaccination. Their assessments of the various vaccines and recommendations on their use obviously had a major influence on the way the strategy and organisation of this campaign were devised. But some of their opinions were directly concerned with organisational aspects of the campaign, such as the priority groups to be targeted given the limited availability of vaccines, the definition of healthcare workers authorised to prescribe and carry out vaccinations, and even some of the more concrete aspects of rolling out the campaign.

From a more directly strategic and organisational point of view, the vaccination campaign mobilised a huge variety of actors at different levels of government and local authorities. With regard to the overall management of the campaign, it is important to note that crisis management generally involves a division of responsibilities between different ministries, with this coordination being achieved by setting up a Cellule Interministérielle de Crise (CIC, interministerial crisis unit). In the case of epidemic crises, this unit is usually run jointly by the Ministry of the Interior and the Ministry of Health, with the latter’s bodies in the forefront (in particular the Direction Générale de la Santé and Santé Publique France)^a. In the case of this pandemic and this vaccination campaign, the CIC set up

at the start of the pandemic seems to have taken on a less central role in favour of the ministries brought together within a Defence Council organised around the President of the Republic and new bodies such as the Taskforce Vaccin set up in November 2020 and responsible for more directly logistical aspects and coordination with actors on the ground. The Direction Générale de la Santé within the Ministry of Health also appears to have played a key role. At the local level, the Regional Health Agencies (Agences Régionales de Santé, ARS) were responsible for coordinating the distribution of doses and the allocation of vaccination centres.

We will see in the rest of this chapter that the various stages of the campaign gave rise to debates and criticisms of this decision-making mechanism, involving both permanent institutions and new actors created specifically for this pandemic and this

a) See in particular: Dedieu, F. *Une catastrophe ordinaire : La tempête du 27 décembre 1999*, Éditions de l’École des hautes études en sciences sociales, 2015. Bergeron, H., Borraz, O., Castel, P., Dedieu, F., *Covid-19 : une crise organisationnelle*, Presses de Sciences Po, 2020. Borraz, O. & Jacobsson, B. *Organizing Expertise During a Crisis. France and Sweden in the Fight Against Covid-19*. *Journal of Organizational Sociology* 1, 73-107 (2023). <https://www.mediapart.fr/journal/france/030420/gerer-le-covid-19-pourquoi-l-etat-et-l-executif-ont-tout-oublie>

Ward, JK, « Dans la gestion d’une crise, il faut éviter l’affolement et la panique ». *Comment les communicants légitiment le sens commun des décideurs politiques*, *Politiques de communication* 11, 103-130, 2018.

campaign. Before looking at these different stages, it should be noted that several issues resurfaced constantly throughout the period, both in public debates and in the analyses of social science researchers:

- It is difficult to understand the exact role played by the President of the Republic in this crisis' management, an opacity maintained by the concentration of decisions within the Defence Council, whose composition and work are classified ("secret defense" status);
- Uncertainty regarding the exact role played by private consultancies in the handling of the epidemic;
- Difficulties in coordination between national and local levels;
- A management of the crisis under a state of emergency that allowed Parliament to be bypassed by laws that fall under a regime of exception that was lifted in the summer of 2022;
- A limited consultation with user representatives and civil society actors;
- The tendency to see vaccination as an alternative to other forms of intervention, such as air filtration in enclosed spaces and the "tracking and tracing" of infections^a.

A campaign initially dependent on the doses available.

In France, most of the doses received were ordered via the European Union's Joint Negotiation Team, which aimed to pool vaccine orders between European countries in order to obtain better purchasing conditions^b. The Cour des Comptes also refers to pre-order agreements signed directly with Sanofi and GSK but which did not result in the delivery of doses due to a lack of marketing authorisation for these products.

The issue of the transparency of these contracts was widely discussed during this period. The fact that no French company seemed in a position to produce a competitive vaccine was also the subject of media debate. These debates were also fuelled by the fact

that the vaccination campaign began in the United States and Great Britain several weeks before France.

The first doses of vaccines were delivered at the end of 2020, with deliveries accelerating from January onwards. The increase in the number of people eligible for vaccination at the beginning of January 2021 widened the gap between the number of doses delivered and the number of people to be vaccinated. The shortage of doses eased during April and was deemed to have been resolved by the Cour des Comptes from mid-May 2021^c.

Before moving on to the course of the campaign, it is important to highlight the fact that vaccine production during the Covid-19 pandemic took place mainly under private ownership of the technologies used to produce them. Stuart Blume's now classic work has traced the history of the rise of private laboratories in the invention and production of vaccines^d. The place of Covid-19 vaccines in this history is discussed in a recent book by sociologist Maurice Cassier. In this work, he proposes to trace the history of opposition and alternatives to private ownership of health goods and to link them to the demands and institutionalisation of the right to health. By tracing examples of these oppositions and alternatives back to the nineteenth century, he sheds light on the attempts made to exempt vaccines against Covid-19 from the intellectual property regime and the debates that vaccine patents raised during the pandemic. Some French researchers, such as Valéry Ridde, also took part in debates on the operation and objectives of COVAX, a scheme coordinated by the GAVI Alliance and the WHO to promote access to doses in poor countries, in particular through donations of doses from rich countries^[3].

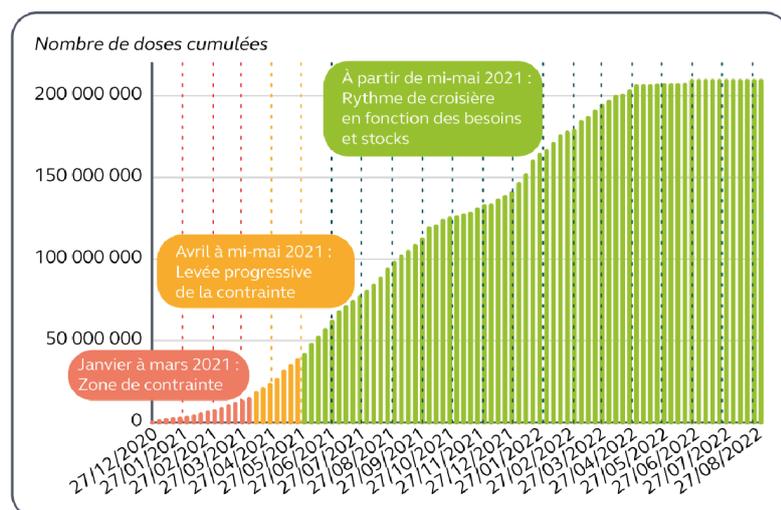
a) See in particular[1].

b) Cour des Comptes, *La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes*, Cour des Comptes, Paris, December, 2022.

c) Cour des Comptes, *La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes*, Cour des Comptes, Paris, December 2022.

d) See for example: Blume S., *Immunization, How Vaccines Became Controversial*, Chicago, Chicago University Press, 288p., 2017,

Graph 2.2: Cumulative deliveries of doses of vaccine against Covid-19



Source : Cour des comptes d'après les données jusqu'au 26 août 2022 du ministère des solidarités et de la santé (sous data.gouv.fr)

Designing the campaign before it is launched: prioritising the most vulnerable

The first Covid-19 vaccines were injected on 27 December 2020. The months leading up to this launch were initially marked by the publication of the first expert opinions on the strategy to be adopted for this campaign. On 9 July 2020, the Conseil Scientific COVID-19, CARE and the Comité Vaccin COVID-19 published a joint opinion on the vaccination strategy, stressing that priority should be given to vaccinating healthcare workers who are most exposed to the virus, people who are most vulnerable to the virus because of their age and health status, and people living in very precarious situations^a. This opinion also stressed the need to vaccinate “as close as possible to the people concerned” and to build support for vaccination. The HAS opinion published in November 2020 on the “strategy for prioritising populations to be vaccinated” did not deviate much from this first recommendation^b. Following an initial opinion on the scenarios for the vaccination campaign, published in July 2020^c, the HAS defined two objectives for the vaccination programme:

a) CARE, Conseil scientifique COVID-19 & Comité Vaccin COVID-19. Vaccins contre le SARS-COV-2 : Une stratégie de vaccination. 24 (2020).

b) Haute Autorité de la Santé, Stratégie de vaccination contre le Sars-Cov-2 Recommandations préliminaires sur la stratégie de priorisation des populations à vacciner, Haute Autorité de la santé, November 2020.

c) Haute Autorité de la Santé, Stratégie de vaccination contre le COVID-19 Anticipation des scénarios possibles de vaccination et

- “Reduce morbidity and mortality attributable to the disease (hospitalisations, admissions in intensive care and deaths);

- maintain the country’s essential activities, and in particular the maintenance of the health during epidemics”.

It then defined five prioritisation phases: 1) residential care for the elderly (vaccination of residents and workers with co-morbidities working there); 2) people aged over 75 and then over 65; 3) people aged over 50 and those with co-morbidities, as well as healthcare workers and people essential workers more generally ;4) people

at increased risk of infection; and 5) all adults. In this opinion, the HAS also mentioned mandatory vaccination, but did not recommend it. In December 2020, it produced a second opinion dedicated directly to the implementation of vaccination, in which it emphasised the need to build public support through transparent communication about vaccines, to simplify access to vaccination and to prioritise existing vaccination sites in order to incorporate this new vaccination into existing routines^d. At the same time, in December 2020, the Conseil Consultatif National d’Ethique (CCNE, French National Consultative Ethics Committee) published an opinion on this vaccination, in which it endorsed the ethical nature of prioritising the most vulnerable, even over healthcare professionals, and insisted on obtaining the consent of those to be vaccinated and on equitable access to vaccines. It also reiterated that mandatory vaccination should be a last resort, and insisted that the conditions for mandatory vaccination had not been met at the time of publication of this opinion^e. The COSV, for its part, expressed its views a little later on the question of prioritising target groups^f.

recommandations préliminaires sur les populations cibles, Haute Autorité de la santé, July 2020.

d) Haute Autorité de la Santé, Stratégie de vaccination contre le Sars-Cov-2 Recommandations intermédiaires sur les modalités for implementing vaccination, Haute Autorité de la santé, December 2020.

e) Comité Consultatif National d’Ethique, Enjeux éthiques d’une politique vaccinale contre le Sars-CoV-2, CCNE, December 2020.

f) Conseil d’Orientation de la Stratégie Vaccinale, Note du 13 janvier 2021 relative à la vaccination en très haute priorité des personnes à

As far as we are aware, these opinions, and in particular the idea of prioritising certain groups in a context of dose shortages, do not seem to have given rise to any particular debate in the media or in public health circles^a. The government's decision not to include all healthcare professionals in the population to be vaccinated and to focus the first vaccination phase on hospitals for dependent elderly people (EHPADs) would be criticised later, in the first few weeks after the start of the vaccination campaign because it was considered to be very slow.

Before turning to the launch of the campaign, it should be noted that the institutional decision-making apparatus around the Covid-19 vaccination campaign was the subject of a first debate in autumn 2020. The appointment of a first person in charge of steering the vaccination strategy was criticised because this person was judged by some as being too close to the pharmaceutical industry^b. The decision-making apparatus seems to have been overhauled quickly after these criticisms were published, leading to the creation of the COSV and the disappearance of references to this first coordinator. A look back at this episode highlights above all the complexity and constant evolution of the decision-making process within the Government. Added to this is the question of the role of consultancy firms, whose frequent use by the government to inform vaccination policy has been revealed by several journalists and parliamentary enquiry committees^c.

très haut risque, COSV, January 2021.

a) *For a discussion of the ethical principles involved in prioritising vaccines, see [1].*

b) *Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022.*

https://www.lemonde.fr/politique/article/2021/01/07/vaccination-anti-covid-le-gouvernement-a-fait-appel-a- quatre-cabinets-de-conseil_6065455_823448.html

c) *Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022. Bazin A., Assassi E., Rapport fait au nom de la commission d'enquête sur l'influence croissante des cabinets de conseil privés sur les politiques publiques sur " Un phénomène tentaculaire : l'influence croissante des cabinets de conseil sur les politiques publiques ", Sénat, Rapport n°578, Paris, March 2022.*

The slow launch of the Covid-19 vaccination campaign

The campaign began on 27 December in 23 care homes for dependent elderly people (EHPADs) in 4 towns. The list of establishments involved then grew, but very quickly many stakeholders and the press began to express concern about the slow progress in the number of people vaccinated. The press reported that by 5 January, only 7,000 people had been vaccinated in these establishments, even though the doses available would have enabled many more people to be vaccinated^d. By 10 January, only 10% of the doses available had been used^e. This common diagnosis of the failure of this first phase of the vaccination campaign was widely presented as supported by unfavourable comparisons of the number of people vaccinated with neighbouring European countries.

Many explanations for this slowness were put forward during the public debates in the first few weeks of the campaign, based on a variety of analyses of the decision-making process that governed the organisation of the early stages of the campaign:

- The first point raised was the supposed obstacle represented by the procedure for obtaining the consent to be vaccinated of residents in care homes for dependent elderly people (EHPAD). The procedure provided for a pre-vaccination consultation by a doctor with the resident or their legal representative 5 days before vaccination, to enable the number of doses required to be forecast^f. This directive is said to have been frequently interpreted as imposing an incompressible period of reflection, encouraging people to refuse vaccination. Many actors, including the French President and the COSV, have criticised this directive or its interpretation^g.

d) *https://www.lemonde.fr/politique/article/2021/01/11/definir-et-appliquer-une-strategie-vaccinale-six-semaines-de-floating-at-the-summit-of-the-state_6065870_823448.html*

e) *https://www.lemonde.fr/politique/article/2021/01/11/definir-et-appliquer-une-strategie-vaccinale-six-semaines-de-floating-at-the-summit-of-the-state_6065870_823448.html*

f) *Ministère des Solidarités et de la santé, Campagne de vaccination contre la COVID-19. Guide phase 1 : organisation de la vaccination en EHPAD et USLD, Ministère des solidarités et de la santé, December 2020.*

g) *Conseil d'Orientation de la Stratégie Vaccinale, Avis du 6 janvier 2021 relatif à la simplification, l'élargissement et l'accélération de la campagne de vaccination contre la Covid-19, COSV, January 2021. <https://www.lefigaro.fr/sciences/retard-de-la-vaccination-contre-le-covid-19-axel-kahn-dresse-l-autopsie-d-un-desastre->*

- A second issue is specific to the logistical channels used to deliver doses to these facilities (see)^a.
- Others have suggested that the preparation time required for such a campaign was underestimated. An investigation by the investigative media Médiapart put forward this hypothesis to explain why only 38 of the 118 refrigerators capable of storing Pfizer vaccines had been made operational by the end of December^b.
- A fourth reason for the delay was the time taken to set up an advanced pharmacovigilance system specifically for this vaccine.
- A fifth explanation put forward was that the over-centralisation of crisis management led to an under-mobilisation of local actors, who could have proposed initiatives to enable this vaccination to be rolled out more quickly^c.
- A sixth explanation consisted in pointing out the relatively low level of enthusiasm among staff in care homes for dependent elderly people (EHPADs) for this vaccination and its direct or indirect impact (via their influence on patients) on vaccination rates^d.
- A seventh explanation was based on the idea that the campaign was due to start in mid-January but that the government chose to bring it forward to coincide with the launch of the campaign in other European countries^e.

A number of sociologists specialising in crisis management and working on the management of the Covid-19 pandemic took part in these public debates and endorsed some of these analyses. This was particularly true of sociologists from the Centre de Sociologie des Organisations at Science Po Paris. The empirical work they were doing at the time on

20210102. <https://www.lefigaro.fr/politique/vaccination-recit-d-un-demarrage-laborieux-20210103>. https://www.lemonde.fr/politique/article/2021/01/05/l-executif-contraint-d-accelerer-le-deploiement-de-la-vaccination_6065237_823448.html

a) *Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022, p51.*

b) <https://www.mediapart.fr/journal/france/060121/campagne-de-vaccination-l-histoire-d-un-nauffrage>

c) https://www.lemonde.fr/politique/article/2021/01/06/vaccination-les-elus-locaux-montent-au-creneau_6065368_823448.html

d) https://www.lemonde.fr/planete/article/2021/06/18/vaccination-le-gouvernement-met-la-pression-sur-les-personnels-d-ehpad-toujours-retifs_6084665_3244.html

e) <https://www.mediapart.fr.ezproxy.u-paris.fr/studio/panoramique/une-annee-de-covid-19-les-sept-erreurs-du-pouvoir>

the topic of the vaccination campaign has not yet been published in academic journals - which can take several years in the social sciences. In their public contributions of the time, they argued that a) the government had not invested enough in the logistical aspects of the vaccination campaign, b) had not anticipated its roll-out sufficiently, c) that the multiplication of ad hoc structures and committees within the central government had not encouraged coordination between the actors and especially coordination with local actors on the ground, and d) that the fear that the vaccine would be strongly resisted by the population had led the decision-makers to make time-consuming choices and to deliberately opt for a slow roll-out^f.

During this period, the French Minister of Health was very vocal in the media, claiming that this delay was deliberate in order to “be pedagogical” (“faire prévue de pédagogie”), with the aim of achieving full vaccination capacity by the end of January^g. However, vaccination was extended on 4 January to all healthcare professionals aged over 50 or with co-morbidities, and then on 18 January to all people aged over 75. At the same time, the HAS and the COSV were consulted on the possibility of extending the period between the two doses required to complete a full vaccination schedule. This extension aimed at increasing, in the short term, the number of people likely to benefit from a vaccination dose. The HAS took position in favour, while the COSV and the Comité Scientifique Vaccins were against^h. At the

f) https://www.lemonde.fr/planete/article/2021/01/11/derriere-la-frilosite-de-la-strategie-vaccinale-les-craintes-de-poursuites-judiciaires_6065852_3244.html, <https://www.mediapart.fr/journal/france/060121/campagne-de-vaccination-l-histoire-d-un-nauffrage>, <https://www.marianne.net/societe/sante/defauts-logistiques-de-vaccination-un-des-problemes-principaux-cest-quand-meme-le-centralisme-parisien>, https://www.liberation.fr/france/2021/01/07/crise-du-covid-les-elites-surinvestent-la-strategie-mais-se-desinteressent-de-la-mise-en-oeuvre_1810585/, <https://www.alternatives-economiques.fr/on-reflechir-a-une-strategie-vaccinale-penser-logis/00095130>

g) https://www.lemonde.fr/politique/article/2021/01/11/definir-et-appliquer-une-strategie-vaccinale-six-semaines-de-flottement-au-sommet-de-l-etat_6065870_823448.html, <https://www.tf1info.fr/sante/covid-19-ce-delai-je-l-assume-olivier-veran-answers-criticism-about-slow-vaccination-in-france-2174140.html>, <https://www.lefigaro.fr/politique/covid-19-l-executif-defend-sa-strategie-vaccinale-20210102>

Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022, p51

h) *Haute Autorité de la Santé, Modification du schéma vaccinal contre le SARS-CoV-2 dans le nouveau contexte épidémique, Haute Autorité de la Santé, January 2021.*

Conseil d'Orientation de la Stratégie Vaccinale, Comité Scientifique

same time, the government planned to open large-scale vaccination centres, announcing it officially on 22 January 2021. In addition, the significant increase in the number of daily vaccinations carried out raised the issue of the availability of people able to prescribe and recommend the vaccine. After consulting the HAS, the government extended the list of professionals who could carry out vaccinations under the responsibility of a doctor^a. This meant that a wide range of professionals (including nurses) could be mobilised in vaccination centres and that vaccinations could be carried out in pharmacies. This also facilitated vaccination “en ville” (by private doctors and actors, outside of state-run facilities such as hospitals and vaccination centers). This was initially limited to the doses of Astra Zeneca and Janssen vaccines and then extended to messenger RNA vaccines in May 2021^b.

The gradual expansion of the vaccinated public and the emergence of debates about unequal access to vaccines

The extension of the target audience beyond care homes for dependent elderly people and professionals (EHPADs) made the issue of the equitable distribution of available vaccine doses across France particularly salient. Doses were distributed according to what the Cour des Comptes calls a “distribution key”, the evolution of which is summarised as follows in its 2022 report^c:

“The national keys for allocating Pfizer vaccine doses by department were based on the application of a population pro rata and have therefore evolved :

- until May 2021: the key was based on the number of people aged 75 and over, adjusted by the number of healthcare workers;
- from 10 May, the key took into account the opening up of vaccination to people aged 50 and over.

Vaccins, Note relative à l'espacement entre les deux doses of mRNA vaccins, January 2021.

a) Haute Autorité de la Santé, *Stratégie de vaccination contre le SARS-CoV-2 - Extension des compétences vaccales des professionnels de santé*, Haute Autorité de la Santé, March 2021.

b) <https://www.santepubliquefrance.fr/dossiers/coronavirus-covid-19/logistique-vaccinale>

c) Cour des Comptes, *La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes*, Cour des Comptes, Paris, December 2022.

- Finally, from July onwards, the key was based on the general population, regardless of age, and was not used for any other purpose and was not changed anymore.

The same keys were applied to the Moderna vaccine until it was reserved for the city flow from May” p 54.

The Cour des Comptes refers to feedback during the early stages of the campaign from Regional Authorities complaining that this distribution was disadvantageous to them, for example on account of their commitment to home care for the elderly, to the detriment of care homes for the dependent elderly (EHPAD). The ARS then amended this key to include other criteria such as the incidence rate, the delay in vaccination and social criteria^d. As the target population broadened, criticisms soon began to emerge about the way in which doses were distributed geographically. Elected representatives from working-class towns in the Paris region accused the departmental authorities of discriminating against them compared with wealthier towns^e b. The question of inequalities in access to vaccines therefore emerged very early on, and remaine an aspect of the debates raised by this phase of significant progress in vaccination coverage between the beginning of February and the summer of 2021.

During this period, for people who were not vaccinated in EHPADs or at their place of work, the main way of obtaining an appointment to be vaccinated was via a private website developed in 2013, which has since become a common way of identifying healthcare professionals and making appointments with them (Doctolib). Registration on the website was free and without restriction. Vaccinations were also free, with no advance fees, unlike many childhood vaccinations, for example. Inequalities in vaccination were therefore mainly rooted in social differences in digital skills and in differences in the resources needed to get to vaccination centres. Many people who work in vaccination centres or who had knowledge of what

d) Cour des Comptes, *La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes*, Cour des Comptes, Paris, December 2022, p54.

e) https://www.francetvinfo.fr/sante/maladie/coronavirus/vaccin/vaccination-contre-le-covid-19-on-ajoute-a-la-penurie-linjustice-fulmine-le-maire-de-nanterre-qui-ne-recevra-pas-de-dose-de-vaccin-pour-la-semaine-a-venir_4287465.html, https://www.lemonde.fr/idees/article/2021/02/12/vaccin-anti-covid-une-majorite-des-beneficiaires-est-issue-des-classes-les-plus-aisees-et-ne-repente-pas-la-population-la-plus-vulnérable_6069683_3232.html

goes on there reported in the press that appointments tended to be taken up by wealthier members of the public, who sometimes travelled a long way from home to more working-class neighbourhoods in order to be vaccinated as soon as possible^a.

Inequalities in access remained a constant theme throughout the period, even after the summer of 2021 and the introduction of the health pass. It also became the subject of academic publications aimed at measuring its extent, which we will present later in this chapter. At this stage, however, we should note the existence of at least one study that has not yet been peer-reviewed, showing that, during the first few months of the vaccination campaign, the more affluent groups were significantly over-represented among those who obtained appointments in the Paris region⁵. It should also be noted that two surveys carried out among various disadvantaged groups at the end of 2021 and beginning of 2022 showed that they tended to be vaccinated far less than the rest of the population, even though they are often among the priority groups^{[6-8]b}. Another survey carried out in May 2021 showed that, controlling for age and the existence of other co-morbidities, income was a determining factor in the decision to be vaccinated against Covid-19^[9-11]. In 2022, researchers attempted to take stock of these difficulties and the limitations of measures designed to correct them, and proposed ways of overcoming them^c.

Before addressing the question of these outreach (“aller-vers”) initiatives and interventions, we need to mention the fact that some actors have highlighted the data security issues raised by this recourse to a private service provider outside the rules usually imposed on health data collected by State actors^d.

A number of issues relating to the security and confidentiality of medical data were raised in 2021 as a result of the proliferation of databases created to track vaccinations and the links between them^e. The creation of an infection-tracking application (StopCovid, now TousAntiCovid) has been the focus of much of these debates^f.

Outreach (“aller-vers”): local initiatives without a national strategy

The greater difficulty experienced by certain groups in requesting, obtaining or organising transportation to attend vaccination appointments seems to have been taken into account by a wide variety of actors in the vaccination campaign, who have deployed initiatives aimed at “reaching out” to these groups. The Cour des Comptes report lists some of these initiatives, as did press articles published in the first half of 2021^g. The schemes listed seem to have emerged mainly on the initiative of the most local actors (town halls, health centres, general councils, local associations, etc.). At the national level, the Caisse Nationale d’Assurance Maladie (CNAM) deployed a wide range of initiatives involving both local partners (associations, town halls, etc.) and their national patient registers, enabling them to identify priority groups and send them information. However, we found no reference to the use of non-French languages in these communications, a practice widely recommended in the international literature on mobilising the most vulnerable and/or marginalised people, among whom immigrants are generally over-represented. In addition to this work, from July 2021, the CNAM also gave GPs the

a) https://www.lemonde.fr/idees/article/2021/02/12/vaccin-anti-covid-une-majorite-des-beneficiaires-est-issu-des-classes-les-plus-aisees-et-ne-repente-pas-la-population-la-plus-vulnerable_6069683_3232.html, <https://www.mediapart.fr/journal/france/180421/un-un-la-seine-saint-denis-vaccine-ses-habitants-les-plus-fragiles?>, https://www.lemonde.fr/planete/article/2021/04/12/on-se-heurte-a-un-mur-la-galere-des-plus-de-75-ans-toujours-en-quete-du-vaccin-contre-le-covid-19_6076415_3244.html

b) It should also be noted that those working in the field have reported similar experiences. See for example: https://www.lemonde.fr/societe/article/2021/04/13/pour-les-sans-abri-et-dans-les-hebergements-d-urgence-une-vaccination-contre-le-covid-19-lente-et-compliquee_6076631_3224.html

c) Santé Publique France, *Lutte contre la COVID-19 auprès des personnes en grande précarité en France: Partage des connaissances sur les stratégies de vaccination*, Santé Publique France, *Etudes et enquêtes*, 36p, February 2022.

d) <https://www.mediapart.fr/journal/france/260221/vaccination-le-partenariat-avec-doctolib-conteste-devant-le-conseil-d-etat>

e) *Cour des Comptes, La Vaccination contre la COVID-19: Des résultats globaux favorables, des disparités persistantes*, Cour des Comptes, Paris, December 2022, p89.

f) See for example: Albouy-Llaty, M. et al. *Positioning Digital Tracing Applications in the Management of the COVID-19 Pandemic in France*. *Journal of Medical Internet Research* 23, e27301 (2021). Zins, M., Cuggia, M. & Goldberg, M. *Health data in France: Abundant but complex*. *Med Sci*, 37, 179-184 (2021). <https://www.defenseurdesdroits.fr/fr/communiqu-e-de-presse/2021/07/extension-du-passe-sanitaire-les-10-points-dalerte-de-la-defenseure-des>

g) *Cour des Comptes, La Vaccination contre la COVID-19: Des résultats globaux favorables, des disparités persistantes*, Cour des Comptes, Paris, December 2022, p64. https://www.mediapart.fr/journal/france/180421/un-un-la-seine-saint-denis-vaccine-ses-habitants-les-plus-fragile?utm_source=global&utm_medium=social&utm_campaign=SharingApp&xtor=CS3-5, https://www.lemonde.fr/planete/article/2021/04/12/on-se-heurte-a-un-mur-la-galere-des-plus-de-75-ans-toujours-en-quete-du-vaccin-contre-le-covid-19_6076415_3244.html

opportunity to consult the list of their non-vaccinated patients in order to encourage any initiatives they could take. This was criticised by some on the grounds of confidentiality, as the information on each patient was made accessible to all doctors^a.

Despite these initiatives, it is important to note that the general observation, included among the main conclusions of the Cour des Comptes' report, is that these initiatives were too limited. For example, there was no national strategy or dedicated national budget for "aller-vers" (outreach), i.e. the introduction of measures to promote access to healthcare for people who are more distant from the system, beyond the provision of more vaccination appointment opportunities^b. This aspect seems to have been passed on to the more local actors, without any additional budget being set aside to carry out these actions. In the Cour des Comptes' assessment, this lack of investment in outreach is identified as one of the main reasons for the relative lack of progress of the vaccination coverage among the oldest, most isolated and most vulnerable groups, compared with our European neighbours^c. It also recommended that "the 'outreach' approach should be included among the objectives of preventive health policies and of the agreement on objectives and management (COG) of the Assurance Maladie for the years 2023 to 2027".

The introduction of a health pass in the summer of 2021

The launch of the vaccination campaign obviously did not put an immediate end to the pandemic threat. In particular, the increasingly widespread circulation of Covid-19 variants of concern from the start of 2021 took place in a context where a small minority of the population had been vaccinated. The government therefore introduced a third lockdown between 3 April and 3 May 2021, which, among other things, restricted gatherings and access to many businesses. The period was marked by discussions on how to integrate vaccination into a system that would allow more shops and activities to open while limiting the risk of the virus spreading. At the time of the

announcements prior to the end of the confinement, the Government announced the future introduction of a health pass allowing certain hitherto prohibited activities to be opened by restricting access. Several weeks after the 3rd confinement, on 31 May 2021, a law was passed making travel and access to some places and events conditional on presentation of proof of vaccination or a negative Covid-19 test. The possibility of introducing a vaccination passport giving access to more social activities had been frequently raised both during the first months of the vaccination campaign^d and even before its launch^e. On 7 June 2021, this provision was applied to events attended by more than 1,000 people, with those wishing to take part required to present a negative Covid-19 test less than 72 hours old, a vaccination certificate (full schedule + 14 days) or a Covid-19 recovery certificate (positive test more than 15 days old and less than 6 months old). In their announcements, the various members of the Government speaking on this subject assured the public that this "health pass" would not be applied to everyday activities^f. However, on 12 July 2021, against the backdrop of a worrying rise in the Delta variant, which was said to be more contagious than the Alpha variant, the President of the Republic announced a vast extension of the health pass. From 9 August 2021, this pass would be required for access to a large number of places and activities, including cafés, restaurants, hospitals and public transport.

We will see in the following chapters that the announcement of the extension of this health pass was associated with a sharp increase in vaccination coverage, but also with large-scale street demonstrations (see chapters 3 and 5). From the point of view of the organisation of the vaccination campaign, the introduction of the health pass has above all meant, alongside an increase in the number of vaccination appointments made available during the summer of 2021, a transformation in the uses of

a) https://www.lepoint.fr/societe/un-medecin-juge-pour-avoir-consulte-le-dossier-vaccinal-d-emmanuel-macron-13-06-2023-2524151_23.php

b) <https://www.mediapart.fr/journal/france/100721/covid-l-enjeu-crucial-de-convaincre-ceux-qui-hesitent-se-faire-vacciner>

c) Cour des Comptes, *La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes*, Cour des Comptes, Paris, December 2022

d) For example, the EESC is organising a public consultation on the vaccine pass in March 2021, https://www.lecese.fr/actualites/grande-consultation-sur-le-passeport-vaccinal-les-resultats-sont-en-online?utm_source=phpList&utm_medium=email&utm_campaign=Covid-19%20:%20la%20lettre%20du%20CRES%20n%C2%B0%2076%20-%2018%20mars%202021&utm_content=HTML, https://www.lemonde.fr/politique/article/2021/02/25/mis-sous-pression-par-les-variants-emmanuel-macron-reflechit-a-la-maniere-de-vivre-avec-le-covid-19_6071123_823448.html

e) https://www.huffingtonpost.fr/science/article/le-vaccin-anti-covid-19-obligatoire-est-il-une-solution_173021.html, <https://www.dalloz-actualite.fr/node/covid-mesures-restrictives-de-liberte-resistent-elles-au-test-de-proportionalite#.X2thj4s6-M8>

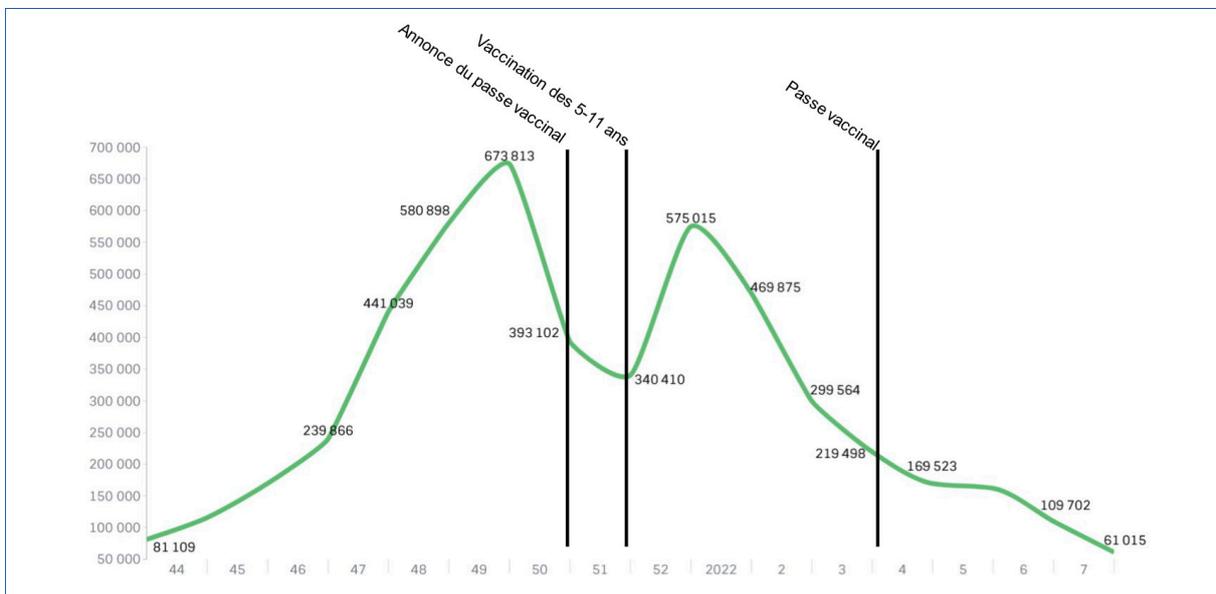
f) <https://www.marianne.net/societe/sante/le-pass-sanitaire-chiffon-rouge-de-la-sphere-anti-restrictions-sur-les-reseaux-social>

the TousAntiCovid application used to track cases of Covid-19 infection. Initially, this application was used to detect the presence of infected people in order to encourage potentially infected people to be tested and, if necessary, to quarantine. It also communicated information on the epidemic risk at local and national levels, and enabled travel certificates to be created during periods of confinement. From April 2021, it started including new functions such as storing tests and vaccination certificates. The introduction of the health pass relied heavily on this application. By June 2021, 20 million French people had downloaded it, a figure that rose to 30 million by mid-August following the introduction of the extended version of the health pass. The application made it possible to present the documents authorising access to a given activity in the form of images or via a machine-readable QR code^a, even though the use of this application was not mandatory. The presentation of false passes, of which the Ministry of the Interior had identified 200,000 by the end of 2021, was punishable by a fine and later by a prison sentence. But the figures presented by the Ministry at the end of December suggested that the police very rarely prosecuted offenders (around 2,000 fines given at the time)^b.

From the health pass to the vaccination pass

The extension of the health pass was followed by a sharp rise in the number of first-time vaccinations. However, the number of appointments began to fall sharply in September, and stagnated from the beginning of October. As a result, at least some of the major vaccination centres closed. However, with the arrival of a 4th epidemic wave and the announcement at the end of November 2021 that a booster dose would be required to maintain the benefits of the health pass, these centres are being reopened^c.

Graph 2.3: Average number of booster injections administered daily since November 1, 2021.



Source : Deseyne, C., Henno, O. & Meunier, M. Engager avec transparence la levée du pass vaccinal. Sénat, 248 (2022), p24

a) On the uses of TousAntiCovid, see for example: Schultz Z., R Touzani, J Mancini, JK Ward ; From contact tracing to COVID-19 pass holder; the tortured journey of the French TousAntiCovid contact tracing app, Public Health, Vol 206, pp 5-7, 2022.

b) https://www.francetvinfo.fr/sante/maladie/coronavirus/pass-sanitaire/covid-19-pres-de-200-000-faux-pass-sanitaires-ont-ete-recenses-par-le-ministere-de-l-interieur_4904183.html

c) https://www.lemonde.fr/politique/article/2021/11/26/covid-19-emmanuel-macron-veut-faire-peser-la-contrainte-sur-les-non-vaccines_6103643_823448.html

During this period, the proportion of French people who have still not received a single dose of vaccine continues to be a major concern, despite the fact that it has fallen below the threshold of 10% of adults. In an attempt to further improve vaccination coverage, the Government is stepping up the constraints associated with the health pass. At the end of October, the government announced the end of free tests for people who had not been vaccinated, making it potentially very expensive to continue refusing to be vaccinated. This decision has prompted concern from the human rights defenders^a. On 17 December, the Prime Minister announced the transformation of the “health pass” into a “vaccination pass”, thereby eliminating the possibility of presenting a negative test or a certificate of reinstatement of the Covid-19^b. The debate on this vaccination pass and the conditions for its introduction then occupied the month of January 2022, and the pass was introduced on 24 January. The announcement of this measure was associated with an increase in the number of appointments for booster vaccinations. But the number fell sharply a few weeks later, as the government spoke of suspending the pass, which would finally take effect on 14 March 2022^c.

The ethical issues surrounding the vaccination campaign

The Covid-19 vaccination campaign provided a major impetus for reflection on the ethical issues surrounding vaccination in France, and in particular on the conditions under which it is acceptable to make vaccination mandatory, or to impose constraints and restrictions on the freedoms of those who refuse the vaccine.

This classic topic had been the subject of renewed interest in international academic arenas prior to the Covid pandemic-19 against a backdrop of increased

vaccination obligations in many countries^d. This renewed interest was particularly strong in France, driven by a desire to overhaul vaccination policies in the early 2000s, the proliferation of vaccine controversies in the 2010s and the decision to extend the list of mandatory vaccinations for children from 2018^e. However, academic publications on the ethics of vaccination and mandatory vaccination have increased above all since the start of the pandemic^[12-20], with the publication of a collective work dedicated to this issue and aimed at addressing the various aspects by drawing on the contributions of different human and social sciences^[21]. The question of obligations specific to healthcare professionals - as they are in more direct contact with vulnerable staff - has been the subject of dedicated discussions (see in particular^[22,23] and^f). These questions relating to the ethical nature of the obligation and organisation of the Covid-19 vaccination campaign have also been addressed outside the academic arena by groups of experts such as the CCNE, as well as those specialising in the vaccination issues mentioned above^g.

d) See for example: Attwell, K. & C Navin, M. *Childhood Vaccination Mandates: Scope, Sanctions, Severity, Selectivity, and Salience*. *Milbank Q* (2019). Giubilini, A. *The Ethics of Vaccination*. (Palgrave Macmillan, 2018). Navin, M. *Values and Vaccine Refusal: Hard Questions in Ethics, Epistemology, and Health Care*. (Routledge, 2015). Colgrove, J. *Vaccine Refusal Revisited - The Limits of Public Health Persuasion and Coercion*. *New England Journal of Medicine* 375, 1316-1317 (2016).

e) Bertrand, A. & Torny, D. *Libertés individuelles et santé collective. A socio-historical study of mandatory vaccination*. (2004). Torny, D. *Politique vaccinale*. in *Traité de prévention* 206-211 (Flammarion, 2009). Ward, J. K., Colgrove, J. & Verger, P. *Why France is making eight new vaccines mandatory*. *Vaccine* (2018). Lévy-Bruhl, D., Desenclos, J.-C., Quelet, S. & Bourdillon, F. *Extension of French vaccination mandates: from the recommendation of the Steering Committee of the Citizen Consultation on Vaccination to the law*. *Eurosurveillance* 23, 18 (2018).

f) This issue has been particularly addressed by the French National Consultative Ethics Committee: *Comité Consultatif National d’Ethique. La vaccination des professionnels exerçant dans les secteurs sanitaires et médico-sociaux : sécurité des patients, responsabilité des professionnels et contexte social*. 54 (2023).

g) See in particular: *Comité Consultatif National d’Ethique. Avis du CCNE: Enjeux éthiques relatifs à la vaccination contre la Covid-19 des enfants et des adolescents* (2021). *Comité Consultatif National d’Ethique. Enjeux éthiques d’une politique vaccinale contre le SARS-COV-2*. 21 (2020). *Haute Autorité de la Santé. Actualisation des recommandations et obligations vaccinales des professionnels. Volet 1/2: diphtérie, tétanos, poliomyélite, hépatite B, Covid-19*. 97 (2023). *Haute Autorité de la Santé. Actualisation des recommandations et obligations vaccinales des professionnels Volet 2/2: coqueluche, grippe saisonnière, hépatite A, rougeole, oreillons, rubéole varicelle*. 183 (2023). *Comité Consultatif National d’Ethique. La vaccination des professionnels exerçant dans les secteurs sanitaires et médico-sociaux : sécurité des patients, responsabilité des professionnels et contexte social*. 54 (2023). *Conseil d’Orientation de la Stratégie Vaccinale. Avis du 24 juin 2021 – Obligation vaccinale pour les professionnels des secteurs sanitaire et médico-social*. 5 (2021).

a) https://www.lemonde.fr/planete/article/2021/10/20/covid-19-la-defenseure-des-droits-preoccupe-apres-la-fin-de-la-free-testing_6099216_3244.html

b) https://www.lemonde.fr/planete/article/2021/12/17/covid-19-passe-vaccinal-delai-pour-la-dose-de-rappel-ce-qu-il-faut-remember-annoncements-by-jean-castex_6106558_3244.html

It should also be noted that it has been announced that the deadline for a booster vaccination after the full schedule will be brought forward from 5 months to 4 months.

c) *Cour des comptes, La Vaccination contre la COVID-19: Des résultats globaux favorables, des disparités persistantes, Cour des comptes, Paris, December 2022, p51.*

This work on the ethics of mandatory vaccination during the vaccination campaign provided an opportunity to recall a number of principles that have become consensual in the international literature on the ethics of mandatory vaccination.

The first is well summarised by Raymond Massé in a chapter of this book: “The credibility of (nda: ethics) depends on its ability to balance the influence of a series of principles referring to fundamental values shared in a given society at a given time. In public health, the principles of beneficence, social justice, respect for individual autonomy, defence of the common good, responsibility and accountability are just a few examples. Ethical wisdom involves assessing the respective weight of each of these principles according to the situations, conditions and issues involved. None of these principles can be given absolute value from the outset”^[24] p35. The fact that ethical reasoning involves thinking about the negotiation of competing and potentially contradictory principles has been highlighted above all to warn against calls to establish individual freedom as the only value to be taken into account on this issue. But it can also be used as a reminder - against certain radical forms of medical paternalism - of the need not to forget that individual freedom is indeed a fundamental element of contemporary medical ethics and that it cannot be completely ignored on the grounds, for example, that people who refuse to be vaccinated have opinions that differ from the scientific consensus. This is also why the possibility of making vaccination mandatory is presented as an option of last resort requiring very strong justification, such as the presence of a very significant threat to public health.

These studies have highlighted a number of properties or conditions that support the ethical nature of mandatory vaccination against a given disease. The collective nature of vaccination is one of the main ones - the fact that by vaccinating oneself we protect others - making mandatory vaccination more or less justified depending on the greater or lesser capacity of vaccines to prevent transmission. But the idea of mandatory vaccination for a vaccine that protects only the person vaccinated is not rejected either, in the same way that the requirement to wear a seatbelt in the car is widely considered to be justified. In fact, by falling ill, a person can impose a significant cost on society by contributing to the saturation of the healthcare system or by being unable to carry out important tasks for the community. Whether or not

vaccination is altruistic, the efficacy of vaccines and their safety also play a role in determining whether or not vaccination is ethically acceptable, as does the degree of certainty about these issues. For example, the increasingly precise knowledge of the side-effects of the Covid-19 vaccine as the vaccination campaign unfolded made the idea of mandatory vaccination increasingly acceptable from an ethical point of view. Conversely, the rapid evolution of the variants, and in particular the arrival of the Omicron variants against which the available vaccines had little capacity to prevent transmission, worked in the opposite direction.

Whether mandatory vaccination is ethical or not therefore depends not only on general principles and values, but also on the medical factors that are usually taken into account when calculating the benefit-risk balance when recommending vaccines. This is why the arguments in favour of mandatory vaccination vary according to the different segments of the public. This differentiation has been developed in particular around the special case of healthcare professionals, for whom vaccination against Covid-19 has been made mandatory from summer 2021 (see^[22,23] and^{a)}). This obligation was presented as being more justified for these professionals because they are more likely to contract the virus, are in greater contact with vulnerable people and are therefore more likely to transmit the virus to them, and their absence in the event of illness contributes to the strain on the healthcare system, which is a crucial resource in the context of a pandemic crisis.

But it is also important to note that these studies highlight the importance of the process leading up to decisions to make a vaccine mandatory. Weighing up a diversity of values and taking into account the situation of a wide range of social groups means that decision-making processes must include stakeholders capable of raising this diversity of viewpoints and representing these different groups (see in particular^[21], p 10 and^[25] p159). This process-based approach was put forward by the CCNE to clarify the vaccination requirements for healthcare professionals in a context of worsening working conditions and tensions in hospitals:

a) *This issue has been particularly addressed by the French National Consultative Ethics Committee: Comité Consultatif National d’Ethique. La vaccination des professionnels exerçant dans les secteurs sanitaires et médico-sociaux : sécurité des patients, responsabilité des professionnels et contexte social. 54 (2023).*

“When implemented in the healthcare environment, mandatory vaccination is binding on healthcare professionals, their employers and the institutions responsible for managing the healthcare system as a whole. The mandatory vaccination requirement must therefore be examined from an ethical perspective, taking into account all the resources and efforts made by healthcare professionals to protect patients, as well as all the resources made available to them by their employers for this purpose and to protect their health. Lack of institutional resources, limited human resources, work overload and the encouragement of presenteeism (working despite illness) to maintain the productive capacity of teams are all factors that have a negative impact on the health of professionals working in healthcare environments, as well as on the care provided to patients. According to the work of ethics researcher Rachel Gur-Arie, these shortcomings help to erode the legitimacy of the institutional arguments justifying mandatory vaccination of healthcare workers on the grounds of the need to protect professionals and patients, since the fact that these arguments are not applied to other aspects of hospital care raises the question of the strength of the commitment to these values^a”.

This extract highlights the need to think about obligations from the point of view of the mutual obligations between those who govern and those who are subject to them. The ethical literature published during the Covid-19 epidemic highlighted the fact that making a vaccine mandatory means guaranteeing access to vaccination for all. This requirement means that efforts must be made to compensate for any difficulties that some people may have in accessing vaccines (see^[21]), so that some people do not find themselves in situations where it would be very difficult for them to comply with mandatory vaccination. It should also be noted that some of these studies have emphasised the importance of providing effective and fair no-fault compensation mechanisms for the side effects actually caused by these vaccines (for a legal perspective^[15], see also^b). However, this issue has not

a) National Consultative Ethics Committee: National Consultative Ethics Committee. *La vaccination des professionnels exerçant dans les secteurs sanitaires et médico-sociaux : sécurité des patients, responsabilité des professionnels et contexte social*. 54 (2023), pp.39-40. The article by Gur Arie cited is: Gur-Arie R., Hutler B., Bernstein J., (2023), "The ethics of COVID-19 vaccine mandates for healthcare workers: Public health and clinical perspectives", *Bioethics*, 37(4):331-342.

b) Attwell, K., Drislane, S. & Leask, J. *Mandatory vaccination and*

been the subject of extensive public debate. In France, compensation for side effects, including those caused by vaccines, is the responsibility of the Office National d'Indemnisation des Accidents Médicaux (ONIAM). However, the delays and difficulties encountered by victims of proven side-effects have been regularly highlighted by those working in the medical sector, as well as by social science researchers such as the sociologist Janine Barbot, who have studied the operation of these systems^c. These difficulties are particularly apparent in the fact that people who contracted forms of narcolepsy as a result of vaccination against influenza A(H1N1) in 2009 had still not received compensation in 2021^d. It should also be noted that making a vaccine mandatory reinforces the need to comply with the general ethical principles that should guide any vaccination campaign. These requirements relate not only to the issues of fair access to vaccines mentioned above, but also to communication aspects. For example, it is all the more necessary for the public authorities imposing vaccination to communicate the objectives of vaccination and the state of available knowledge in a transparent and comprehensible manner (see^[26]). This requirement renders problematic the use of many communication techniques derived from marketing or political communication, since they are based on the communication of partial information or the circumvention of individuals' deliberative faculties (see in particular^[26,27]).

In addition to these expert debates, the ethical and desirable nature of using coercion to increase vaccination coverage has also been the subject of public debate, particularly in the general news media, especially from July 2021 onwards. Many actors have taken a stance on this topical issue, including the main opposition parties. The Rassemblement National and France Insoumise have strongly criticised the introduction of the health pass, integrating this criticism into their more

no fault vaccine injury compensation schemes: An identification of country-level policies. *Vaccine* 37, 2843-2848 (2019). Mello, M. M. *Rationalizing Vaccine Injury Compensation*. *Bioethics* 22, 32-42 (2008).

c) Barbot, J., Parizot, I. & Winance, M. "No-fault" compensation for victims of medical injuries. Ten years of implementing the French model. *Health Policy* 114, 236-245 (2014). Barbot, J. & Dodier, N. *Des victimes en procès: Essai sur la réparation*. (Presses des Mines, 2023).

d) See for example: https://www.liberation.fr/checknews/pourquoi-des-victimes-deffets-secondaires-du-vaccin-h1n1-nont-toujours-pas-ete-indemrisees-par-loniam-treize-ans-apres-20220201_MYRDNOPDNRDORISFUPZ3VKZGPE/, https://www.lexpress.fr/economie/indemnisation-des-accidents-vaccinaux-un-scandale-francais_2146050.html

general denunciation of the undemocratic nature of the management of the pandemic. It should also be noted that France Insoumise strongly criticised the decision to end free Covid-19 screening tests in autumn 2021, echoing arguments put forward by the *Défenseure des droits*^a. The decision to transform the health pass into a vaccination pass at the beginning of 2022 has revived these political and media debates. Specialists in the human and social sciences, as well as in public health, have intervened extensively in these debates, either to shed light on the issues at stake or to take a stance on the subject^b.

Towards routine vaccination against Covid-19

The Covid-19 pandemic saw the introduction of an exceptional vaccination system, much of which was deployed alongside the usual vaccination channels. These arrangements involved not only the vaccination centres set up for the occasion, but also the myriad administrative processes and financial arrangements that made it possible to increase the number of vaccination sites. However, booster vaccinations after the first one have not been recommended for the entire population, but only for the elderly, people with co-morbidities from Covid-19 and their families. From spring 2022 onwards, vaccination against Covid-19 will therefore be carried out by the usual channels for vaccination, particularly against influenza (care centres for the elderly, specialists, GPs and pharmacists). However, we have not found any documents describing precisely how this return to routine, or the institutionalisation of a new routine, took place. It should be noted that this

process involved, at the end of July 2022, the end of the exception regimes created during the pandemic.

Conclusion

We have proposed a brief description of how the vaccination campaign was decided and organised in France. In the provisional absence of peer-reviewed work on this subject, this description had to rely on accounts offered directly by the decision-makers themselves (directly or indirectly via their role as informants for the reports produced) and on content published in the general news media during this period. In addition to academic work on the subjects covered by these sources, for example on the decision-making processes at government level, we can highlight the absence of publications providing an informed look by the social sciences at a large number of important subjects such as the relationship between the central state and the local authorities, the way in which questions of social inequality in relation to vaccination were dealt with by the various actors involved in this campaign, or the processes that led to a greater or lesser degree of politicisation of the various issues at stake in the organisation of this campaign. In addition, we note a relative absence of work on the communication work carried out by the various actors to inform and mobilise the different segments of the public about vaccination. We will develop this point in chapter 5.

a) https://www.lemonde.fr/planete/article/2021/10/20/covid-19-la-defenseure-des-droits-preoccupee-apres-la-fin-de-la-free-testing_6099216_3244.html

b) See for example: https://www.lemonde.fr/societe/article/2022/01/21/passe-vaccinal-il-y-a-encore-peu-de-temps-une-loi-comme-ci-nous-aurait-paru-renversante_6110358_3224.html, https://www.lemonde.fr/idees/article/2021/07/29/passe-sanitaire-toute-politique-qui-reduit-les-libertes-doit-le-faire-avec-la-plus-grande-mesure_6089863_3232.html, https://www.huffingtonpost.fr/science/article/le-vaccin-anti-covid-19-obligatoire-is-it-a-solution_173021.html, <https://www.la-croix.com/Debats/Covid-19-faut-rendre-vaccination-soignants-obligatoire-2021-03-04-1201143826>, <https://www.dalloz-actualite.fr/node/covid-mesures-restrictives-de-liberte-resist-the-test-of-proportionality#.X2thj4s6-M8>, <https://theconversation.com/debat-obligation-vaccinale-une-ethical-and-political-requirement-157257>, <https://www.latribune.fr/opinions/tribunes/cour-europeenne-des-droits-de-l-man-and-mandatory-vaccination-the-covid-context-883820.html>

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Chapter 3:

Vaccination attitudes
and behaviour since the
emergence of COVID-19

Introduction

Vaccine attitudes and behaviour were a major concern for the health authorities during the Covid-19 pandemic. Indeed, like all prevention policies, vaccination involves direct mobilisation of the target population. Numerous researchers from a wide variety of disciplines took an interest in the public's mobilisation at the various stages of the Covid-19 vaccination campaign, as well as in other vaccinations that might be affected by the pandemic. Polling institutes have also shown great interest in this issue. They have produced an impressive number of surveys. As a consequence of this joint mobilisation of academic actors and polling institutes, the question of public attitudes and behaviour is by far the aspect of vaccination on which we identified the most literature and data.

Academics have seized on this theme as an opportunity to advance thinking in their field of research on issues ranging from ordinary relationships with the state and science, the circulation of 'fake news', gender inequalities, the experience of racism, the politicisation of health issues, and so on. On some of these issues, the pandemic was associated to great scientific progress thanks to the availability of public funds to support this research. The pandemic therefore helped to make vaccination a textbook case for some of these literatures.

A profusion of questionnaire surveys...

Covid-19 vaccination coverage data was an initial source of data for these analyses. It should be noted that these data were made public very quickly and with a much finer geographical granularity than during the pre-Covid-19 period. This made it possible to carry out much more in-depth analyses of geographical inequalities in vaccination, based on the case of Covid-19 vaccination at the inter-municipal level. In particular, these data made it possible to study changes in inequalities as the campaign progressed. In this section, the vaccination coverage data quoted will come from the <https://www.data.gouv.fr> and <https://covidtracker.fr/vaccintracker^a> sites.

a) Questionnaire surveys are an additional source of information on vaccination coverage. We will not refer to them directly in this chapter, except in the absence of official data. It should be noted that some publications drawing on questionnaire surveys have paid particular attention to self-declared vaccine status. This is particularly the case for publications by Santé Publique France, the EPICOV project and surveys supported by the COVIREIVAC consortium.

Above all, however, Covid-19 has led to an increase in the number of closed-questions questionnaire-based surveys. The importance of this specific methodology is partly due to the strong involvement of polling institutes. They have often included a handful of questions in their omnibus surveys commissioned by general news media, other media or political actors. However, it should also be underlined that many much richer surveys have been designed by researchers, who have entrusted the polling institutes with the task of carrying out the surveys or have used other means to gather data. This has resulted in a wide range of methodologies, including sampling targets (adults up to the age of 75, older people, minors, etc.), sampling methods (quotas, random sampling, snowballing, etc.), respondent recruitment (online panels, identification via the telephone directory, etc.) and survey implementation (online or by telephone). The pandemic made it possible to explore factors previously largely ignored in surveys of this type, such as attitudes to science, politics, the state, conspiracy theory and alternative medicine.

This diversification of the factors explored, combined with the temporal coverage of the data collected, makes the period of the Covid-19 pandemic an exceptional time for research into public attitudes to vaccines in France. However, there are several important limitations to this corpus of data. Firstly, most of the data collected concerns adults living in mainland France. In particular, people living in the French Overseas Departments and Regions (DROM) have been largely understudied, even though it is in these territories that vaccination seems to have met with the most resistance. There has also been relatively little work on minors and people with comorbidities for Covid-19. Finally, it is important to note that the sampling methods used in this type of survey generally do not allow selection of the most marginalised or isolated people, who are often priority groups for vaccination (for example, isolated elderly people). Fortunately, some researchers have been able to carry out surveys using hybrid data collection methods that include rich face-to-face interactions with more difficult-to-reach groups. Such studies are essential and should receive more institutional support. Similarly, few studies based on qualitative methods (interviews, ethnography) have been published at the time of writing this report. This type of methodology and approach traditionally takes longer to collect, analyse and publish. Several teams are currently working on this issue using these

methodologies. We anticipate that the forthcoming publication of their work will provide an opportunity to expand on the points made here. These differences in publication timescales, depending on the methods and approaches used, make it necessary to conduct the pandemic feedback exercise over a long period of time. We hope that this will be reflected in the updated versions of this report each year.

... that which allows to closely monitor changes in attitudes and behaviour

The literature on vaccination attitudes and behaviour has emphasised the highly contextual and evolving dimension of attitudes to vaccination. Understanding the factors that lead some people to accept, refuse, be convinced or have doubts lies at the intersection between structural factors that unfold over time and contextual dynamics that may or may not activate such dispositions. As we shall see, attitudes to vaccines against Covid-19 have changed very rapidly. In this context, the availability of data covering the different moments and facets of the campaign is one of the main challenges.

This issue gives particular importance to the questionnaire surveys carried out by polling firms and the reports they produce, despite the fact that they are not subject to peer review in the same way as research published in academic journals. Indeed, we have already emphasised the high level of investment by polling institutes in the issue of vaccination against Covid-19. This investment means that, at many points in the campaign, their surveys are the only ones to have been carried out, and the reports presenting the main results - generally very succinctly and superficially - are the only publications available. For example, the investment of the polling institutes was particularly intense up until autumn 2021, when vaccination coverage with the initial scheme went over 90%. During this early phase of the pandemic, most pollsters used items that focused on vaccination intentions and were worded identically or very closely to those used in academic publications. Between the surveys carried out by polling institutes using methodologies that are generally validated in scientific publications (sample size, representativeness) and those carried out by researchers, it is therefore possible to reconstruct changes in vaccination intentions on an almost fortnightly basis between the first weeks of the first lockdown (March 2020) and the introduction of the health pass in the summer of 2021. As well as making it possible to reconstruct the detailed chronology of

changes in vaccination intentions, surveys conducted by polling institutes are often the only ones to explore a specific aspect of the Covid-19 vaccination campaign at a crucial moment in its development, such as the changing perceptions of Astra Zeneca's vaccine or the reactions to the protests against the health pass.

The reports published by polling institutes can therefore be crucial sources of information for understanding vaccination attitudes and behaviour, and how they are changing. For this reason, we have tried to identify as many of these surveys as possible, particularly in the period preceding the launch of the campaign and in the first year of the campaign (2020 and 2021). All the descriptive notes published by polling institutes that we have identified are referenced in Appendix 3. We also provide a short summary of the results and themes covered in each of them.

But polling institutes were not the only ones to opt for non-peer-reviewed publication formats. During this period, researchers working on data from questionnaire surveys also published some of their more exploratory results, and even some of their more in-depth analyses, in the form of notes or reports. These notes and reports produced by the academic world are listed and summarised in appendix 2.

In this chapter, we will focus on work published in academic formats (articles, book chapters in university presses, books). Where these do not exist, we will give priority to work carried out by researchers but published in non-academic formats (reports, notes). Finally, on certain points, we will refer to the raw data published by polling institutes.

Chapter organisation

Vaccination against Covid-19 will feature prominently in this chapter. We will begin by tracing the evolution of public responses to the initial schedule of this vaccination (usually consisting of two doses), starting even before these vaccines were available. We will then look at the attitudes to booster doses and to the various Covid-19 vaccines available. We will then present the comparisons made between France and other countries, before moving on to the vaccination of children. We then look at the socio-cultural roots and determinants of vaccination against Covid-19, before concluding with two sections devoted to other vaccines than Covid-19.

Readers will notice that considerable attention is given to documenting the evolution of attitudes to this vaccine and to exploring the various aspects of this vaccination, while the question of the causes and roots of these perceptions remains secondary. There are two reasons for this choice. Firstly, it is crucial to know the basic facts in order to formulate plausible hypotheses and interpretations. Secondly, we believe that peer-reviewed publications are the best place to meaningfully discuss complex analyses theories and explanations. We will therefore briefly mention all the publications presenting these fine analyses and invite the reader to take the time to read them. In particular, we invite readers to consult articles published outside their own discipline in order to encourage cross-fertilisation of perspectives and thinking on how different types of mechanism combine in shaping vaccine attitudes and behaviour.

Finally, before delving into these studies, we would like to highlight an important distinction that may seem obvious to many but is often overlooked. The distinction is between broadly defined attitudes (what people think and feel) and behaviours (what people do). The literature on vaccine hesitancy has clearly underlined the difference that can exist between the two: many people get vaccinated despite persistent doubts and, conversely, many do not get vaccinated because they do not turn their intention into action rather than because they do not want to get vaccinated. As we shall see, this distinction is particularly important when a health pass is introduced in the summer of 2021, as it has prompted many reluctant people to be vaccinated. From this point on, or even earlier as vaccination became a collective norm, vaccination intentions or actual vaccination are no longer good proxies of what people think about these vaccines. From a methodological point of view, the ways of approaching attitudes therefore changed as the social reality of vaccination evolved.

Table 3.1: Chronology of the Covid-19 vaccination campaign in France

November 2020	Press releases announcing the results of the clinical trials of the first vaccines against Covid-19
27 December 2020	Launch of COVID-19 vaccination in care homes for dependent elderly people (EHPADs)
22 January 2021	Announcement of the opening of major vaccination centres
31 May 2021	Opening up vaccination to all adults
15 June 2021	Opening up vaccination to all people aged 12 and over
12 July 2021	Announcement of the extension of the health pass to most activities
9 August 2021	Introduction of the extended health pass
1st September 2021	First booster dose offered to the most vulnerable
27 November 2021	First booster dose offered to all adults
17 December 2021	Announcement of the forthcoming switch from a health pass to a vaccination pass
December 2021	Opening up vaccination to children aged 5 to 11
January 2022-April 2022	Second booster dose offered to the most vulnerable and gradual extension to the over-60s
24 January 2022	Introduction of the vaccination pass
24 January 2022	First booster dose offered to children aged 12 and over
July 2022	Second booster dose offered to pregnant women and healthcare workers and those in the sociomedical sector

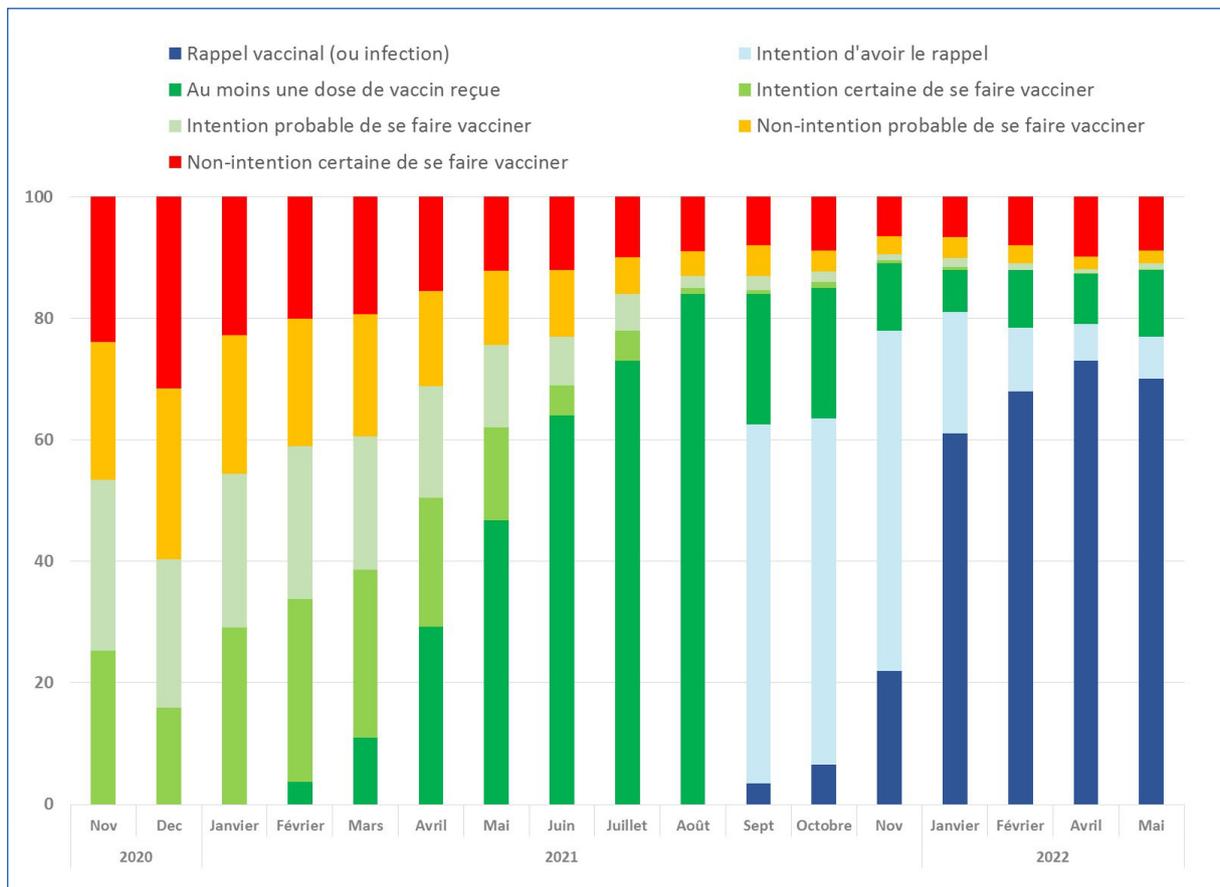
Changes in vaccination intentions and coverage against COVID-19 (initial schedule)

Public attitudes to vaccines evolved rapidly

The first observation to be drawn from this collection of surveys is the high volatility of attitudes to the Covid-19 vaccine, a volatility that is common to attitudes to vaccines in general^a. For example, the proportion of French people intending to be vaccinated against Covid-19 was measured at around 75% during the first lockdown in March 2020 then fell gradually from the end of the first confinement until the start of the vaccination campaign at the end of 2020, to the point where it was less than half, and then rose again until the announcement of the

introduction of a health pass in mid-July 2021 (to around 75%) (see^[1-9] and Graphs 3.1 and 3.2, see also the short notes published by the polling institutes listed in the bibliography). From that point onwards, the intention to be vaccinated or the fact of having been vaccinated was no longer a good approximation of judgements about these vaccines, which makes it more difficult to establish a trend, given the constraints placed on the act of being vaccinated. This point is developed further below. Before that, it should be noted that this trend is comparable to that in many other countries (see sub-section “international comparisons”), with France showing simply lower proportions of respondents vaccinated or intending to be vaccinated than in most of these countries.

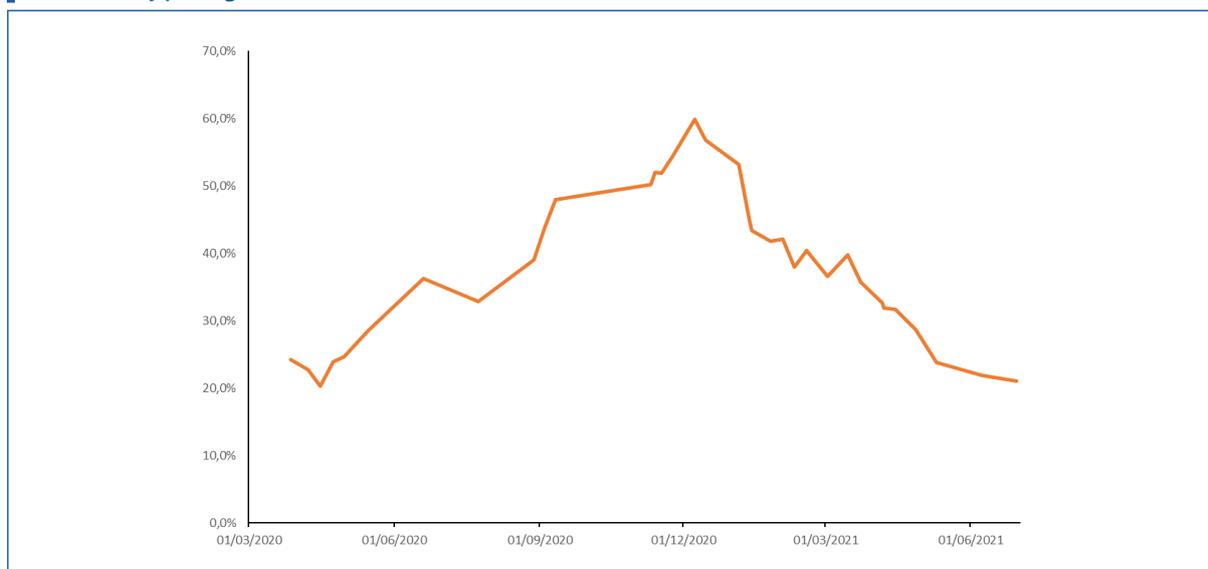
Graph 3.1: Trends in vaccination and intentions to be vaccinated against Covid-19. CoviPrev survey, mainland France (n= approximately 2000 for each wave)



Source: Santé Publique France, <https://www.santepubliquefrance.fr/etudes-et-enquetes/coviprev-une-enquete-pour-suivre-l-evolution-des-behaviour-and-mental-health-dependency-covid-epidemia-19#block-325952>

a) See for example: Larson, H. J. & Broniatowski, D. A. Volatility of vaccine confidence. *Science* 371, 1289-1289 (2021). Dubé, È., Ward, J. K., Verger, P. & MacDonald, N. E. Vaccine Hesitancy, Acceptance, and Anti-Vaccination: Trends and Future Prospects for Public Health. *Annual Review of Public Health* 42, 175-191 (2021).

Graph 3.2: Percentage of respondents indicating that they do not wish to be vaccinated against Covid-19. Surveys conducted by polling institutes. Mainland France



Source: surveys carried out by IFOP for the ANR COCONEL and TRACTRUST projects (8), Elabe (15), Odoxa (6), IPSOS (4) and ORS PACA for the COVIREIVAC consortium (1). Representative samples of French population defined according to the quota method (between 1003 and 3005 respondents depending on the survey). Presented in^[7], see also^[2].

In terms of vaccine coverage, after a fairly slow start, growth accelerated sharply from March 2021 onwards. The number of appointments taken each day began to fall in June, and the number of daily injections fell in the first few days of July. Both of these indicators rose sharply after the French President's announcement on 12 July that proof of vaccination, a negative test or proof of previous infection would be required for access to many everyday activities (see chapter 2) from 9 August. This announcement has had a significant and almost immediate impact^a on the increase in vaccination coverage. One study, for example, estimates that this measure was associated with a 13-point increase in vaccination coverage of the total population before the winter (PR^[10]) (see also PR^[11,12]). In particular, it has enabled France to achieve an adult vaccination rate of over 90% by the end of the summer. This effect of the health pass can also be seen in the vaccination of booster doses. Indeed, the press gave wide coverage of the fact that during the conseil des ministres (weekly meeting of the ministers) the idea of including the booster dose in the health pass was evoked. This issue resurfaced

regularly in the press in the weeks that followed^b. On 25 November 2021, Health Minister Olivier Véran announced that the booster dose would now be required in order to keep the health pass valid from 15 December 2021 for people aged over 64 and people vaccinated with the vaccine produced by Janssen. Later, it was announced that a booster dose would also be required from 15 January 2022 for people aged between 18 and 64 and whose latest dose was injected more than 6 months before^c.

The number of booster doses injected daily rose drastically in November 2021 and plummeted between mid-January and the end of March 2022 following discussion of the future repeal of the health pass (now the vaccination pass, see chapter 2), officially announced on 3 March 2022 and effective from 14 March 2022^d.

a) Managers of the platform for booking vaccination appointments report a spectacular increase in the number of appointments in the hours and days following the announcement. See: Deseyne C., Henno O., Meunier M., Rapport d'information fait au nom de la commission des affaires sociales sur l'adéquation du passe vaccinal à l'évolution de l'épidémie de Covid-19, Sénat, Rapport n°537, Paris, février 2022, p 17,214.

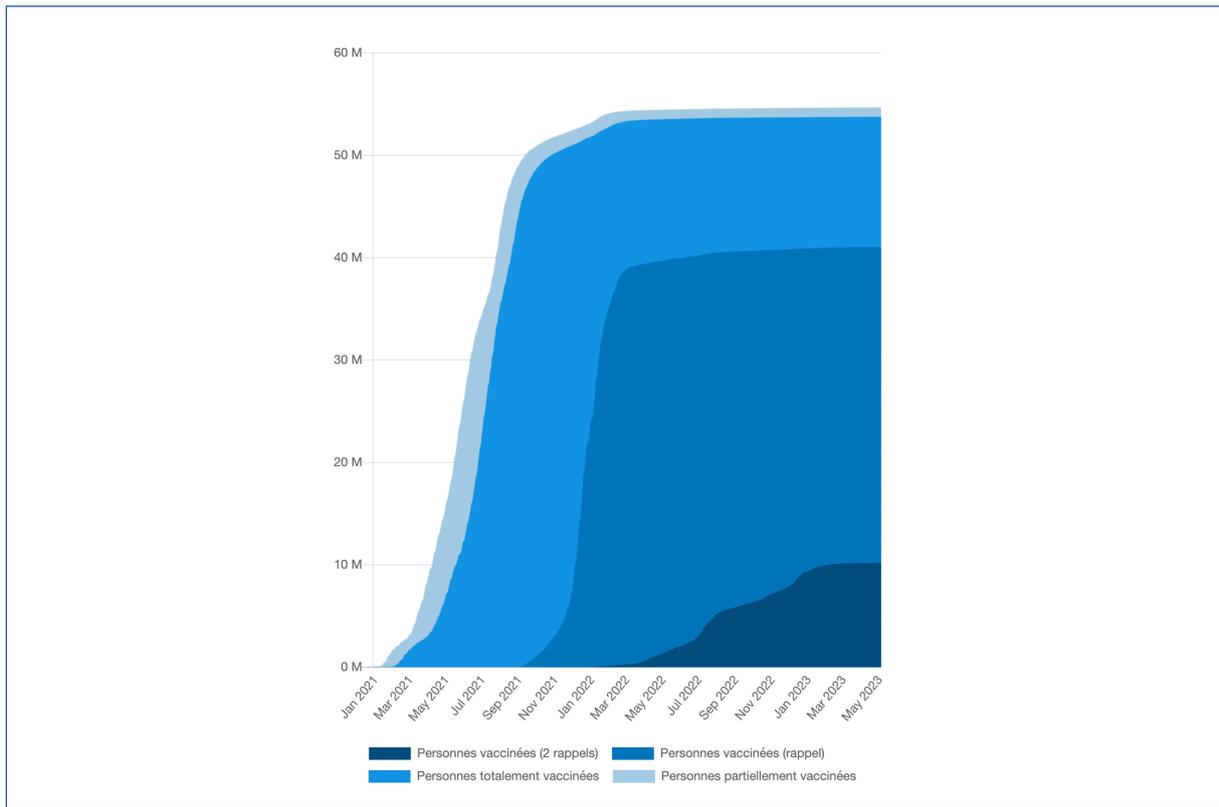
b) <https://www.leparisien.fr/societe/la-dose-de-rappel-obligatoire-pour-le-passe-sanitaire-une-idee-qui-fait-son-chemin-previent-attal-20-10-2021-5AVC6QXEGFALHLOPZHLC2UVYFY.php>

c) <https://www.vie-publique.fr/en-bref/282573-covid-19-rappel-de-vaccination-pour-tous-et-passe-sanitaire-renforce>

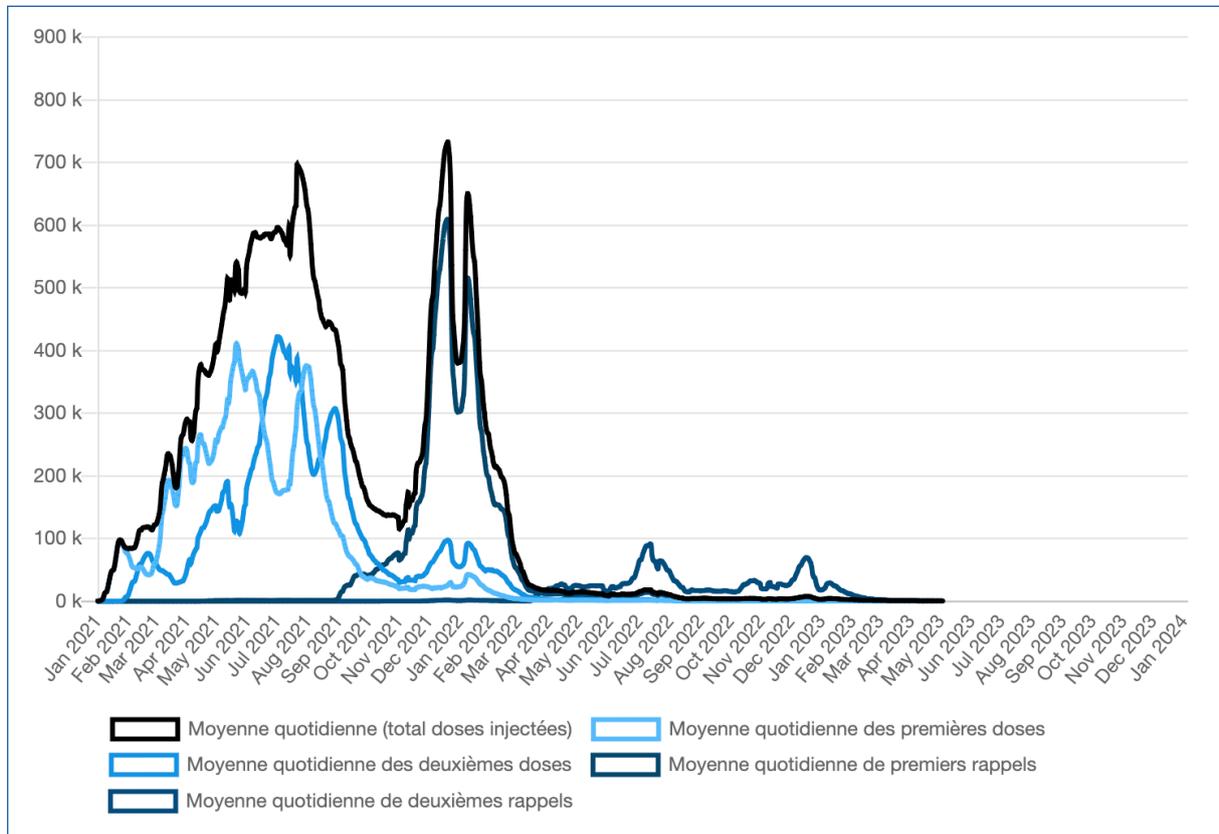
d) https://www.gouvernement.fr/upload/media/default/0001/01/2022_03_communique_de_presse_de_m._jean_castex_premier_ministre_-_evolution_des_mesures_covid-19_-_03.03.2022.pdf

Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022, p51.

Figure 3.3: Cumulative number of people vaccinated against Covid-19 in France



Graph 3.4: Number of Covid-19 vaccine injections given per day



Reasons for vaccination and non-vaccination against Covid-19

Let us present an overview of the studies of the reasons for reluctance to vaccinate against Covid-19. In many studies, respondents who were not vaccinated and did not intend to were asked to specify the reasons for their reluctance, usually from a pre-determined list of reasons that they could rank^[3,3-6,13-19]. These reasons for reluctance were relatively stable throughout the period. Fears about the safety of vaccines linked to the speed of their development are most often put forward as the main reason for reluctance, far ahead of the feeling that vaccines are not very effective or that people do not perceive Covid-19 to be a serious threat to them.

It is regrettable that, in the vast majority of cases, these reasons were presented only to people who had no intention of being vaccinated, and not to those who did intend to be vaccinated and/or had already done so (for exceptions, see^{[20,21]a}). Indeed, the literature on vaccine hesitancy insists that the act of getting vaccinated is not the end of a process during which reluctance dissipates and people become fully convinced to get vaccinated. Many people vaccinate themselves or their children despite persistent reluctance. In particular, coercion, whether pressure from family and friends or the existence of legal constraints, can force people to take action before they have been fully or even partially persuaded. We saw above that the introduction of a health pass played a large part in achieving good two doses vaccination coverage in France^b.

Studies carried out after the introduction of the health pass suggest that the doubts expressed in 2020 and during the first half of 2021 were far from having been completely dispelled. Several studies suggest that as vaccination became available to adults without co-morbidities, and especially from the announcement of the introduction of the health pass, the proportion of people who vaccinated while they still had doubts increased drastically, as did the proportion of people who later regretted having had to vaccinate or were angry at having been forced to

do so^[22,24]. The proportion of people who still had doubts about the vaccine they received remains very high in the surveys carried out in the second half of 2021, the first half of 2022 and even in the summer of 2023 (around 20% still had “a lot” of doubts or reservations, and the same proportion still had “a little” in the summer of 2023, NPR^[23,25,26], PR^[24]). Surveys carried out during this period also show that a significant proportion of French people living in France believe that healthy adults should not have been vaccinated (33% according to a survey carried out in summer 2022, NPR^[22]), that they had been badly informed about vaccines (34% according to a survey carried out in May 2022, NPR^[22]), that a large proportion of those vaccinated had been forced to do so by the health pass (23% according to a survey carried out in summer 2022, NPR^[23]) (see also NPR^[26] for data collected in 2023). This persistence of doubts at the time of vaccination may be reflected in a greater tendency to report side-effects, a tendency that is more common among people vaccinated after the announcement of the introduction of the health pass (PR^[24,27]).

The persistence of doubts among a large proportion of French adults, even though more than 94% of them completed a full vaccination programme from the autumn of 2021 onwards, reflects the fact that a large proportion still had doubts about the efficacy, safety and above all the effectiveness of vaccines in preventing transmission (NPR^[13,22,28]). These doubts seemed to be particularly acute after the arrival of the Omicron wave in the winter of 2021-2022^[22]. This last point is crucial insofar as Covid-19 is particularly dangerous for certain at-risk groups, and the altruistic dimension could have been an effective motivation for some French people, particularly those who do not consider themselves to be particularly at risk. An examination of the reasons for vaccination, which have been much less studied than the reasons against, shows that this motivation is present, but is very much secondary to self-protection^[3-6,13,14,17,20]. It should also be noted that from summer 2021 onwards, the constraint posed by the health pass was presented as one of the main reasons for vaccination by a significant minority of those vaccinated (NPR^[23,25], PR^[29])^c. In particular, a survey carried out at the end of August 2021

a) In particular, a study was carried out in July 2020 using the Discrete Choice Experiments method to evaluate the influence of different positive and negative properties of vaccines on respondents' decisions [21]

b) Some questionnaire surveys have tried to explore how the health pass acted as a constraint or an incentive for people to be vaccinated. This work has remained exploratory and has not been peer-reviewed [22,23].

c) It should also be noted that in the survey carried out between 15 and 21 July 2021 by Santé Publique France, 10% of respondents who did not wish to be vaccinated indicated that “a health pass facilitating travel and access to certain places or events” was likely to change their mind [15].

estimated that 17.7% of those vaccinated had done so mainly because of the health pass, but only 3.6% for this reason alone (PR^[29]), while two other surveys carried out at the beginning of September and during the week straddling September and October found, respectively, that 26% and 30% of those vaccinated had been prompted by the introduction of the health pass (NPR^[16,18]). Finally, in five surveys carried out between the end of August and mid-January 2022, Santé Publique France explored in greater depth the reactions to this pass among the unvaccinated, including the impact it had on their outings and their reactions to the end of free testing (NPR^[3,16,18,30,31]).

Attitudes towards mandatory Covid-19 vaccination and the health pass

Before continuing our exploration of attitudes to vaccines, let's take a moment to look at attitudes to the public intervention tool that was the health/vaccine pass, beyond the specific question of its effectiveness in increasing vaccination coverage. The aim is to present the existing data on attitudes to the various facets of mandatory vaccination and to the health/vaccine pass.

Opinions on mandatory vaccination and the health pass

The Covid-19 pandemic emerged two years after a major transformation of French vaccination policy with the extension of mandatory childhood vaccination from 3 vaccines to 11 in 2018^a. It is perhaps not surprising, then, that the possibility of Covid-19 vaccination becoming mandatory began to be discussed publicly as soon as the vaccination campaign was taking shape in autumn 2020. For example, in his speech on 27 December 2020 partly dedicated to the launch of the vaccination campaign, President Macron broached the subject and announced, "I have said it before and I will say it again: the vaccine will not be mandatory"^b.

a) For analyses of the background to this decision, see : Ward, J. K., Colgrove, J. & Verger, P. *Why France is making eight new vaccines mandatory. Vaccine* (2018). Lévy-Bruhl, D., Desenclos, J.-C., Quelet, S. & Bourdillon, F. *Extension of French vaccination mandates: from the recommendation of the Steering Committee of the Citizen Consultation on Vaccination to the law. Eurosurveillance* 23, 18-00048 (2018).

b) <https://www.vie-publique.fr/discours/277944-emmanuel-macron-27122020-covid-19>

Polling institutes took an early interest in the possibility of the vaccine being made mandatory. The first survey we identified was carried out on 10 and 11 November 2020 and found that 60% of French adults were opposed to the future vaccine being made mandatory (38% in favour)^[32]. Two other surveys carried out in November found similar proportions opposed (around 60%)^[33,34]. A survey comparing opinions on this subject in 5 countries (Great Britain, France, Germany and Italy) carried out in November found that 50% of French people disagreed with the idea of making the vaccine compulsory, 15% were indifferent and 35% agreed (the highest proportion of disagreement among the 5 countries and the lowest proportion of agreement with Germany)^[35]. Several studies were also carried out in January and early February 2021, again finding between 50% and 60% opposed to mandatory vaccination³⁶. In particular, Ipsos compared the degree of support for mandatory vaccination for adults in 14 OECD countries^[37]. In France, 37% of respondents supported mandatory vaccination and 53% were opposed, the lowest proportion of support after Germany. Another international survey found that the French were among the most resistant to the idea of mandatory vaccination, with 63% opposed^c. Two other studies looked at the introduction of a "vaccination passport" to allow access to certain places, and again found that between 50 and 60% of respondents were opposed^[38,39]. Another study looked at the issue depending on the people and activities concerned^[40]. It found that mandatory vaccination for flying and travelling abroad, as well as for visiting vulnerable people, was more widely accepted (around 60% in favour) than mandatory vaccination for secondary school pupils, for access to collective leisure activities and for work (around 50%). mandatory vaccination for access to shops was the least accepted (45%) (see also^[41]).

From May 2021 onwards, more and more surveys were carried out, as measures restricting access to a number of public places for unvaccinated people began to be announced and implemented. The questions were also diversified to cover both the different facets of the measures announced and the debates and mobilisations sparked by these announcements.

c) https://yougov.co.uk/health/articles/33708-international-study-how-many-people-will-take-covi?redirect_from=%2Ftopics%2Fhealth%2Farticles-reports%2F2021%2F01%2F15%2Finternational-study-how-many-people-will-take-covi

These surveys suggest a gradual improvement in attitudes towards mandatory vaccination. In May 2021, two surveys suggested that attitudes towards mandatory vaccination had improved slightly, with around 50% in favour^[42,43] (including one of the very few scientific publications on the subject^[44]). One of them also found that 31% of respondents were in favour of the immediate introduction of a vaccination pass for access to certain places, and 30% were in favour of its introduction once vaccination was available to everyone^[42]. However, 34% were opposed to the very principle of such a pass. Surveys carried out in July and September suggest further improvement, with around 60% of respondents in favour of mandatory vaccination for all adults and around 70% in favour of mandatory vaccination for healthcare workers^[16,25,45-48] (see also^[49]). The idea of restricting access to public areas for people who have not been vaccinated seems to have convinced a similar proportion of respondents (around 55%-60%), who remained stable between July and October^[16,18,25,46,50,50-52].

After this period, surveys became much more sporadic. In January 2022, discussion of the transformation of the health pass into a vaccination pass led some polling institutes to take a renewed interest in this issue. One study showed that 38% were against the idea (NPR^[53]). It also explored other aspects of people's views on the health pass and the Government's health measures. In particular, it showed that 38% of French adults remained opposed to the idea of mandatory vaccination for all French people, with this figure dropping to 24% for a requirement restricted to the elderly or vulnerable (see also NPR^[54] and PR^[55] for an article drawing on a survey carried out in June 2022 questioning respondents on the hypotheses of mandatory vaccination applied to different professions). Another survey carried out in January found that 57% of respondents approved of the switch from the health pass to the vaccination pass, while showing that 57% also agreed with the idea that "Not being vaccinated is an individual choice and should be respected"^{[56]a}. Another survey carried out in May 2022 found that 36% of respondents felt that the health pass was not a necessary measure (NPR^[22]). On this subject, a survey carried out later, in November 2022, found a similar figure (72%, NPR^[57]).

a) The survey also found that 46% of respondents agreed with the statement "Covid-19 patients who are not vaccinated should be charged hospital fees".

Public perceptions of anti-pass mobilisation

Some surveys investigated the perceptions of the protests elicited by the introduction of the health pass. The announcement of the introduction of an extended health pass by the President of the Republic at the beginning of July 2021 was followed by weekly protests against these restrictions. We will present these demonstrations further in chapter 5, but it's worth noting at this stage that they were the largest demonstrations on the subject of vaccines in French history, with up to 180,000 people taking to the streets across France and demonstrations persisting every Saturday until at least February 2022.

Polling institutes were very interested in the public perception of these events during the summer of 2021. They appear to have enjoyed the support of a stable and significant minority of respondents (between 35% and 45%)^[48,52,52,58-61]. One survey asked respondents about a variety of judgements made about the demonstrators⁶². This support seems to have eroded slightly in the last survey of this period carried out in September (29% in favour)^[25].

Finally, a limited number of surveys broached the subject of the unvaccinated healthcare workers. A survey carried out in May 2023 raised the question of reinstating unvaccinated healthcare workers following the lifting of the health pass and found that 79% of respondents were in favour of this reinstatement^[63]. Another survey carried out during the summer of 2023 asked respondents to react to a series of statements about them^[26]. It found that 37% of respondents felt that these workers had committed professional misconduct, compared with 54% who disagreed and 43% who felt that they did not care enough about their patients' health, while 50% disagreed. Conversely, more than half of respondents felt that these healthcare workers were in a good position to know whether or not they needed to be vaccinated (55% agreed, 36% disagreed) and more than two-thirds felt that these workers had simply exercised their free will, like any other citizen (69% agreed, 25% disagreed).

Attitudes towards booster vaccinations against Covid-19

As explained in Chapter 1, the possibility of getting a booster dose was opened up to vulnerable individuals from September 2021 and gradually extended to the entire adult population by the end of November 2021. The second booster dose was made available and gradually extended to people at particular risk (including healthcare professionals) between the end of January 2022 and the end of July 2022. Until February 2023, additional booster doses were also recommended for all people at risk (including healthcare professionals) from 3 months after the last vaccination. Thereafter, the Haute Autorité de la Santé recommended annual boosters, except for the most vulnerable people, who may benefit from an additional vaccination in the spring upon recommendation by a doctor.

The case of booster vaccinations illustrates this improvement in attitudes towards vaccines, while at the same time showing that a significant minority of French people remain reluctant to be vaccinated against Covid-19. Studies carried out between summer 2021 and the end of the year on the propensity of vaccinated people to have a booster if it were recommended or available to them show that the vast majority of them would have such a booster^[13,22,25,55,64]. However, these studies also show that a significant minority of those vaccinated would not do so, and that this proportion increases in time (9% in a study conducted in September 2021^[25], and around 38% in studies conducted in May and August 2022^[22,23]). A series of surveys shows a gradual improvement in attitudes towards the idea of a booster vaccination at the end of 2021^{[65]a}. It also shows that this improvement is most marked among the under-35s and occurs mainly between the beginning of November and the beginning of December 2021^[3].

Moreover, the proportion of the population having received at least one booster shot rose sharply during the autumn and winter of 2021. However, the number of booster doses injected daily fell sharply in January and February 2022^b

at a time when the Government and other major actors in the vaccination campaign were publicly raising the possibility of a rapid abrogation of the vaccination pass^c. This abrogation was effective on 14 March 2022. It is also important to highlight the fact that the winter of 2021-2022 was marked by the outbreak of the Omicron wave, this variant being associated with lower vaccine efficacy against infection and transmission. After the abrogation of the vaccination pass, booster vaccinations seemed to only concern those most vulnerable to Covid-19. Surveys carried out in May and July-August 2022 suggest that the proportion of the general population who would not take an additional booster if it were recommended had increased compared with the end of 2021 to reach around 30 to 40% (NPR^[23,25], PR^[66]) while others suggest the opposite (NPR^[65]). The proportion of those who would take a booster dose was therefore much higher than the proportion who had actually taken one or more booster doses, which suggests that a large proportion of the public did not feel concerned by these reminders, or did not feel sufficiently concerned to make the effort to take action.

Among the target groups for this vaccination, there were major disparities in the propensity to receive booster doses. As of 3 May 2023, 86% of people aged 65 and over had received at least one booster dose, and 46% had received two or more, while these proportions were 80% and 49% for people aged 75 and over. However, coverage with a booster dose was less than 60% among people who had received a transplant and among dialysis patients, compared with over 80% among obese people (84%), diabetics (88%) and cancer patients (over 87%)^d.

Very different perceptions depending on the vaccine

As described in Chapter 1, the French vaccination campaign was based on several vaccines, the main ones being messenger RNA vaccines (including the Pfizer vaccine, which accounted for over 75% of doses received, see chapter 2) and those from Astra Zeneca

a) See also <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquiries-and-studies/how-evolving-mental-health-of-the-french-during-the-covid-epidemic-19-results-of-the-wave-31-of-the-coviprev-investigation>

b) Deseyne C., Henno O., Meunier M., *Rapport d'information fait au*

nom de la commission des affaires sociales sur l'adéquation du passe vaccinal à l'évolution de l'épidémie de Covid-19, Sénat, Rapport n°537, Paris, février 2022, p 24.

c) For example: https://www.francetvinfo.fr/sante/maladie/coronavirus/pass-sanitaire/covid-19-le-pass-vaccinal-pourrait-etre-leve-fin-de-mars-debut-avril-selon-alain-fischer_4951644.html

d) <https://datavaccin-covid.ameli.fr>

and Janssen, which used adenovirus technology. It should also be remembered that, from the start of 2021 and the arrival of new variants, the question of the ability of vaccines to maintain efficacy despite the virus's constant mutations was at the heart of scientific debate. In France, a succession of studies suggesting that messenger RNA vaccines were more effective against the new variants, combined with pharmasurveillance warnings suggesting a link between the Astra Zeneca vaccine and the occurrence of heart problems, led the public authorities to recommend the former as a priority in the early months of the campaign (see chapters 1 and 2).

Since the autumn of 2020 and the announcements by the pharmaceutical laboratories, polling institutes and researchers have begun to take an interest in how public attitudes differed according to the different vaccines against Covid-19. Initially, these studies tended to focus on the geographical origin of the vaccines. Most of this work, carried out before the actual launch of the vaccination campaign, tended to show that, given the choice, the French would prefer a vaccine produced in France or by a French company, and would be particularly wary of a Russian vaccine (PR^[21] and NPR^[67]). However, a number of surveys began to assess the different perceptions of the vaccines that would actually be distributed in France in the following months. Two surveys carried out respectively in December 2020 and on 1 and 2 March 2021, i.e. a few days before the media gave wide coverage to the pharmacosurveillance warnings concerning the Astra Zeneca vaccine, suggests that Pfizer's vaccine enjoyed slightly more favourable attitudes at the start of the period and that this gap widened over time even before Astra Zeneca's vaccine was suspended (NPR^[68]). Surveys conducted over the following weeks suggest that this gap widened dramatically after this event. A survey carried out in May 2021 suggests that Astra Zeneca's vaccine was considered less effective than the others, but above all that it was considered much less safe (NPR^[13]). It also suggests that perceptions of the Janssen vaccine were very similar to those of the Astra Zeneca vaccine. After the summer of 2021, studies comparing the perceptions of different vaccines became rarer. A survey carried out in May 2022 comparing perceptions of the Pfizer and Moderna vaccines suggests that the former is considered to be more effective against severe forms of the disease, more effective against transmission and safer (NPR^[22]).

International comparisons: mistrust towards vaccines against Covid-19 was particularly prevalent in France

Before the Covid-19 pandemic, France was identified as one of the European countries where distrust of vaccines was among the most widespread^a. In particular, France clearly stood out from most Western European countries, with prevalences of vaccine hesitancy comparable to those in Eastern European countries, where vaccine hesitancy seems to be more marked.

In terms of vaccination coverage, according to OECD data, in 2019 France had one of the lowest measles vaccination coverage rates for children in the European Union, but was in the top third of countries with the best coverage for diphtheria, tetanus and polio. It should be noted that coverage against measles has been rising steadily since this vaccine was made mandatory (like the DTP vaccine) in 2018.

This French trend was reflected in attitudes to the Covid-19 vaccine. Prior to July 2021 and the announcement that a health pass would be introduced, international comparisons of vaccination intentions systematically place France among the countries where vaccination is least widespread (see^[9,17,20,69-72] for scientific articles and^[37,70,73-75] for reports presenting raw data). The same is observed in surveys using other ways of understanding attitudes to Covid-19 vaccines^[70]. As for the period following the announcement of the introduction of a health pass making non-vaccination very costly, the introduction of constraint makes it more difficult to study attitudes towards vaccines. The fact of being vaccinated, or of intending to be vaccinated, is no longer a good indicator of attitudes to vaccines after this date. This dimension particularly limits the ability to compare the French situation with that of other countries, since the fact of being vaccinated or of intending to be vaccinated is the main indicator of attitudes used in international comparisons. Moreover, international comparisons of attitudes to the Covid-19 vaccine

a) This is one of the findings of the 2015 study by the Vaccine Confidence Project: Larson, H. J. et al. *The State of Vaccine Confidence 2016: Global Insights Through a 67-Country Survey*. *EBioMedicine* 12, 295-301 (2016). This specificity of France is less marked in the study carried out a few years later: Larson, H. J., Figueiredo, A. de, Karafillakis, E. & Rawal, M. *State of vaccine confidence in the EU 2018*. (2018). For a review of the state of knowledge about relationships to vaccines in France prior to the Covid-19 pandemic, see: Ward, J. K., Peretti-Watel, P., Bocquier, A., Seror, V. & Verger, P. *Vaccine hesitancy and coercion: all eyes on France*. *Nat. Immunol.* 20, 1257-1259 (2019).

were much rarer after the introduction of the health pass. The few studies carried out after the summer of 2021 tend to show that the French are fairly well vaccinated against Covid-19, but that they remain among the most reluctant to take an additional dose of vaccine and to vaccinate their children (NPR^[64], PR^[70]).

The more unfavourable attitudes of the French towards the Covid-19 vaccine are not reflected in the comparison of vaccination coverage before the summer of 2021. During this period, the evolution in two-dose vaccination coverage is very similar to that in other wealthy countries, where access to sufficient doses has been ensured to gradually vaccinate those who wish to do so. As mentioned in chapter 1, the introduction of the health pass has helped to continue to increase two-dose and then three-dose vaccination coverage. In the second half of 2021, France even became one of the most vaccinated countries, with a gradual increase in the proportion of the population having had a booster up to February 2022. However, as we pointed out in chapter 2, vaccination coverage of people aged 80 and over and of people suffering from other diseases remained unsatisfactory. On these points, comparisons are unfavourable with many neighbouring countries, particularly Spain and Portugal, as highlighted in a report by the Cour des Comptes^a.

A strong reluctance to vaccinate children.

In Chapter 1, we discussed the fact that the vaccination of children - and especially the vaccination of the very young - had been a point of intense debate in the French world of public health.

The first study to examine the public's views on childhood vaccination was a questionnaire survey carried out in May 2020 by a polling institute^[75]. As in most of the subsequent studies, only parents (n=433) were asked about child vaccination. The proportion of parents wishing to vaccinate their children if a vaccine were available was 56% (the lowest of the G7 countries covered by this international survey), a proportion comparable to the proportion of adults wishing to be vaccinated (58%). Next, we find a study that includes being a parent among the control

variables in an experiment attempting to understand the determinants of vaccination by varying the type of vaccine and epidemic situation (PR^[21]). This study also found that parents were more reticent. The next survey, carried out in October 2020 by another polling institute, followed a protocol similar to the first, but limited to France^[76]. 44% of parents of children under 18 would have had their child(ren) vaccinated, while 56% of the total sample would have themselves vaccinated and 67% would have their at risk family members vaccinated. A survey carried out in November on a very large sample (n>80,000) also found that parents were more reticent than the rest of the public (PR^[5]).

But most of the work on this subject emerged much later, when the adult vaccination campaign was well under way. A questionnaire survey carried out in May 2021 among a sample of adults aged over 18 showed that the proportion of favourable opinions decreased with the age of children to be vaccinated (24.3% of respondents were against vaccinating children aged 12-18, 35.6% against vaccinating 6-11 year olds and 48% against vaccinating children under 6, NPR^[13]). In this survey, 77% of respondents intended to be vaccinated or had already been vaccinated, suggesting that there was a particular reluctance to vaccinate under-12s compared with adults and adolescents. In particular, this study showed that respondents aged 25-49 were much more reluctant than older respondents. Subsequent surveys also show that there was particular reluctance to vaccinate younger children, both in the generations most likely to have dependent children and among parents (PR^[6,77] and NPR^[22,25,28,56,78,79]). They also suggest that reluctance towards these vaccines increased during the summer, with the proportion in favour being lower than in these initial surveys. Between late October 2021 and mid-February 2022, Santé publique France conducted 6 surveys in which they asked the parents of children aged 12 to 17 in their sample whether they were in favour of vaccination^[3,18,30,31,80]. There was no clear trend in the proportion in favour (between 66% and 80%) during this period. From November 2021 and in three additional surveys carried out up to September 2022, they also asked this question to parents of children aged between 5 and 11^[19,31,80-82]. They found that the proportion in favour fell from 43% to 26% in May 2022 and then stabilised at around 30%. In the reports describing the results of two of these surveys, the authors evoke various reasons for reluctance towards this vaccination, the main ones being the idea that these vaccines are not safe (41%-

a) Cour des Comptes, *La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes*, Cour des Comptes, Paris, December 2022, p86.

46% of parents against), the idea that children are too young (34%-31%) and the fact that their child has already had Covid-19 (32%-30%)^[81,82]. The reasons for vaccination are also presented in these studies, the main one being to protect the child from a serious form of Covid-19 (53%-47% of parents in favour). Another survey carried out in May 2022 among a representative sample of the French adult population and a sample of parents of children aged between 2 and 11, asking about the reasons for reluctance to vaccinate, suggests that the main reluctance concerns the safety of vaccines and the second stems from the belief that they are unnecessary and that the disease is not dangerous^[22]. It also suggests that a large proportion of adults, and parents in particular,

don't know what to think about the efficacy and safety of vaccines (up to 1/3 of responses were "I don't know"). This ambivalence is partly explained by the perception that experts are not in agreement on the subject of vaccinating children under the age of 12 (only 21% of parents questioned felt that there was a consensus on this subject, half of whom felt that the consensus was that children should not be vaccinated). Moreover, only 19% of these parents thought that their children's doctor recommends vaccination (29% don't know and 52% think that he or she does not recommend it). It is important to note, however, that none of these studies included multivariate analysis or underwent peer review.

Figure 3.5: Covid-19 vaccinations by age (as at 3 May 2023)

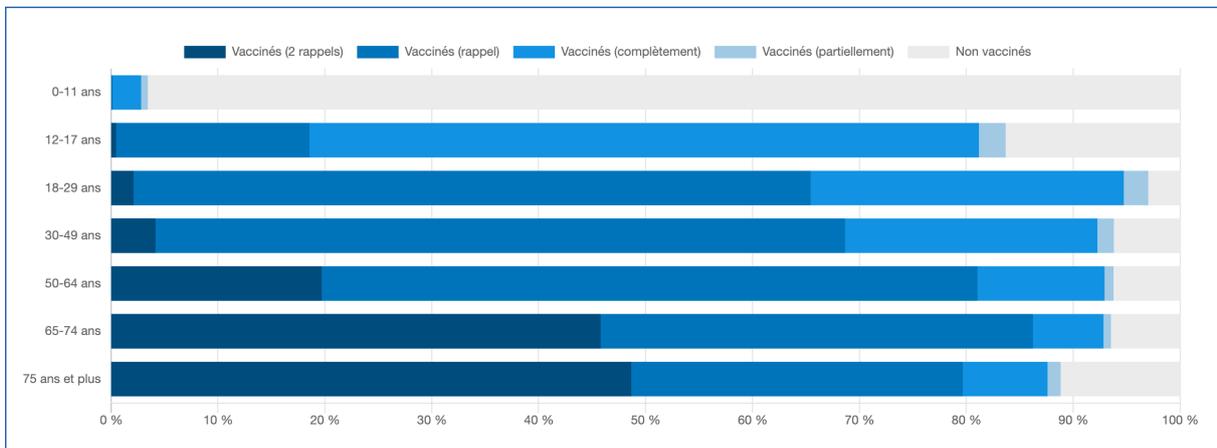
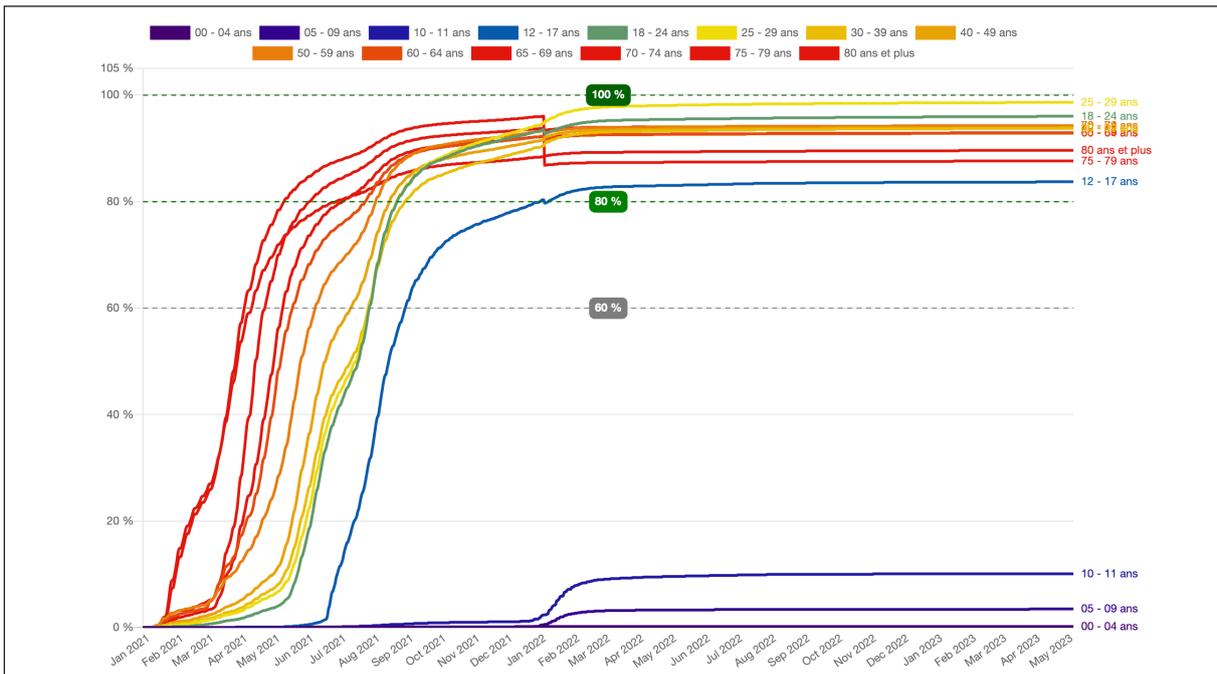


Figure 3.6: Trends in Covid-19 vaccination coverage by age



The evolution of vaccine coverage reflects these differences in perceptions of the benefits of vaccination and the use of booster shots depending on age. At the time of writing (July 2023), vaccination coverage with a full schedule is 81% for 12-17 year olds and 3% for 0-11 year olds (compared with 95% for 18-29 year olds). There has been very little increase in coverage since the start of 2022. In particular, coverage of the under-12s is much lower than in neighbouring countries.

The role of vaccination behaviour in modelling the spread of the pandemic

Specialists of mathematical modelling of epidemics became involved in the pandemic very early on. In the case of vaccination, most of the work we identified is focused on the first half of 2021, during which the proportion of the population vaccinated was low but rising steadily. One study used multi-agent modelling and school testing data to model the effectiveness of different vaccination strategies as a function of other parameters such as testing practices and class closures^[83]. Another scientific article incorporated several scenarios for the speed of progress in vaccination coverage to study this factor in relation to other mitigation strategies^[84] while another studied different prioritisation strategies, particularly in relation to the relaxation of other pandemic control measures^[85]. Another looked at the differential incidence of Covid-19 during the summer, incorporating different vaccination scenarios^[86]. One study attempted to model the spread of the virus in the context of a rise in the Delta variant from the summer of 2021, with partial vaccination and according to several scenarios of interaction between vaccination behaviour, testing practices and non-pharmaceutical measures^[87]. Finally, one study focused on reactive vaccination strategies (focusing on the entourage of people who have tested positive for the coronavirus, here in schools and on the workplace)^[88].

Two studies then looked at booster vaccination strategies. The first looked at autumn 2021 and compared the impact of strategies to increase primary vaccination with strategies to focus on boosters, as well as the effectiveness of different strategies for targeting boosters^[89]. The second looked at the winter of 2022-2023 and assessed the effectiveness of isolation protocols in relation to vaccination scenarios based on a questionnaire survey^[66]. Finally, we should mention work aimed at creating a theoretical model comparing protective behaviour first among participants in the clinical trials and then during the roll-out of the vaccination campaign^[90].

Socio-cultural anchoring of vaccination against Covid-19

Much of the research has focused on identifying the socio-cultural profiles associated with these different attitudes to Covid-19 vaccines, or the 'factors' that encourage reluctance towards these vaccines.

Age and health status

This research has shown that there are major differences in perceptions depending on the age of the individual, with older people having more favourable attitudes to all aspects of this vaccination (see^[2-5,14,91,92]). This phenomenon reflects the fact that older people rightly feel much more at risk of developing serious forms of Covid-19. This is reflected in the fact that Covid-19 vaccination coverage is better in the over-65s than in other age groups, the difference being particularly marked for booster vaccinations (the under-50s and especially the under-40s being much less prone to get booster doses). While there is a great deal of collated data on the over-65s, there is very little on other groups with co-morbidities for Covid-19. Two studies (PR) have been carried out among patients suffering from chronic diseases^[93,94], one study among pregnant women^[95] and another among people living with HIV^[96] (see also NPR^[28]). Several surveys included questions on the presence of chronic illnesses or the perception of being particularly at risk for Covid-19^[4,5,5,6,13,14,21,22,29,97-100,100,101]. Conversely, one study sought to explore the attitudes of young people under the age of 30 (PR^[102]), while another showed that the introduction of the health pass had mainly increased vaccination coverage among younger people (PR^[11]).

Sex and gender

Gender and sex differences in attitudes to vaccines have also been widely documented. Throughout the period, women appear to have been more reticent about these vaccines^[2,3,5,91,97]. However, it is worth noting that these differences in perception do not seem to be reflected in vaccination coverage (PR^[6]). It should also be noted that in early 2021, a questionnaire survey was carried out specifically among pregnant women, suggesting that they would be more reluctant to be vaccinated than other women of a comparable age (our interpretation based on comparison with other data, scientific article (PR^[95]).

Social inequalities, vulnerable populations and marginalisation

As we began to discuss in the chapter devoted to the organisation of the campaign, social inequalities and marginalisation had an impact on vaccination against Covid-19. We referred to the following studies: a) a study showing that, during the first few months of the vaccination campaign, wealthier groups were largely over-represented among the people who obtained appointments in the Paris region (NPR^[103]); b) two surveys of various disadvantaged groups carried out at the end of 2021 and the beginning of 2022 respectively showing that they tended to be much less vaccinated than the rest of the population, even though they are often among the priority groups (PR^[104-106]), and c) another survey carried out in May 2021 showing that, controlling for age and the existence of other co-morbidities, income was a determining factor in whether people in the general population were vaccinated (PR^[99,107]). We also mentioned the fact that, in 2022, researchers attempted to take stock of these difficulties and the limitations of the interventions deployed to correct them, and proposed ways of improving them^a. In addition to this work, we can mention a study showing that inequalities in vaccination rates remained significant even after the introduction of the health pass (PR^[108], see also NPR^[12,109]). Similar results are found when we look at attitudes. Surveys of migrants and homeless people have explored their reluctance to take up

the Covid-19 vaccine, showing in particular a strong hesitancy rooted in the experience of marginalisation (PR^[105,106,110,111]). Differences according to various indicators of position on the social ladder (income, education, type of profession) also appeared to be very marked in attitudes towards these vaccines as approached via questionnaire surveys, with people in less socially favourable positions presenting more negative attitudes^[3,4,4,5,5,13,14,21,23,25,78,91,97,98,98,99,112,113]. It should be noted that a series of studies has shown that the experience of discrimination and belonging to a racialised minority were associated with greater reluctance to take up Covid-19 vaccination (PR^[5,6,98,98,99], see also PR^[102]). We should also mention a study that used the in-depth interview method to document the attitudes to vaccines of Chinese immigrants, a group that was somewhat stigmatised at the start of the epidemic (PR^[114]). In particular, this work documents the preference of these people, who tend to be pro-vaccine, for Chinese vaccines and the way they make their choice of vaccination based on the vaccines available in France, as well as the way they think about this vaccination in relation to other protective measures.

Geographical divides and the specificities of the French Overseas Departments and Regions (DROM)

The geographically divided nature of the relationship between vaccination and the population has also been highlighted. Firstly, in mainland France, research into Covid-19 vaccination coverage has shown that the south-eastern half of the country is less well vaccinated than the north-western half^b^[115]. In addition to differences in the composition of the population in terms of age, gender and resources, the explanations put forward suggest that they could be due to different degrees of distance from the centralised state and to local cultures of resistance (PR^[115,116] and^c).

Above all, the French overseas departments and territories, and Guadeloupe and Martinique in particular, seem to stand out for their low vaccination coverage and their reluctance to take up Covid-19

a) Santé Publique France, *Lutte contre la COVID-19 auprès des personnes en grande précarité en France: Partage des connaissances sur les stratégies de vaccination*, Santé Publique France, *Etudes et enquêtes*, 36p, February 2022. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/lutte-contre-la-covid-19-aupres-de-populations-en-grande-precarite-en-france-partage-des-connaissances-sur-les-strategies-de-vaccination>

b) *Cour des Comptes, La Vaccination contre la COVID-19: Des résultats globaux favorables, des disparités persistantes*, Cour des Comptes, Paris, December 2022, p78.

See also, <https://www.lefigaro.fr/politique/geographie-de-la-fracture-vaccinale-pourquoi-la-defiance-prospere-dans-le-south-20210808>

c) See also https://www.lemonde.fr/planete/article/2021/07/25/covid-19-en-france-une-triple-fracture-vaccines_6089451_3244.html

vaccination, which seems to be much more marked than in mainland France, but for which there is little data. For example, on 4 September 2022, coverage with an initial schedule for people aged 12 and over was 77.9% for Réunion, 71.8% for Mayotte and, more strikingly, 39.6%, 45.2% and 46.3% for French Guiana, Guadeloupe and Martinique respectively (compared with over 85% in most mainland French departments^a; for assessments using different methodologies and presenting data at different times during the vaccination campaign, see also^[98,107,117]). This geographical demarcation is also found in the very few questionnaire surveys that have included representatives of the DROMs in their samples. The only survey we have identified that includes a significant number of respondents living in different DROMs is the Santé Publique France health barometer conducted in 2021, which included a survey in these DROMs (excluding Mayotte). To our knowledge, the analyses of items relating directly to vaccination against Covid-19 have not yet been published, but those concerning attitudes to vaccines in general have. Santé Publique France researchers found that the proportion of people aged 18 to 75 in favour of vaccination in general was much lower in the French overseas departments and territories than in mainland France (72.8% in La Réunion, 71.6% in French Guiana, 64.6% in Guadeloupe and 59.5% in Martinique, compared with over 80% in all regions of mainland France except Provence-Alpes-Côte d'Azur, where the proportion was 77.5%)^[91]. It is important to note that a comparison with the last survey of this type carried out in 2014 shows a sharp deterioration in attitudes towards vaccines, with the proportion in favour falling by 10 to 15 points in each of these DROMs. Above all, this clear demarcation between the DROMs and the rest of France did not seem to exist in 2014. The 2021 survey also shows that the DROMs stand out particularly in terms of the proportion of people opposed to certain vaccines, and to the Covid-19 vaccine in particular. We have also identified two questionnaire surveys focusing on French Guyana (CAP-COVID Guyane surveys). The first, carried out in March 2021 (n=1348, no indication of sampling, results adjusted for geographical area, sex, age and socio-professional category, NPR) found that only 45.5% of respondents intended to be vaccinated against Covid-19^[118]. Motivations for vaccination and reluctance were similar to those

described above and documented in surveys in mainland France. The second survey, carried out at the end of April/beginning of May 2021 using a similar methodology (n=1295), found a slight increase in the proportion of respondents wishing to be vaccinated (+4 points), similar motivations and reluctance, explored the factors that could convince people who were reluctant to be vaccinated (almost 50% considering that nothing could change their mind) and explored the different determinants of these vaccination intentions^[119]. In addition to these surveys, we can add those from the EPICOV project, the more social aspect of which was coordinated by Natalie Bajos, a sociologist specialising in gender-related health inequalities, and which involved very large samples (n>80,000). In addition to people living in mainland France, these surveys included both a) people living in Martinique, Guadeloupe and La Réunion and b) identified people living in mainland France but born in the DROMs or who had at least one parent born there. Most of the analysis seems to have focused on the latter group, with researchers finding that in the November 2020 and summer 2021 surveys, more of them did not want to be vaccinated (PR^[99]). But in some publications, the analysis lumped these two groups together, finding the same result of a lower propensity and inclination to be vaccinated (PR^[98,107]).

The reasons for the exacerbation of reluctance towards vaccines in the French overseas departments and territories, and more particularly in Guadeloupe and Martinique, have mainly been described outside academic publications (see in particular^b). The main factors highlighted were a particularly strong distrust of public institutions, reflecting the history of relations between these DROMs and mainland France. A large proportion of the inhabitants of these territories, particularly in Guadeloupe and Martinique, have the impression that they are being discredited by the mainland elites, an impression that is rooted in the reality of under-investment in public services in some of these DROMs. Added to this is the experience of racism, particularly in relations with the local healthcare system. This would go some way to explaining the widespread use of alternative medicines, particularly pharmacopoeias and local therapies, which also seem to have contributed to

a) *Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022, p78.*

b) <https://aoc.media/analyse/2021/11/02/sur-le-refus-de-la-vaccination-contre-le-covid-19-en-guadeloupe/> For a psychological perspective presented in an academic journal, see^[120].

vaccine mistrust^a. It is nevertheless important to remember, as we saw above, that the data collected prior to the pandemic do not suggest that distrust of vaccines was particularly strong in these territories, even though vaccination coverage is often lower there. This may reflect the methodological limitations of questionnaire surveys. It may also be a product of the specific context of Covid-19. It should be noted that the DROMs were less affected than France during the first waves of Covid-19, despite the fact that some of them have an over-representation of people with co-morbidities for Covid-19. This may have led to an underestimation of the risk presented by this disease. This reason is put forward in particular in analyses of the results of the EPICOV surveys^[6,98]. The perception that this disease is not very dangerous is clearly apparent in the surveys carried out in French Guiana^[118,119] and in a survey based on qualitative interviews carried out in La Réunion between February and May 2021^[121]. However, the French overseas departments and territories were severely affected by the pandemic once the Delta variant of the virus spreads in mid-2021. The drastic measures taken to combat Covid-19 may well have exacerbated mistrust of the public authorities during this period. The EPICOV surveys found greater distrust in these territories in the ability of the Government and scientists to manage the pandemic. It is also possible that this mistrust increased in the years leading up to the Covid-19 pandemic, and that the pandemic led to this mistrust being directed at vaccines^b.

Trust in institutions and relationships with politics

The Covid-19 pandemic provided an opportunity to explore the role of trust in the various actors involved in vaccine policies (a lack of trust being associated with a greater reluctance to use vaccines). On the question of vaccines against Covid-19^c, this issue has been approached from a wide variety of angles including trust in the Government, in French democratic institutions, in health agencies, in scientists or science, in doctors^[4-6,9,20,22,23,28,29,44,98,99,101,109,121,123-129]. Studies have also looked at the way in which relationships with politics, such as partisan proximity and degree of political engagement or political sophistication, can influence attitudes to the Covid-19 vaccine^[1,2,4,7,13,14,22,23,28,44,69,113,116,126,130,131]. They tend to show that during Covid-19, people at the extreme ends of the political spectrum and those who were the most politically disengaged were the most reluctant to be vaccinated against Covid-19.

Finally, research has explored the role of adherence to conspiracy theories in the formation of intentions to vaccinate against Covid-19 (PR^[9,101,132]), the propensity to engage in collective action and risk aversion^[129] and the influence of reading false information on the internet (PR^[72] but non-representative sample). On this point, we should also mention the publication of an article devoted to exploring, using in-depth interviews, the relationship with different sources of information and the ways in which people seek information on different vaccines, including vaccination against Covid-19 (PR^[133]).

a) For example, in the EPICOV survey carried out in the summer of 2021, 49% of respondents in the three DROMs covered by the study thought it was possible to protect themselves from the pandemic by more natural means than vaccination, compared with 24% in mainland France [6].

b) For an overview of research initiatives on the pandemic in certain DROMs, see for example [122].

c) It should be noted that much of the work has focused on relationships with vaccines in general, and not on vaccination against Covid-19, see later in this chapter.

The importance of the epidemic and political contexts

Alongside these “structural” variables, the importance of contextual factors must be emphasised. For example, as we saw at the beginning of this section, vaccination intentions fluctuated considerably between the start of the pandemic and the introduction of the health pass.

We also evoked variations in attitudes towards booster shots. Perceptions of the dangerousness of Covid-19 and of the benefit-risk balance of vaccines depend largely on public debates and the information that circulates on these subjects. Unfortunately, as we shall see in chapter 5, there is relatively little research on this subject, which makes it very difficult to explain these changes and the social distribution of attitudes described above.

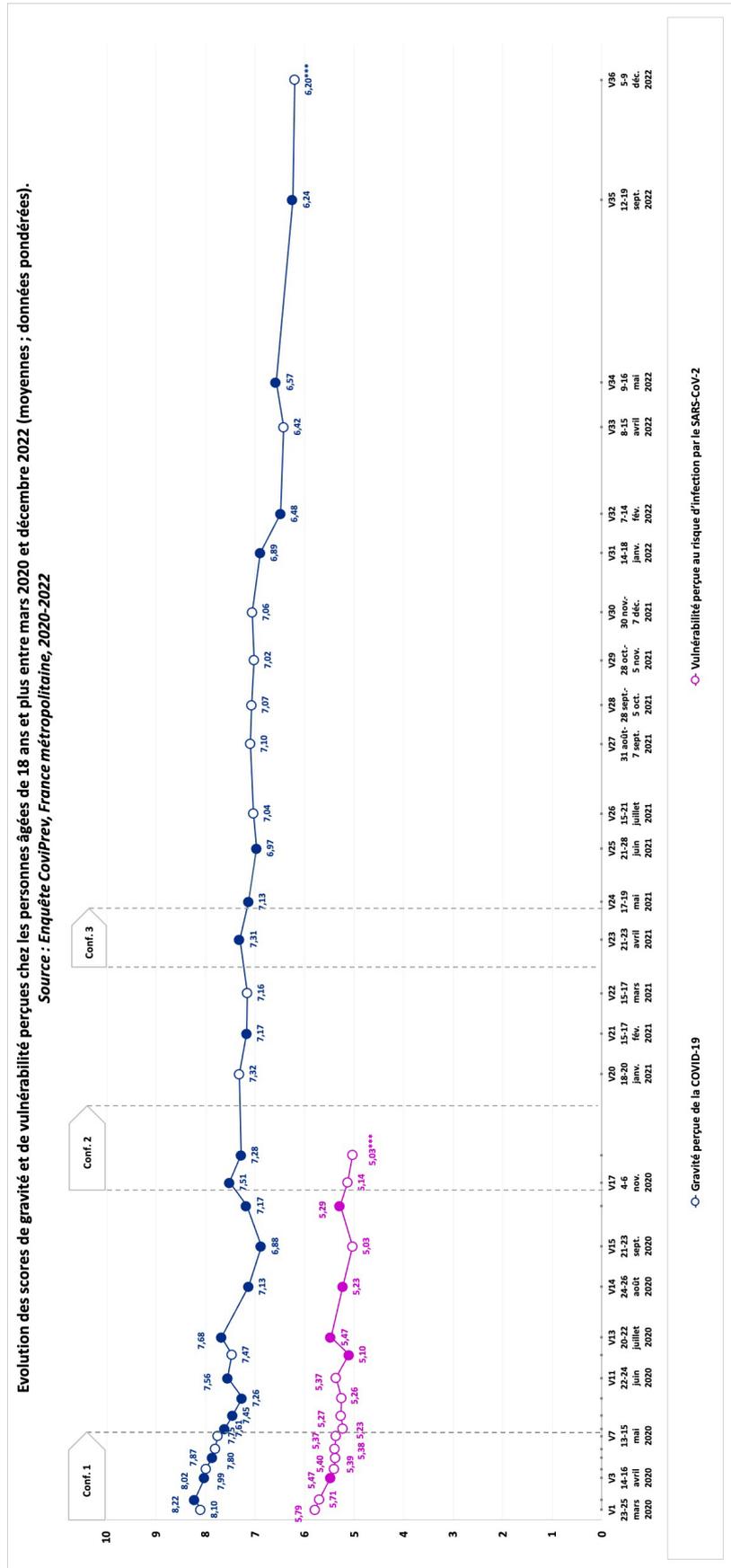
Evolution of concerns about the virus

However, monitoring different aspects of mobilisation and concern about the virus provides some insight into these changes. A number of Santé Publique France researchers and several polling institutes have carried out questionnaire surveys at very regular intervals, including one or more items on this subject on numerous occasions. These series of data converge to show that after the first few weeks of lockdown, the severity of the disease and concern about Covid-19 or the pandemic declined^a. Overall concern then appears to have followed constant fluctuations but around an average that changed little until the end of the year. Data from Santé Publique France, on the other hand, suggest a significant and continuous decline in the perceived threat posed by the pandemic until September 2020 (see Figure 3.7).

These data suggest that part of the drop in vaccination intentions during 2020 can be attributed to a relativization of the epidemic threat. But they also suggest that this cannot fully explain this evolution, as the two curves are far from following exactly the same trends during that year and especially during 2021. Surveys carried out at the end of 2021 and during 2022 and 2023 also shed light on the relative popularity of booster vaccines. For example, a series of three surveys found that concern about the emergence of new variants fell sharply between May 2021 and May 2022, only to rise again in the summer of 2022 (NPR^[23,28,113] see also^[140]). Another survey carried out in January 2022 found that 41% of respondents agreed that “The bulk of the epidemic is behind us, it will reduce progressively” while 58% agreed that “The epidemic is far from over, and it will flare up again” (NPR^[56]). We might also mention two surveys carried out in the summer of 2022 and 2023 respectively, which found that the proportion of French people who agreed with the statement that Covid-19 was no more serious than influenza had risen from 54% to 68% during this period (NPR^[23,26]).

a) See NPR[3,56,60,134-139], <https://www.santepubliquefrance.fr/etudes-et-enquetes/coviprev-une-enquete-pour-suivre-l-evolution-des-comportements-et-de-sante-mentale-dependant-de-l-epidemie-de-covid-19/coviprev-resultats-de-vagues-1-a-15-23-mars-23-septembre-2020>.

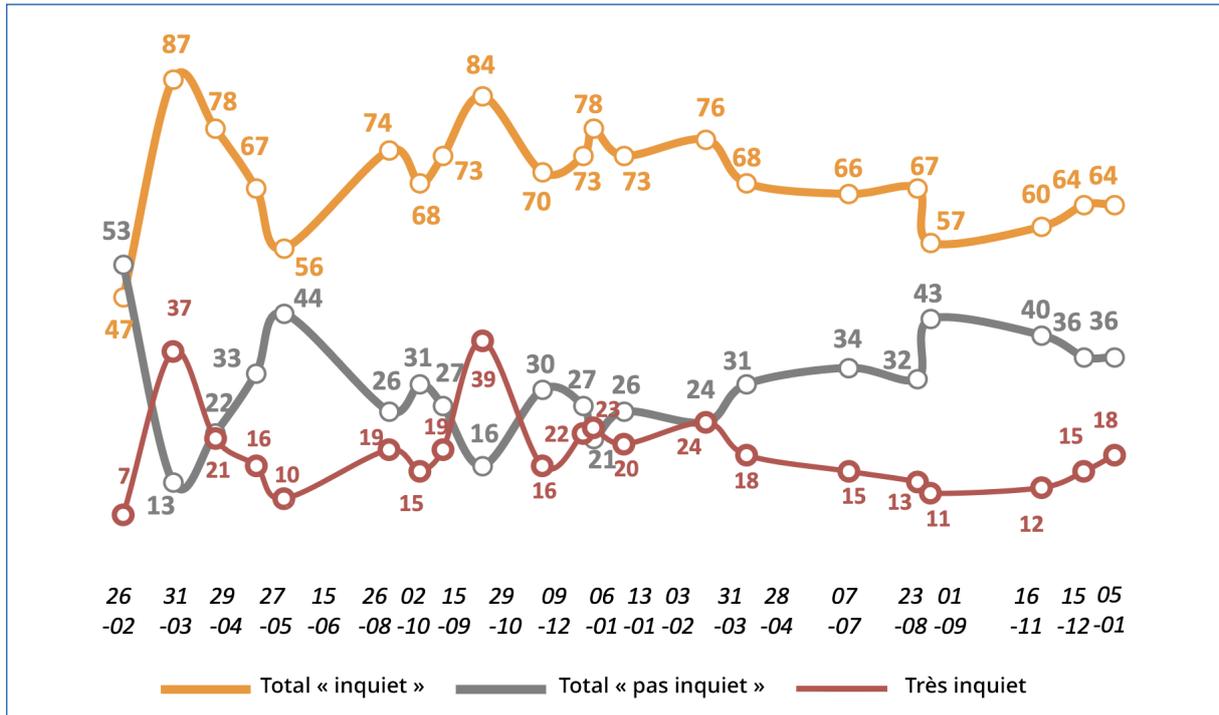
Graph 3.7: Changes in perceived severity and vulnerability scores, Coviprev survey, mainland France, weighted data*



Note: Évolutions testées entre échantillons comparables en termes de sexe, âge, CSP, taille d'agglomération et région d'habitation. Lorsqu'une marque (ronde) est pleine, la proportion est significativement différente de celle de la vague précédente, test de Wald ajusté, $p < 0,05$. Lorsque la dernière valeur de la série est associée à une étoile, cette proportion est significativement différente de celle du premier point de la série, test de Wald ajusté, * : $p < 0,05$; ** : $p < 0,01$; *** : $p < 0,001$. Les variables de gravité et de vulnérabilité sont des scores allant de 0 à 10.

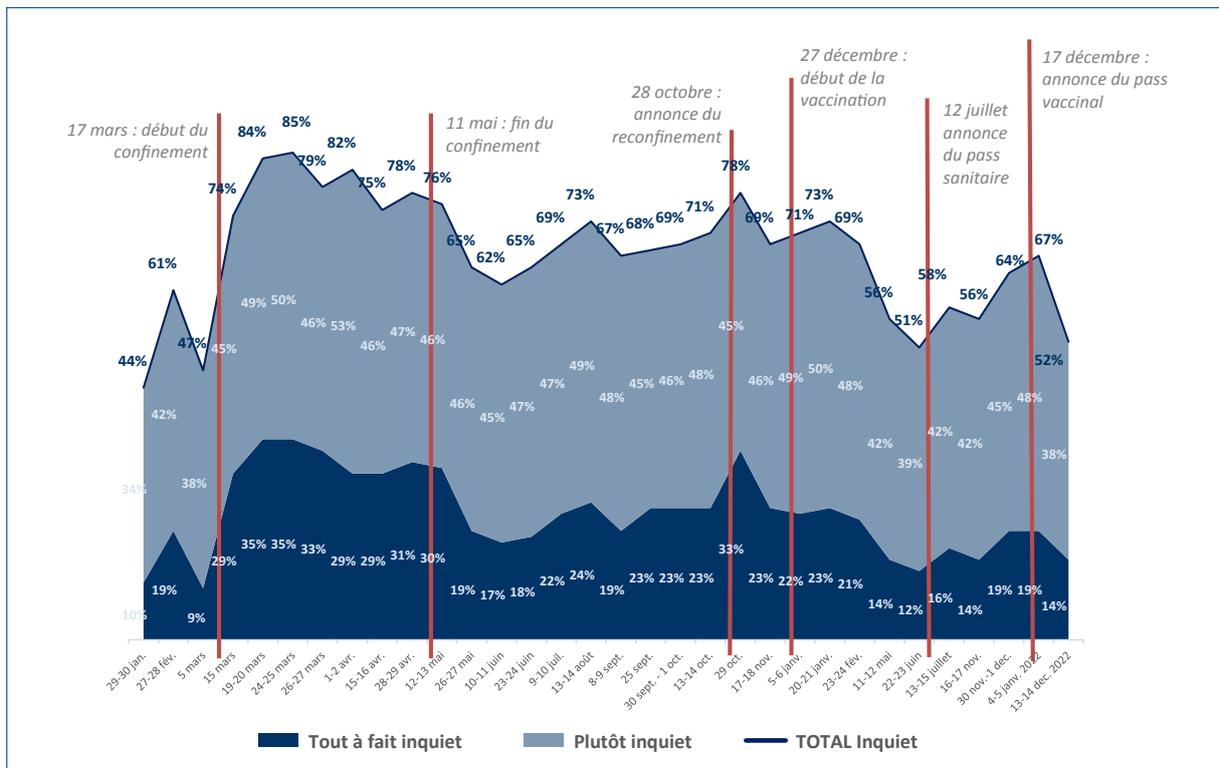
*Unpublished graph sent to the authors of the report by Santé Publique France

Figure 3.8: Changes in concern about the spread of the virus, Elabe surveys, n= approximately 1000 per wave



Legend: responses to the question “Personally, regarding the Covid-19 coronavirus, would you say you are worried or not worried about its spread in France?” Very concerned, somewhat concerned, not really concerned, not at all concerned^[56].

Graph 3.9 Evolution of the proportion of people worried about the coronavirus for themselves and their families their family, IFOP surveys, n= approximately 1000 per wave



Legend: responses to the question “With regard to the coronavirus epidemic, personally, would you say that today you are completely worried, rather worried, rather not worried or not at all worried...?”^[140]

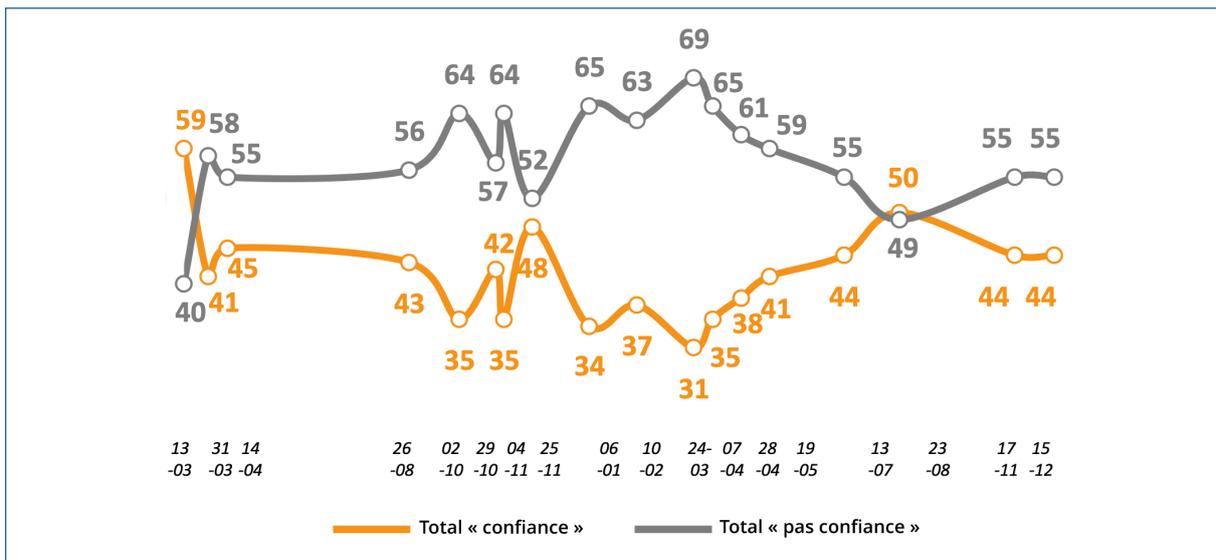
Fluctuations in trust in government and political decision-makers

Another approach would be to look at changes in trust in the Government’s ability to manage the pandemic. The IFOP, ELABE and Opinionway polling institutes regularly questioned their respondents on this point during 2020. They found a sharp fall in confidence in the Government’s management of the epidemic during the first lockdown in March-May 2020, followed by fluctuations around a low average until the end of the year and the first few months of 2021 (and even a downward trend for Elabe and Opinioway), with the exception of a small spike in trust in November (NPR^[79,139,141,142]).

The evolution in government trust, centred on the pandemic, should be considered in light of the available data on general trust in key executive actors. It should be noted that a team of economists using 7 surveys conducted between March and

December 2020 found a slight fall in confidence in the Government between April and December (PR^[123]). Also, Kantar, Harris, IFOP, Odoxa and BVA offer regular monitoring of confidence in or opinion of the President of the Republic and the Prime Minister respectively^a. In the case of the President, all the institutes find a peak in positive attitudes at the beginning of the first lockdown, followed by a slight upward trend (a few points) until the end of the year, and a relatively stability over 2021. On the Prime Minister’s side (Jean Castex from 3 July 2020), attitudes deteriorate sharply from September (or even earlier) until the end of the year, to fluctuate around a relatively stable average in 2021. The drop in vaccination intentions in the second half of 2020 could therefore be part of a deterioration in confidence in the Government, a deterioration that seems to have spared the President, despite his strong involvement in the handling of the epidemic.

Graph 3.10: Changes in confidence in Emmanuel Macron and the government of Jean Castex to fight the coronavirus epidemic effectively, Elabe survey, n= approximately 1000 by wave

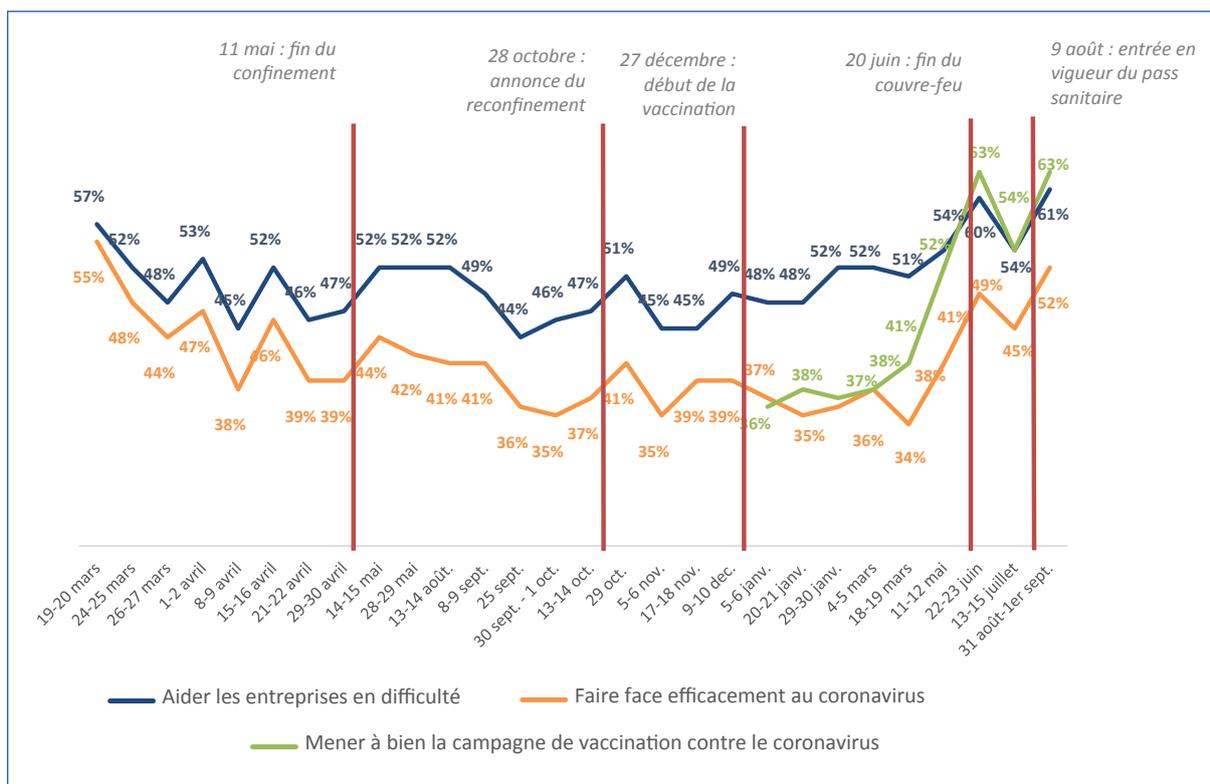


Yellow: total “confidence”; grey: total “no confidence”.

Caption: responses to the question “Do you have confidence or not in Emmanuel Macron and Jean Castex’s government to combat the coronavirus epidemic effectively? Completely confident, Somewhat confident, Not very confident, Not at all confident, No opinion”^[79]

a) See : BVA, Orange, RTL, Observatoire de la politique nationale Avril 2022, BVA, Paris, 24p, Avril 2022. Odoxa, Mascaret, LCP, Public Sénat, Presse Régionale, Baromètre politique Avril 2022, Odoxa, Paris, 38p, Avril 2022. IFOP, Fiducial, Paris Match, Sud Radio, Le tableau de bord politique Paris Match/Sud Radio - Ifop/Fiducial, IFOP, Paris, 50p, March 2022. Harris Interactive, Eurosagency, LCI, Baromètre de confiance politique Avril 2022, Harris Interactive, Paris, 26p, Avril 2022. Kantar, Le Figaro Magazine, Le baromètre politique Figaro magazine made par Kantar Public - EPOKA Avril 2022, Kantar, Paris, 19p., Avril 2022. And for IPSOS: <https://www.ipsos.com/fr-fr/barometre-politique-ipsos-le-point>

Graph 3.11 Changes in confidence in the government to deal with the covid-19 crisis and its consequences, IFOP surveys, n= approximately 1000 per wave^[142]



Responses to the question “Generally speaking, do you have confidence or not in the government ...” Blue : for helping firms in difficulty, orange : to face efficiently the coronavirus, green :for an effective management of the coronavirus vaccination campaign

A decline in confidence in science and scientists?

In addition to this data focusing on certain politicians who steered the vaccination campaign, the economists mentioned above have also envisaged that the drop in vaccination intentions in 2020 could partly be the product of a decline in confidence in scientists (PR^[123]). Their 7 surveys, conducted between March and December 2020, suggest a gradual decline in the share of respondents expressing confidence in scientists (from 87% to 70%). In particular, they found that the proportion of respondents believing that scientists are hiding information about the coronavirus rose from around 30% to around 37% in December. It should be noted, however, that a survey of attitudes to science carried out in November 2020 found no significant deterioration in attitudes to science compared with surveys carried out before the pandemic^[143]. It should also be noted that the literature on ordinary attitudes to science tends to show that, when people doubt official recommendations or hold beliefs that run counter to the scientific consensus, it is more often

that they perceive disagreements between experts than that they distrust scientists in general^a. In this case, for example, a survey carried out in the summer of 2022 found that 47.1% of respondents disagreed with the statement “Experts seemed to agree about vaccines against Covid-19” (NPR^[23]). Unfortunately, this type of item is very rarely included in surveys, and it is therefore impossible to accurately track changes in the perception of scientific debates on the various subjects relating to vaccination against Covid-19. It is also difficult to know on which points disagreements have been identified, although it is likely that vaccination of children under 11 and the need for booster doses for the entire population in autumn 2021 figure prominently.

a) Eyal, G. *The Crisis of Expertise*. (Wiley, 2019). Shapin, S. *Is There a Crisis of Truth?* Los Angeles Review of Books (2019). Goldenberg, M. J. *Vaccine Hesitancy: Public Trust, Expertise, and the War on Science*. (University of Pittsburgh Press, 2021).

The evolution of political debates on the handling of the epidemic

But attention to contextual dimensions should not be seen solely as a source of explanation for overall changes in attitudes to vaccines. We mentioned above a set of explanations for attitudes to vaccines that highlight the long-term personal and social properties of individuals, such as their qualifications, their profession, their degree of politicisation, and their confidence in health institutions. But changes in the information circulating about the seriousness of the disease, the efficacy and safety of vaccines, the choices made by the health authorities, the political context, etc. are also likely to be received differently by different segments of the public, and consequently to change the profiles associated with different types of attitude. For example, if distrust of health agencies is indeed a factor in negative attitudes to vaccines, it is often necessary for this to be triggered by the emergence of public debate on the subject, as we have seen in the case of the DROMs.

This mechanism has been explored particularly intensively by researchers interested in the role of political party's involvement in public debates over on vaccination. In some studies on this subject, the positions taken by political figures is presented as a force that can activate the willingness to interpret vaccine information in a political way. This political interpretation of vaccination would therefore be much less widespread before these public positions were taken, but it would also be less widespread among those least connected to the political sphere. This is not the only form of explanation for political differences in attitudes to vaccines presented in the literature. We mention it because it highlights one of the many mechanisms by which a given event (in this case, certain political actors taking a public stance on the vaccine issue) can have a different influence on the various social groups and affect changes in attitudes to vaccines^a. To illustrate this type of phenomenon of an evolution in the social profile of vaccine hesitants, we can mention the work carried out by Santé Publique France researchers on the Baromètre santé questionnaire surveys between 2000 and 2021. This work shows that the weight of different socio-demographic characteristics is not constant throughout this period. Social differences

a) For an introduction to these issues, see MOTTA M., 2021, "Republicans, Not Democrats, Are More Likely to Endorse Anti-Vaccine Misinformation", *American Politics Research*, 49, 5, p. 428-438. For a discussion of these explanations in the French case, see [2, 128, 144].

have gradually increased over time, particularly during the Covid-19 pandemic^[112]. Unfortunately, most of the studies based on questionnaire surveys - and therefore able to compare the weight of the different properties - have taken these surveys separately. One of the exceptions to this rule is Santé Publique France's presentation of comparative trends in vaccination intentions over the course of 2021 according to the age of respondents^[30]. It shows that the increase in vaccination intentions is most marked among people aged under 35, and that this improvement is particularly marked after March 2021. An analysis of 34 surveys carried out between the first confinement and July 2021 comparing the role of age, gender, educational attainment and partisan proximity found, however, that the weight of these variables remained relatively stable throughout this period (NPR preprint^[2]). But the political differences in attitudes seem to become more pronounced after March 2021. We will look at changes in the public statements made by the main parties in chapter 5. At this stage, it should simply be noted that, paradoxically, these changes in public perceptions cannot be attributed to an intensification of the political nature of debates on the safety and efficacy of vaccines during this period.

Beyond Covid-19: attitudes to other vaccines and vaccination in general

Non-Covid-19 vaccine coverage

With regard to non-Covid-19 vaccine coverage, there does not seem to have been a disruption due to Covid-19, contrary to what has been observed in other countries. On the contrary, vaccination coverage increased during the period^[91]. For example, two-dose vaccination coverage of infants against measles, mumps and rubella at 33 months rose from 83.8% for the 2018 cohort to 85.7% for the 2020 cohort. 3-dose coverage against diphtheria, tetanus and poliomyelitis has also increased slightly, from 90.5% for the 2019 cohort to 91.2% for the 2021 cohort. There has also been an increase in coverage for non-mandatory vaccines (meningococcal C, HPV vaccine for girls). Vaccination coverage against HPV and influenza among at-risk individuals nevertheless remains well below targets^[91] (see also^[145]). It should be noted, however, that some studies have shown a reduction in certain vaccine coverage levels during the initial lockdown period^[146], delays which appear to have been made up subsequently.

Has the Covid-19 pandemic affected confidence in vaccines in general?

The Covid-19 pandemic marked the end of a complicated decade for ordinary relationship to vaccines in France. Following the influenza A (H1N1) pandemic, controversies surrounding vaccines multiplied in France. Reticence about vaccines became a major concern for public authorities, leading the Government to extend the number of mandatory vaccines to 11 from 2018. It is therefore hardly surprising that the question of the Covid-19's impact on confidence in vaccination in general has featured in public debates from the start of the pandemic.

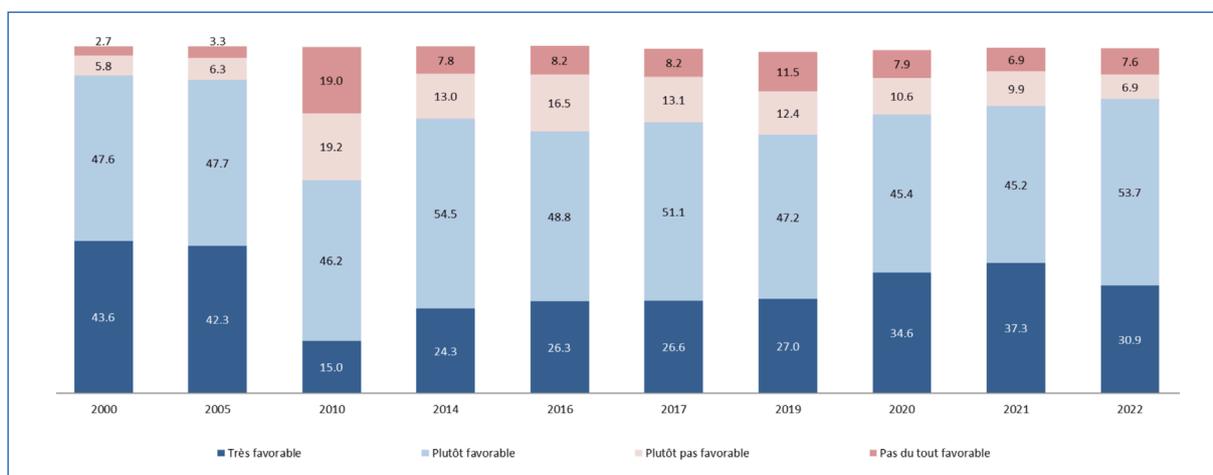
At the time of writing, it is obviously too early to give a definitive answer to this question. However, a number of surveys carried out during the Covid-19 pandemic were part of regular measures of vaccination attitudes put in place before the pandemic. This work makes it possible to begin to place the context of the pandemic in the continuity of the previous period. The main tool used to monitor attitudes to vaccines in France is the Health Barometer survey, which has been carried out since 2000 by the Institut de Veille Sanitaire (now Santé Publique France since 2016). This survey asks a representative sample of the French population questions on various subjects, including vaccination. When it comes to vaccination, these surveys include at least two items: “are you in favour of vaccines in general” and “are you against certain vaccines in particular”, with respondents asked to name these vaccines if they answer “yes”. Three waves of this

series of questionnaire surveys were carried out during the pandemic (2020, 2021 and 2022). They suggest that French attitudes have improved both compared with the pre-pandemic period and during the pandemic. The proportion of respondents in favour of vaccines rose from 77.7% in 2019 to 80% in 2020 and 84.6% in 2022 (see graph 3.12^[91] and PR^[112]).

The health barometer items were used in a large number of questionnaire surveys carried out during the Covid-19 pandemic, albeit using different sampling and collection methods. It would therefore be risky to create a chronology by placing the results of these different surveys side by side, as Santé Publique France can do with its health barometers. However, it should be noted that a series of 5 surveys conducted using the same methodology also found a gradual improvement in attitudes towards vaccines (NPR^[22]). The proportion of respondents in favour of vaccines in general was 76.9% in May 2021, 73.8% in July 2021, 75.5% in September 2021, 78.7% in December 2021 and 82.2% in May 2022. It should be noted, however, that as mentioned above, attitudes to vaccination in general appear to have deteriorated significantly in the DROMs, although data collected in the years immediately preceding the pandemic would be needed to establish with certainty that this deterioration dates from the pandemic^[91].

The Vaccine Confidence Project is another valuable source of information. As part of this project, four waves of surveys have been carried out in an impressive number of countries, including France^a. These surveys, conducted in 2015, 2018, between March and May 2020 and between March

Graph 3.12 Evolution of attitudes to vaccines in general, adults living in mainland France, Baromètres de Santé Publique France^[91]



a) See: <https://www.vaccineconfidence.org>

and August 2022, have the particular advantage of asking respondents about a variety of vaccines and aspects of vaccination (PR^[70,147]; see also^[145,148]). These surveys suggest that the proportion of French people who consider vaccines to be safe increased between 2019 and early 2020 (from 71.5% to around 80%, based on around 1,000 people questioned in each wave), without changing significantly in 2022. The proportion of respondents who consider them to be effective increased slightly between 2019 and early 2020, only to fall back to the same level in 2022 (just over 83%). The proportion of respondents who consider them important increased slightly in March 2020 but fell sharply in 2022 (77.2%). Lastly, the proportion of people who consider them to be compatible with their beliefs has remained very stable at between 80% and 79%. With regard to the MMR (measles, mumps and rubella) vaccine, the proportion considering it to be important has gradually increased (79.9% in 2018 to 82.3% in 2022), as has the proportion considering it to be safe (78.1% to 82.1%). The improvement in attitudes towards seasonal flu vaccination is much more impressive. The proportion who consider it important has risen from 51.8% to 75.4%, and the proportion who consider it safe has risen from 53.3% to 77.8%. Perceptions of the HPV vaccine were not measured in 2018. They do not appear to have changed between 2020 and 2022. These studies also make it possible to compare France with many other countries on each of these points. At European level, they suggest that France is in a median position. For other international comparisons of perceptions of vaccines in general, see PR^[71,132].

Finally, we can note that a survey carried out in May 2022 asked respondents “What impact has the Covid-19 vaccination campaign had on (their) confidence in vaccines in general?”(NPR^[22]). The answers to this question tell us about the type of narrative that the French are likely to endorse, or at least the way in which they place their current representations of vaccines in the continuity of their experience of Covid-19. 12.5% of respondents say they have more confidence in vaccines in general, while 28.2% say they now have less confidence in vaccines than before. But for half of the respondents, Covid-19 does not seem to have affected their relationship with vaccines in general (53% replied “neither more nor less confident”)^a.

a) It should also be noted that two studies carried out during the pandemic among patients suffering from chronic illnesses looked at

Crossing attitudes to Covid-19 vaccines with attitudes to other vaccines

Attitudes to Covid-19 vaccines and to vaccination in general.

Research carried out prior to the Covid-19 pandemic had shown that a large proportion of French people could be suspicious of certain vaccines without being suspicious of vaccines in general. It is not surprising, therefore, that some of the work carried out during the pandemic sought to assess the extent to which reluctance to vaccinate against Covid-19 was linked to distrust of vaccines in general.

In questionnaire surveys, the relationship between attitudes to vaccines in general and attitudes to Covid-19 vaccines has mainly been approached from the angle of the reasons for refusing to be vaccinated. The methodology most often used consisted of first asking respondents whether they wished to be vaccinated against Covid-19 and then proposing a list of reasons for reluctance to those who did not intend to do so. Among these reasons, researchers usually included a variation around “because I’m against vaccines in general”. In all these surveys, rejection or mistrust of vaccines in general was a minority reason (generally put forward by less than 20% of respondents who did not intend to vaccinate against Covid-19, but the proportion also varied according to the time of the survey and, consequently, the proportion of respondents who had not been vaccinated^[13,14,17,28,91]). Given the extent to which the proportion of the population wishing to be vaccinated varied over time, it is not surprising that the proportion of people who are sceptical about vaccines in general is just as variable.

However, one disadvantage of this methodology is that it does not allow to test whether people who intend to be vaccinated have the same reservations as those who do not (and vice versa). Indeed, the literature on vaccine hesitancy has clearly shown that many people are vaccinated despite persistent reluctance, and that conversely, many of those who refuse do so despite genuine anxiety at the idea of contracting the disease and a desire to protect their loved ones and society as a whole. Fortunately, some

their intention to be vaccinated against influenza and pneumococcal infections respectively. They asked patients whether the pandemic had convinced them to receive these vaccines. In both cases, around 60% of respondents said yes and around 30% said no [93,94].

surveys have been able to ask separate questions about vaccines in general and the Covid-19 vaccine in particular^[5,7,13,21,25,28,77,100]. These surveys show that although there is a clear correlation between being favourable or unfavourable to vaccines in general and intending to be vaccinated, even at the peak of reluctance at the end of 2020, a significant proportion of those unfavourable to vaccines in general nevertheless intended to be vaccinated, and vice versa. For example, 45% of those unfavourable to vaccines in general intended to be vaccinated against Covid-19 in May 2021, compared with 86% of those in favour (NPR^[13]). Some surveys have found similar results in terms of the perceived safety and efficacy of the various Covid-19 vaccines^[28] and have crossed these perceptions of vaccines in general with opinions on mandatory vaccination^[42], finding a strong correlation between them.

Attitudes to other vaccines

In addition to work on attitudes to vaccination in general and to vaccines against Covid-19, researchers have looked at perceptions of a range of vaccines recommended in France. We mentioned above the work of the Vaccine Confidence Project, which looked in particular at changes in opinions about seasonal flu vaccines, HPV vaccines and the MMR vaccine^[70,147]. Their two studies carried out during the Covid-19 pandemic show that the MMR vaccine is better accepted than the seasonal flu vaccine and the HPV vaccine, and that the HPV vaccine is the least well accepted in 2022, after a spectacular improvement in opinions on the seasonal flu vaccine between 2020 and 2022. Another series of surveys conducted between July 2021 and May 2022 asked respondents whether they were in favour of each of the following four vaccines: the MMR vaccine, the influenza vaccine, the HPV vaccine and the hepatitis B vaccine^[7,144,149,150]. The results suggest that the French have much better attitudes to the MMR vaccine than to the other vaccines. They also show that attitudes towards the HPV vaccine are very uncertain (over 20% 'don't know'). By examining the patterns of responses to these questions and to the question "Are you favourable to vaccines in general?", the researchers found that around 40% of respondents were favourable to vaccines in general and to all four vaccines, around 35% were favourable to vaccines in general but unfavourable or uncertain about at least one of the four vaccines, and around 20-25% were unfavourable or uncertain about vaccines in general. About 7% were unfavourable or uncertain about all

vaccines and vaccines in general (including 3% who were simply unfavourable to all vaccines and to vaccines in general).

We should also mention the fact that, in a wave of its COVIPREV surveys carried out in September 2022, Santé Publique France asked respondents about their influenza vaccination intentions for winter 2022^[19]. The analysis focused on people at risk of severe forms of the disease, and found that 49% would have accepted influenza vaccination and a new dose of Covid-19 vaccine, 12% would have accepted only the Covid-19 vaccine dose, and 8% would have accepted only influenza vaccination (9% don't know).

Socio-cultural anchoring of non-Covid-19 vaccination

The growing body of work on vaccination attitudes and behaviour during the Covid-19 pandemic has made it possible to explore their social roots to a much greater extent than before the pandemic. As with work on attitudes to Covid-19 vaccines, numerous questionnaire surveys have been used to study the correlations between opinions on vaccination in general and non-Covid-19 vaccines, and traditional socio-demographic variables such as gender, age, income, qualifications and socio-professional categories^[5,7,91,112,143,144,149]. Ordinary relationships with politics have also been explored at length^[7,128,144,149,150], as has trust in political or state institutions and actors^[7,128,144], and trust in science and scientists^[5,7,98,99,127,143,144]. The role of endorsement of alternative medicines^[149], conspiracy theories^[132], the use of social media^{a[23,133,150]}^b, the feeling of being particularly at risk of side effects^[151], the specific properties of vaccines^[152-154] and the experience of discrimination^[98,99,107] have also been explored. Finally, regional differences in attitudes to vaccines in general have been documented^[91].

We must also evoke the fact that since the start of the pandemic, a number of academic have focused on theoretical discussions of public attitudes to vaccines without necessarily presenting new data or empirical analyses^[7,90,115,127,155-159]^c. Among French-

a) On this point, let us note the publication of one of the rare works mobilizing so-called qualitative methods (repeated comprehensive interviews in this case) [133].

b) For in-depth empirical work on this point using data from before the epidemic, see Berriche, M. *En quête de sources. Politiques de communication* [16, 115-154] (2021).

c) For a discussion of the concern about vaccine reluctance, see also:

language resources, we can mention for instance the publication of a book dedicated to reviewing the literature on psychological aspects of attitudes to vaccines^[160].

Conclusion

To conclude this chapter, we would like to emphasise that many crucial elements, such as changes in vaccination intentions and comparisons of the prevalence of doubts about these vaccines in France with other countries, could only be established because the researchers published simple descriptive statistics. This point is less trivial than it might seem. Many articles published in peer-reviewed scientific journals do not present descriptive statistics (beyond the socio-economic description of the sample) and only present the results of more advanced multivariate analyses. We do not wish to call into question the value of multivariate analyses. But we call on researchers to systematically present descriptive statistics in their publications in order to facilitate the exploration of potential differences in different contexts (historical and geographical). It should not be forgotten that the differences highlighted by multivariate analyses depend on the variables they include. For example, in some studies, strong differences are observed according to the partisan proximity of respondents, but this loses significance or even disappears completely in multivariate analyses as soon as other variables are included, such as confidence in the actors involved in vaccination campaigns^a. This is indeed a major result, but the fact that differences are observed according to partisan proximity may in itself be a result of interest for many researchers or may be an important fact to establish with a view to establish comparisons over time. The systematic publication of tables cross-referencing variables relating to vaccination with the largest possible number of variables dealt with by researchers could therefore make a major contribution to the formulation of new hypotheses and the evaluation of those discussed in the literature. This practice is made very easy today by the possibility offered by most academic journals of adding an online appendix to their article, and by

<https://laviedesidees.fr/L-hesitation-vaccinale-ou-les-impatiences-de-la-sante-mondiale>

a) See for example: Choi, Y. & Fox, A. M. *Mistrust in public health institutions is a stronger predictor of vaccine hesitancy and uptake than Trust in Trump*. *Social Science & Medicine* 314, 115440 (2022). And in the French context: [144]

the existence of online public repositories for publicly archiving data and analyses.

Secondly, we would like to stress that it is a great limitation that comparative studies published in scientific journals tend to pool together data from all countries in order to identify general trends at the international level. These analyses are not without interest, but we feel that it would be more informative to analyse how the same factors can play out differently in different national contexts. This would make it easier to understand the major disparities between countries and to better understand why, for example, lack of confidence in the health authorities is reflected more in negative attitudes towards vaccines in some countries than in others.

We would also like to stress the need to further explore the way in which the different variables identified in the literature can interact with each other. Most peer-reviewed research analyses the role of the different variables separately. Yet the social sciences have long shown that properties such as gender or income can take on very different social realities depending on age or educational attainment. In the case of the Covid-19 vaccines in France, for example, it is important to note that the factors associated with more favourable attitudes tend to accumulate, with older people more likely to feel close to centre parties, to have confidence in institutions and to be interested in politics. This exploration of the interaction between the various properties involves the use of a wider range of statistical analysis tools applied to questionnaire surveys. But it also requires greater use of research based on qualitative methods to interpret the results obtained and to inform the design of questionnaire surveys, as well as, and above all, for their own contributions^b.

b) For examples of the contributions of qualitative surveys of parents, see : Attwell, K., Meyer, S. B. & Ward, P. R. *The Social Basis of Vaccine Questioning and Refusal: A Qualitative Study Employing Bourdieu's Concepts of 'Capitals' and 'Habitus'*. *Int J Environ Res Public Health* 15, 1044 (2018). Jamison, A. M., Quinn, S. C. & Freimuth, V. S. *'You don't trust a government vaccine': Narratives of institutional trust and influenza vaccination among African American and white adults*. *Soc Sci Med* 221, 87-94 (2019). Reich, J. A. *Vaccine Refusal and Pharmaceutical Acquiescence: Parental Control and Ambivalence in Managing Children's Health*. *Am Sociol Rev* 85, 106-127 (2020). Tan, C. D. *Defending 'snake oil': The preservation of contentious knowledge and practices*. *Soc Stud Sci* 51, 538-563 (2021).

And for the French context: Peretti-Watel, P. et al. *'I think I made the right decision... I hope I'm not wrong'. Vaccine Hesitancy, commitment and trust among parents of young children*. *Sociology of Health & Illness* 41, 1192-1206 (2019).

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Chapter 4:

Healthcare workers

Introduction

In France, during the initial lockdown, several million people in various sectors continued their in-person professional activities. However, healthcare workers were in most direct contact with the health consequences of Covid-19, and therefore were the most visible. The ritual applause at the windows at 8pm demonstrated the broad support they enjoyed among the general public, but was also a form of recognition of the difficulty of their working conditions^a.

This chapter is devoted to those involved in vaccination campaigns in their professional capacity. This category includes healthcare workers, primarily doctors, nurses, midwives, pharmacists and caregivers. However, it is important to note that vaccination campaigns, and in particular those against Covid-19, have involved a much wider range of professionals in various capacities, including medico-social staff such as those working in care homes for dependent elderly people (EHPADs), health mediators and social workers. Despite this, the work we have identified has focused almost exclusively on healthcare workers, who will therefore be the focus of this chapter.

Throughout the pandemic, these professions found themselves at the heart of the handling of the crisis, whether through their tackling of the issue of paucity of hospital beds, ensured the isolation of care homes for dependent elderly people (EHPADs), taking charge of the various vaccination campaigns, responding to the questions and anxieties of the population or continuing to provide the usual medical care and follow-up. At the same time, a number of questions have arisen about the relationship between healthcare workers and vaccines, given their central role in vaccination. Various studies have emphasised the role that vaccine hesitancy among healthcare workers can play in fuelling vaccine controversies. During the Covid-19 pandemic, a number of studies sought to determine their acceptance of vaccination, their recommendation practices and their views on mandatory vaccination, which was introduced for them in September 2021 and suspended in May 2023.

However, there have been far fewer of these studies than those devoted to the general public. Healthcare workers are a heterogeneous group, and it is often difficult to recruit large numbers of them for surveys. As a result, studies vary widely in terms of the types of data used, the recruitment methods employed and the size of the samples obtained. The difficulties inherent in drawing up samples of professionals, particularly online, can lead to significant bias, particularly in terms of sample size, the weight of non-responses and the methods used to select respondents^[1]. It should nevertheless be noted that almost all of these studies have been published in scientific journals and have been peer-reviewed.

We begin by presenting the chronology of the participation of different types of healthcare workers in the Covid-19 vaccination campaign, both as vaccinators and as those vaccinated. We will then review the current state of knowledge about changes in their attitudes to vaccination and their vaccination coverage. After that, we look at the issue of the suspension of non-vaccinating healthcare workers when the health pass was introduced in the summer of 2021, followed by their reinstatement. We will then highlight the heterogeneous nature of vaccine hesitancy and acceptance, depending not only on professions but also on socio-demographic and social characteristics, beliefs about vaccines and confidence in those involved in vaccination policy. We will then dedicate a section to the specific situation of the French overseas departments and territories (DROMs), before presenting the rare data available on the interactions between health professionals and members of the public. Lastly, we will discuss the data relating to vaccines other than those against Covid-19.

a) See for example: : OECD, 2023, *Au-delà des applaudissements ? Améliorer les conditions de travail dans le secteur des soins de longue durée (version abrégée)*, Paris, Organisation for Economic Co-operation and Development. FOURNIER A., HALIDAY H., BINQUET C., QUENOT J.-P., LAURENT A., 2022, « Crise de la Covid-19 : les professionnels des établissements de santé en souffrance », *Annales des Mines - Responsabilité et environnement*, 108, 4, p. 23-26

Healthcare workers as beneficiaries of vaccination against Covid-19...

The vaccination campaign in France began symbolically at the Sevran hospital on 27 December 2020 with the injection of a dose of Pfizer vaccine into a 78-year-old patient and a doctor. On the same day, a doctor and two residents of care homes for dependent elderly people (EHPADs) were also vaccinated in Dijon^a. This small symbolic event illustrates the twofold involvement of doctors and, more generally, healthcare workers in this campaign: as vaccinators and as beneficiaries of this protection.

“Healthcare workers in figures” mini-box

According to DREES^b data, as of 1 January 2021, there were 637,644 nurses working in France. This is by far the largest group of healthcare workers. Predominantly female (87% women and 13% men), the profession is relatively young, with an average age of 41.5 years, and is largely made up of hospital employees (63%), but also self-employed nurses or nurses working in both self-employed and hospital settings (19%). Lastly, 18% of nurses in this profession are employed outside hospitals, for example in maternal and child protection services.

Still according to the DRESS, as of 1 January 2021, there were 360,000 caregivers (“aides-soignants”), 287,000 of whom were hospital employees; 93% were women^c.

Data on doctors is more recent. As of 1 January 2023^d, there were 230,143 doctors working in France, 51% of whom were men, with an average age of 50.3 years (53.5 for men and 47.1 for women). 99,500 were general practitioners, representing 43.2% of the total. In total, 43.6% were self-employed, 31.7% were hospital employees and 12% had a mixed practice. Finally, 12% were employed by another type of organisation.

As beneficiaries, vaccination against Covid-19 was gradually extended to all healthcare professionals. In the strategy presented by the government at the beginning of December 2020^e, the first stage involved

opening up vaccination to elderly people living in care homes for dependent elderly people and to people working there, if they themselves presented a risk of a severe form (see chapter 2 for the criteria applied). The second stage, which was due to start in mid-February, was intended to extend vaccination to workers in the healthcare and medico-social sectors aged 50 and over and/or presenting one or more co-morbidities (a population estimated at 1.2 million people). This phase was finally launched at the beginning of January 2021, and on 6 February, the age and co-morbidity requirements were lifted^f.

Importantly, vaccination against Covid-19 became mandatory in September 2021 for most carers and people working in the medico-social sector^g. From the end of June 2021, the media began to report informal messages from the government suggesting that it was considering introducing a Covid-19 vaccine mandate for healthcare workers^h. On 6 July 2021, the Conseil d’Orientation de la Stratégie Vaccinale (COSV) published a note recommending such a mandateⁱ. This mandate was one of the announcements relating to the health pass in the French President’s speech on 12 July: “Vaccination will be made mandatory for nursing and non-medical staff in hospitals, clinics, retirement homes and establishments for people with disabilities, and for all professionals or volunteers who work in contact with the elderly or frail, including at home”^j. Law no. 2021-1040 passed on 5 August 2021 on health crisis management stipulated that mandatory vaccination against Covid-19 would also apply to students in these professions, and that it should begin on 15 September 2021^k. The penalties

globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022. P36.

f) Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022. P41.

g) <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000043909676>

h) https://www.lemonde.fr/planete/article/2021/06/30/covid-19-l-executif-inquiet-du-variant-delta-et-du-ralentissement-de-la-vaccination-en-france_6086297_3244.html

i) This notice was issued on 24 June 2021 but does not appear to have been published by the Ministry until 6 July. https://www.lemonde.fr/politique/article/2021/07/09/covid-19-macron-contraint-d-operer-un-nouveau-tour-de-vis-face-au-variant-delta_6087640_823448.html.

Conseil d’Orientation de la Stratégie Vaccinale. Avis du 24 juin 2021 - Obligation vaccinale pour les professionnels des secteurs sanitaire et médico-social. 5 (2021).

j) <https://www.elysee.fr/emmanuel-macron/2021/07/12/adresse-aux-français-12-juillet-2021>

k) For reactions from the medical community et this announcement, see for example: <https://www.lemonde.fr/sante/article/2021/07/13/covid-19-l-obligation-vaccinale-imposee-aux-professionnels-de-sante-ne>

a) <https://enseignants.lumni.fr/fiche-media/00000004948/debut-de-la-campagne-de-vaccination-contre-le-covid-19-en-france.html>

b) <https://drees.shinyapps.io/demographie-ps>

c) TOUTLEMONDE F., 2021, «Panorama de la DRESS - Les établissements de santé, édition 2021», Paris, DREES.

d) <https://drees.shinyapps.io/demographie-ps/>

e) Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats

provided for were the suspension, without pay, of unvaccinated staff. This law therefore effectively added vaccination against Covid-19 to the list of mandatory vaccines for healthcare professionals, which until then had included vaccines against diphtheria, tetanus, poliomyelitis and hepatitis B. We will discuss the effects and reactions of healthcare workers to this Covid-19 vaccination mandate later. Let's just note at this stage that the list of mandatory vaccines for healthcare professionals was revised in the first half of 2023. The obligation to vaccinate against Covid-19 was then abrogated, raising the question of the reinstatement of suspended carers, while vaccination against Measles, Mumps and Rubella was made mandatory^a.

... but also as actors of the vaccination campaign

Not all healthcare workers played the same role in the roll-out of the vaccination campaign. At the start of the vaccination campaign, prescribing and carrying out vaccinations against Covid-19 was restricted to doctors. With the increasing number of doses of vaccine available and the proliferation of vaccination sites, the availability of staff that could be mobilised quickly became an issue, prompting the Direction Générale de la Santé (DGS) to refer the matter to the Haute Autorité de la Santé (HAS) regarding an extension of the list of vaccinators. The HAS issued an opinion in early March 2021 recommending that midwives and pharmacists be authorised to prescribe and administer these vaccines, and that nurses be allowed to administer them under the supervision of a doctor^b. However, this was subject to specific training. Nurses' competence was then extended to prescription in June 2021. At the same time, the government extended the list of people authorised to inject vaccines under the supervision of a doctor^c. The

extension of powers at the beginning of March 2021 came against a backdrop in which a great deal of hope had been pinned on the use of Astra Zeneca's vaccine, which did not require special freezers for storage, making it much easier to deploy at the various vaccination sites. In February 2021, for example, the Astra Zeneca vaccine^d was made available "in town", i.e. outside hospitals and vaccination centres. This extension of powers was in line with the desire to simplify vaccination procedures expressed in the notices relating to the organisation of the campaign published prior to its launch^e.

The main consequence of these successive extensions of responsibilities were the expansion of vaccination in pharmacies (see graph 4.1). The Cour des Comptes has estimated the number of vaccinators mobilised in 2021^f. There were a total of 189,673 vaccinators, including 43,663 general practitioners, 54,510 nurses, 19,385 dispensing pharmacists and 67,068 so-called "reserve" professionals, including retired healthcare workers and students.

manque-pas-de-faire-reagir_6088083_1651302.html. <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000043909676#:~:text=%2D%20A%20comp%20du%2015%20septembr%20e,11%20de%20l'article%2012.>

a) Haute Autorité de la Santé. Actualisation des recommandations et obligations vaccinales des professionnels. Volet 1/2: diphtérie, tétanos, poliomyélite, hépatite B, Covid-19. 97 (2023). Haute Autorité de la Santé. Actualisation des recommandations et obligations vaccinales des professionnels Volet 2/2: coqueluche, grippe saisonnière, hépatite A, rougeole, oreillons, rubéole varicelle. 183 (2023).

b) Haute Autorité de la Santé. Stratégie de vaccination contre le SARS-CoV-2 – Extension des compétences vaccinales des professionnels de santé. 20 (2021).

c) For the full list, see Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités

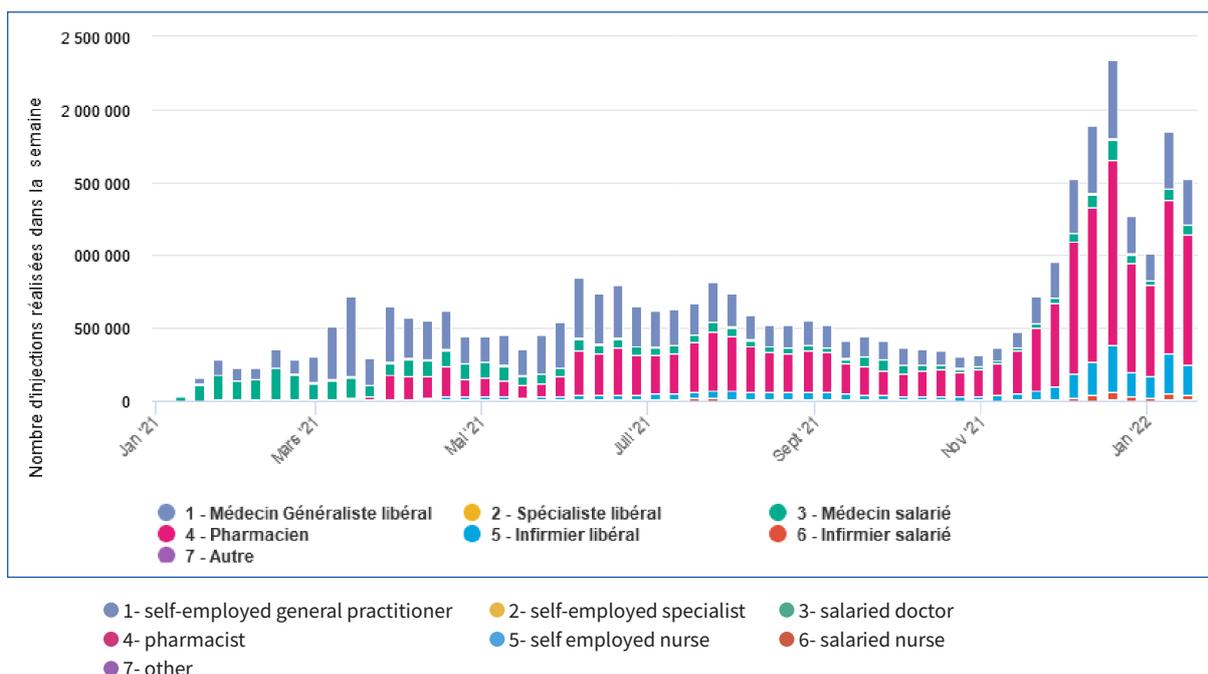
persistantes, Cour des Comptes, Paris, December 2022. p113.

d) For the full list, see Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022. p17.

e) Haute Autorité de la Santé. Stratégie de vaccination contre le Sars-Cov-2 Recommandations intermédiaires sur les modalités de mise en œuvre de la vaccination. 18 (2020).

f) Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022. P114.

Figure 4.1: Weekly number of injections of Covid-19 vaccines outside vaccination centres and health establishments, by category of professional*



* Haute Autorité de la Santé. *Elargissement des compétences en matière de vaccination des infirmiers, des pharmaciens et des sages-femmes Premier volet, personnes de plus de 16 ans.* 39 (2022).

It is important to note that this broadening of the types of professionals authorized to prescribe Covid-19 vaccines was part of a recent trend in France^a.

Indeed, until now, the prescription of vaccines to patients was restricted to doctors and midwives. In 2017, a two-year trial was launched authorising pharmacists to vaccinate certain at-risk patients against influenza without a prior medical prescription. From summer 2018, this authorisation became extended to all target groups. At the same time, this authority was also extended to nurses^b. The Covid-19 vaccination campaign consolidated this trend. Not only did pharmacists and nurses carry out more than 50% of flu vaccinations during the 2020-2021 season^c, but above all, their powers

were extended to cover all mandatory and/or recommended vaccines in the vaccination calendar for adolescents aged 11 and over and for adults (Diphtheria, Tetanus, Poliomyelitis, Pertussis, Influenza, Human Papillomaviruses, Hepatitis A, Hepatitis B, Meningococcal ACYW, Meningococcal B, Pneumococcal infections, Rabies, Measles, Mumps, Rubella Tuberculosis (BCG), Varicella, Shingles, Yellow Fever). This diversification has been reinforced since Covid-19, against a backdrop of a crisis in the number of doctors (in sharp decline) and the decision by the health authorities to encourage the delegation of mass vaccination tasks (prescribing and injection) to various health professions other than doctors^d.

a) For a description of this trend, see : Lequillerier, C. *L'évolution du champ des compétences: l'exemple de la vaccination.* *Journal du Droit de la Santé et de l'Assurance - Maladie (JDSAM)* 24, 13-16 (2019). See also: Haute Autorité de la Santé. *Elargissement des compétences en matière de vaccination des infirmiers, des pharmaciens et des sages-femmes Premier volet, personnes de plus de 16 ans.* 39 (2022). Haute Autorité de la Santé. *Haute Autorité de la Santé. Stratégie de vaccination contre le SARS-CoV-2 – Extension des compétences vaccinales des professionnels de santé.* 20 (2021).

b) <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000045638858>

c) Haute Autorité de la Santé. *Elargissement des compétences en*

matière de vaccination des infirmiers, des pharmaciens et des sages-femmes Premier volet, personnes de plus de 16 ans. 39 (2022).

d) <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000045638858>
<https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000047948973>

Reluctance to vaccinate among healthcare workers: a (persistent) minority

With regard to changes in the attitudes and behaviour of healthcare workers concerning vaccination against Covid-19, we observed a similar trend to that of the rest of the French public, with reluctance being more widespread in the winter of 2020-2021 and gradually dissipating thereafter.

In a survey carried out online between March and April 2020 (n=2,512, administered by snowball method, recruitment via email, social media and the Saint Etienne hospital website), well before the arrival of the first vaccines, a group led by infectiologist Amandine Gagneux-Brunon showed that 81.5% of healthcare workers (all professions combined) were prepared to be vaccinated, compared with 73.7% of the population of non-healthcare professionals. The former were also more likely than the latter to agree to take part in a clinical trial of vaccines against Covid-19 (PR^[2]). A second study carried out by this team between March and July 2020 (n=1,554, administered in the same way), this time involving only healthcare professionals, showed that 76.9% of participants would accept a Covid-19 vaccine if one were available^[3].

Right from the start of the pandemic, therefore, we could see that a significant minority of healthcare professionals showed some degree of mistrust towards the Covid-19 vaccines. A study carried out in October 2020 (n=1,209, online from a national panel, representative of the general practitioner population) found that while 75% of GPs questioned said they would be prepared to be vaccinated if a vaccine were available, 25% were hesitant about such a vaccine, and almost 25% expressed only moderate acceptance^[4,5]. More pessimistically, research carried out in December 2020 (n=1,964, online, in eleven hospitals in the Auvergne-Rhône-Alpes region) suggested that only 53% of staff (medical and administrative) were in favour of the Covid-19 vaccine^[6].

The arrival of the first vaccines did not radically alter this observation. In January 2021, a survey of health students (n=1,465, online) showed that 41% of them were reluctant to be vaccinated, understood here as refusing or being uncertain about being vaccinated^[7]. A survey carried out in February 2021 questioned nearly 2,000 healthcare professionals (n=1,965, online, published on the website of the University Hospital Centre in Rennes). It showed that 23% had no confidence in the Covid-19 vaccine, and 4% were opposed to it^[8]. We should also note the results of a study carried out between the end of December 2020 and January 2021, which showed that the attitudes of healthcare workers towards vaccination against Covid-19 were more polarised than those towards seasonal flu: while healthcare workers (without specifying the composition of the sample) were generally more likely to agree to be vaccinated against Covid-19 than against influenza (43.9% vs. 9.9%), they were also more likely to refuse the Covid-19 vaccine in all cases (17.2% vs. 9.9%)^{a[12]}.

We can therefore see that a non-negligible proportion of healthcare workers had reservations about this vaccination at the very time when the opportunity to be vaccinated was opening up to them, and when a large proportion of them were being asked to vaccinate. However, we will see later that this reluctance varied considerably depending on the profession. But these attitudes were fast-evolving. For example, a study that interviewed the same doctors several times showed that between the beginning of autumn and the end of winter, almost 20% of doctors had changed their attitude, with half moving from hesitant attitudes to moderate acceptance and the other half moving in the opposite direction^[1,5].

a) In addition to these studies carried out on large samples of professionals, there are also questionnaire surveys carried out on representative samples of the general population. In some cases, the researchers presented the responses of the healthcare professionals in their sample separately, despite the small number of them (around 100), and they tend to show that healthcare professionals are less hesitant than the rest of the population [9- 11].

One important element during this period was the type of vaccine made available to healthcare workers. During the months of January to March 2021, messenger RNA vaccines were prioritised for the most vulnerable people, while the vaccine intended for healthcare workers was the Astra Zeneca vaccine. However, multiple testimonies from the healthcare community suggested that, as with the rest of the public, this vaccine would arouse more reluctance than the others, particularly following reports of adverse events in this population in January^a. This situation changed after the pharmacosurveillance reports of March 2021. This vaccine was no longer recommended for people aged under 55, making messenger RNA vaccines the priority vaccines for healthcare workers (see chapter 1)^b.

Although vaccination coverage for healthcare workers and professionals working in healthcare establishments increased gradually until the summer (see graph 4.2-4), it remained a source of concern for public decision-makers. For example, in June 2021, the French Health Minister stated that he was considering making vaccination mandatory for professionals working in care homes for dependent elderly people (EHPADs), citing potential reluctance on the part of the latter with regard to this vaccination^c. During this period, data from Santé Publique France suggests that only 55% of professionals working in these care homes and in long-term care units had received at least one dose of the vaccine, and that the rate of increase in vaccination coverage had slowed

for several weeks^{d[14]}. On 15 June, coverage appeared to be higher among self-employed healthcare professionals, with 78% vaccinated with one dose (estimates based on the VACCIN-COVID database; for a discussion of the methods used to measure this coverage, see^{[5,15,16]e}). On 8 July, just before the announcement of the extension of the health pass, between 61% and 65% of professionals working in these establishments had received at least one dose of vaccination^[15]. Data from Santé Publique France also showed that the single-dose vaccination coverage of “self-employed healthcare professionals” was 81% on 8 July, while that of “healthcare professionals working in health establishments” was 80%^f (see also Figures 4.2,3,4).

a) https://www.lemonde.fr/planete/article/2021/02/11/fievre-fatigue-maux-de-tete-des-effets-secondaires-forts-chez-certain-caregivers-vaccines-with-astrazeneca_6069652_3244.html, <https://www.la-croix.com/Sciences-et-ethique/effets-secondaires-vaccin-dAstraZeneca-inquietent-hopitaux-2021-02-13-1201140506>, <https://www.la-croix.com/Debats/Covid-19-faut-rendre-vaccination-soignants-obligatoire-2021-03-04-1201143826>, https://www.lemonde.fr/planete/article/2021/02/19/a-poissy-des-soignants-vaccines-temoignent-finally-i-feel-like-i-have-a-weight-less_6070485_3244.html, <https://www.publicsenat.fr/actualites/societe/vaccin-astrazeneca-il-n-y-a-pas-un-grand-engouement-affirme-corinne-imberty-187859>, <https://www.lequotidiendumedecin.fr/sante-societe/politique-de-sante/le-pr-alain-fischer-appelle-les-medecins-tenir-bon-face-la-reticence-envers-astrazeneca>, https://www.bfmtv.com/sante/ces-soignants-qui-ne-veulent-pas-du-vaccin-d-astra-zeneca_AN-202102150486.html

b) It should also be noted that a survey carried out in March 2021 among 5250 hospital professionals (the majority of whom were retired) showed that the overwhelming majority of them also felt responsible for recommending vaccination to their family and friends, and that 82% of them intend to be vaccinated or have already been^[13].

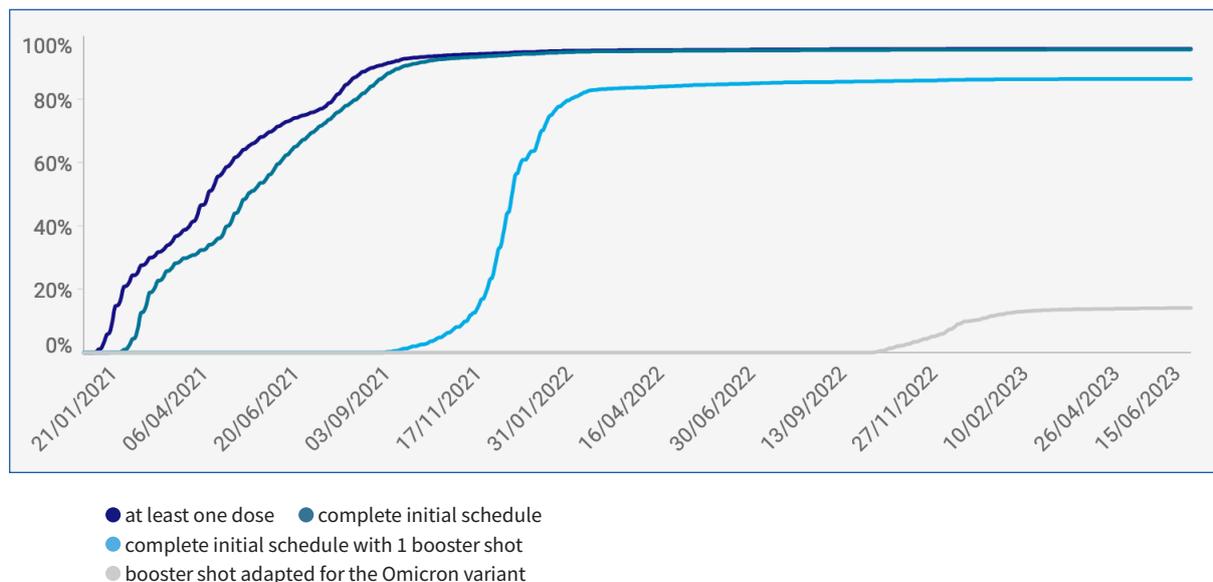
c) https://www.lemonde.fr/planete/article/2021/06/18/vaccination-le-gouvernement-met-la-pression-sur-les-personnels-d-ehpad-toujours-retifs_6084665_3244.html

d) Several groups from the private sector have announced slightly higher coverages: https://www.lemonde.fr/planete/article/2021/06/18/vaccination-le-gouvernement-met-la-pression-sur-les-personnels-d-ehpad-toujours-retifs_6084665_3244.html

e) See also: https://www.liberation.fr/checknews/le-taux-de-couverture-vaccinale-des-soignants-est-il-sous-estime-20210708_KVYKD2XVUNGWTLMF44PVJDA4JE/

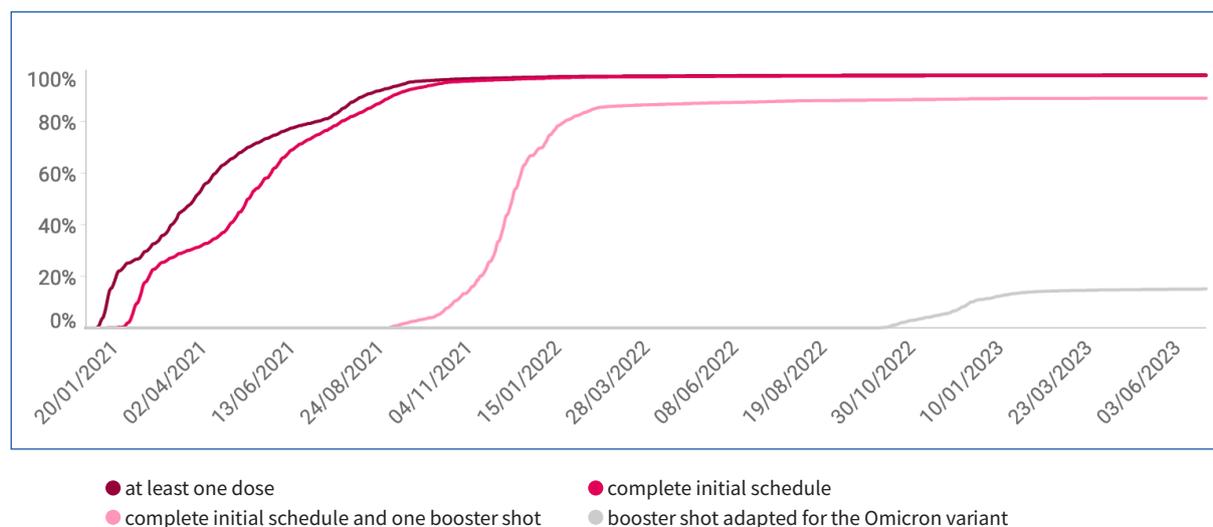
f) <https://www.santepubliquefrance.fr/dossiers/coronavirus-covid-19/coronavirus-chiffres-cles-et-evolution-de-la-covid-19-en-france-et-dans-le-monde>

Figure 4.2: Covid-19 vaccination coverage of care professionals in care homes for dependent elderly people (EHPADs)



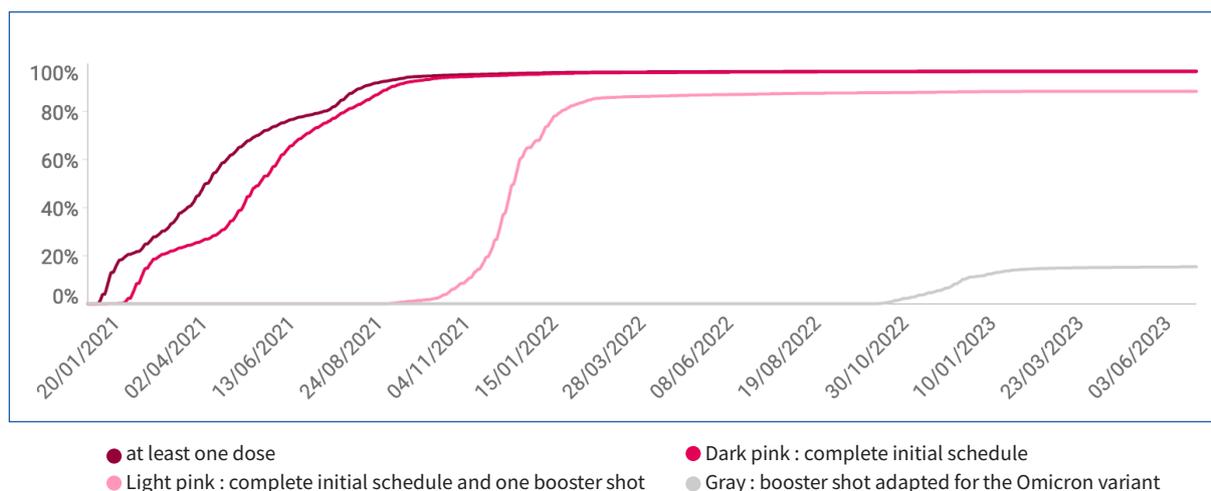
Source: Santé Publique France. <https://www.santepubliquefrance.fr/dossiers/coronavirus-covid-19/coronavirus-chiffres-cles-et-evolution-de-la-covid-19-en-france-et-dans-le-monde>

Figure 4.3: Covid-19 vaccination coverage of self-employed healthcare workers



Source: Santé Publique France. <https://www.santepubliquefrance.fr/dossiers/coronavirus-covid-19/coronavirus-chiffres-cles-et-evolution-de-la-covid-19-in-france-and-around-the-world>

Figure 4.4: Covid-19 vaccination coverage of workers in health care institutions



Source: Santé Publique France. <https://www.santepubliquefrance.fr/dossiers/coronavirus-covid-19/coronavirus-chiffres-cles-et-evolution-de-la-covid-19-in-france-and-around-the-world>

We saw in chapters 2 and 3 that the announcement of the extension of the health pass had a very significant effect on the vaccination coverage of French people aged 12 and over. The effect also seems to have been significant for healthcare workers, even though coverage prior to this date was much higher than in the rest of the public. On 10 August, single-dose coverage among healthcare professionals had risen to 81.3%^[16]. This increase continued to the point where, on 1 December 2021, vaccination coverage for healthcare workers in institutions varied - depending on the category - between 96.2% and 99.3% for a complete primary vaccination schedule (for vaccination coverage for other healthcare professionals, see figures 4.2-4).

Opinions on the mandatory vaccination of healthcare workers

The refusal of some healthcare professionals to vaccinate and the tensions surrounding mandatory vaccination within these professions are nothing new. They are part of a long history of protests against vaccines, in which healthcare professionals have played an important role^a. The Covid-19 vaccine

mandate was the subject of numerous appeals by suspended healthcare workers to challenge their suspension^[18]. However, few studies have documented the opinions of healthcare workers on this issue. A survey of more than 1,000 GPs carried out in November 2020 found that 50% were in favour of making it mandatory for healthcare workers^{[5]b}. An in-depth interview survey carried out in the summer of 2021 with various healthcare workers working in an intensive care unit described the ambivalence of attitudes towards such a mandate and placed them in the context of the shock experienced by hospital workers during the first few months of the pandemic and the exacerbation of existing tensions during the Covid-19 pandemic^[20]. The professionals interviewed had mixed views on vaccines and mandatory vaccination, but were almost unanimous in expressing the difficulties they had experienced and the feeling of abandonment they had felt during the height of the Covid-19 crisis.

On the other hand, there has been work on how the general public perceived Covid-19 vaccination mandates for healthcare professionals. Among the French population, this question has also been the subject of controversy. However, a mandate targeting healthcare workers seems to have been more widely

a) See in particular [1] for an analysis applied directly to the Covid-19 pandemic. See also chapter 4. Pour des analyses antérieures de la place des médecins dans les mouvements critiques des vaccins en France, voir : BERTRANDA., TORNY D., 2004, « Libertés individuelles et santé collective. Une étude socio-historique de l'obligation vaccinale », Paris, Cermes. FRESSOZ J.-B., 2012, L'apocalypse joyeuse: une histoire du risque technologique, Seuil. MOULIN A.-M., 1996, L'Aventure de la vaccination, Fayard. SALVADORI F., VIGNAUD L.-H., 2019, Antivax: la

résistance aux vaccins du XVIIIe siècle à nos jours, Paris, Vendémiaire, 351 p.

b) A study of a small sample of various healthcare professionals (n=76) on a hospital ward caring for patients suffering from Covid-19 showed that almost two-thirds of participants were in favour of mandatory vaccination for carers^[19].

accepted by the general public than a mandate for the whole population. An online survey among a sample of the adult mainland population carried out in May 2021 found that 56% of respondents were in favour of mandatory vaccination for healthcare workers, compared with 43% in favour of mandatory vaccination for all adults (sample of adults living in France, n=1514, NPR^[21,22], PR^{a[23]}). Another online survey of the general population carried out between the end of June and the beginning of July 2021 found that 72% of respondents were in favour of making the Covid-19 vaccine mandatory for healthcare workers, compared with 58% in favour of making it mandatory “for everyone” (sample of adults living in France, n=1005, NPR^[24]).

However, it seems that this opinion largely reflected the feeling that the mandate corresponded to a more or less relevant response depending on the evolution of the pandemic. At the end of 2022 and beginning of 2023, once the main peaks of contamination had passed, surveys showed that a very large majority of the population (between 72% and 79%, n>1000, quota method) were in favour of reinstating healthcare workers who had not been vaccinated against Covid-19^[25,26]. In addition, a survey carried out in the summer of 2023 explored different aspects of the opinions of carers who had refused to be vaccinated (sample of adults living in France, n=4303, NPR^[27]). Respondents’ opinions were divided, but overall they supported these professionals more often than they criticised them. In fact, the two statements critical of them were in the minority in the sample: 37% of respondents felt that they had committed a professional error, compared with 54% who disagreed, and 43% thought that they did not care enough about their patients’ health, while 50% disagreed with this statement. Conversely, more than half of respondents felt that healthcare workers were in a good position to know whether they needed to be vaccinated or not (55% agreed, 36% disagreed) and more than two-thirds felt that they had simply exercised their free will, like any other citizen (69% agreed, 25% disagreed”).

a) It should be noted that in this study, the healthcare professionals in the sample (291) were more unfavourable to this approach professional obligation (48% vs 41%).

The debate over the reinstatement of non-vaccinated healthcare workers

As mentioned above, the extension of the health pass provided for the suspension, without pay, of non-vaccinated staff starting on the 15 September 2021. There are no agreed figures for the number of healthcare workers actually suspended. Mid-october 2021, the French Minister for Health, Olivier Véran, put forward the figure of 15,000 healthcare workers who had not yet been vaccinated, i.e. 0.6% of staff^b. In July 2022, the new Minister for Health, François Braun, stated that “very few doctors” and 1,050 nurses had been suspended (out of 637,000 nurses working in France)^c. In November 2022, Arnaud Robinet, President of the Fédération hospitalière de France, put the figure at 4,000, including 500 nurses, out of a total of 1.2 million hospital staff in France^d. The Assurance Maladie, for its part, counted 1,900 suspended self-employed healthcare professionals, including 275 doctors^e.

The reinstatement of non-vaccinated healthcare workers has been a source of heated debate and has quickly taken a highly political turn, becoming a demand made by the parties in opposition to Emmanuel Macron and his government. For instance, during the 2022 presidential campaign, Marine Le Pen, Valérie Pécresse and Jean-Luc Mélenchon pledged to reinstate these healthcare workers^f.

A few months later, the battle moved into the legislative arena. MPs from several opposition parties called for the reinstatement of unvaccinated healthcare workers, arguing in particular that there

b) https://www.francetvinfo.fr/sante/maladie/coronavirus/video-covid-19-aux-alentours-de-15-000-soignants-ne-se-sont-not-ready-to-vaccinate-estimate-olivier-veran_4805641.html

c) <https://www.tf1info.fr/politique/reintegration-des-soignants-non-vaccines-contre-le-covid-19-le-ministre-de-la-sante-francois-braun-suspendu-a-deux-avis-2239250.html>

d) <https://www.fhf.fr/actualites/communiqués-de-presse/vaccination-des-soignants-la-fhf-rappelle-son-soutien-l'obligation-vaccinale-et-denonce-les-violences>

e) https://www.lemonde.fr/sante/article/2023/05/14/soignants-non-vaccines-comment-les-etablissements-de-sante-se-preparent-a-leur-reintegration_6173338_1651302.html

f) https://www.bfmtv.com/politique/elections/presidentielle/covid-19-marine-le-pen-veut-reintegrer-les-soignants-non-vaccines-and-pay-the-wages-not-percused_AV-202203220658.html, <https://www.leparisien.fr/elections/presidentielle/valerie-pecresse-face-a-nos-lecteurs-meme-quand-macron-essaie-de-me-plagier-il-recule-29-03-2022-MTB77K5BGFBDH7VRJETKE6I6M.php>, https://www.bfmtv.com/politique/elections/presidentielle/melenchon-veut-amnistier-les-gilets-jaunes-condamnes-et-reintegre-the-caregivers-chasses-of-the-hospital_AV-202203200202.html

was a staffing crisis in hospitals. In early November 2022, Eric Ciotti and 40 Les Républicains (LR) MPs sent a letter to this effect to the Minister of Health^a. On 24 November 2022, France Insoumise (LFI) took advantage of a “parliamentary niche” to put the reinstatement of healthcare workers to the vote, which caused great tension in the Assemblée Nationale^b. The various political groups were divided on the issue. The vast majority of LR and Rassemblement National (RN) MPs voted in favour of the bill. The socialist and ecologist MPs were more divided. In the end, the length of the debates prevented a vote. However, the text was taken up unchanged by the Rassemblement National MPs, who decided to put it back on the agenda as part of their own “parliamentary niche” on 7 December 2022. But in a bid to distance itself from the far-right party, LFI decided to withdraw its text, which was therefore not put to the vote in the end^c.

For his part, Health Minister François Braun announced that he would defer to the opinions of the Haute Autorité de la Santé (HAS) and the Comité Consultatif National d’Ethique (CCNE, French National Consultative Ethics Committee), and announced in November 2022 that he would decide on this reinstatement once he was aware of the recommendations of these two institutions^d. On 30 March 2023, the HAS issued an opinion in favour of not making vaccination mandatory for carers anymore. This opinion was immediately followed by the government’s announcement of a forthcoming reinstatement. François Braun quickly indicated that he would sign a decree, explaining that the law “required” him to take into account “the opinion of scientists”^e. The decree was published on the night

of 13 to 14 May, before the CCNE’s opinion was published. The opinion, which was published on 11 July 2023, considered that the political decision to make vaccination mandatory for healthcare staff “could be legitimate”^f.

However, only a small number of care workers were reinstated. The Assistance Publique des Hôpitaux de Paris (APHP) estimated that it concerned only 200 of their staff (out of 100,000). The figures were even lower for the Hospices civils de Lyon (28 out of 28,000) and the Assistance Publique-Hôpitaux de Paris (APHP).

In Marseille, only 5 out of 18,000 healthcare workers were concerned^g. In media reports, sociologists Frédéric Pierru and Alexandre Fauquette also explained that many of the suspended healthcare workers had already resigned at the time of their possible reinstatement^h. Some had switched to other sectors, while others had turned to alternative or natural medicine. In the case of those who wished to return to their posts, researchers have pointed to two issues that could make these returns tricky: on the one hand, those who had been suspended may have developed an increased distrust of the health authorities and managers of healthcare facilities, while on the other hand, healthcare workers who had accepted vaccination may have cultivated resentment towards their suspended colleagues. A number of press articles have reported on the tensions caused by these reinstatementsⁱ.

a) <https://www.nicematin.com/sante/covid-19-eric-ciotti-et-40-deputes-lr-demandent-la-reintegration-des-soignants-non-vaccines-806317>

b) *Once a month, one of the minority or opposition groups decides on the parliamentary agenda, and can therefore include bills of its choice. This is known as a “parliamentary niche”.* https://www.assemblee-nationale.fr/dyn/16/textes/l16b0322_proposition-loi, <https://lcp.fr/actualites/reintegration-des-soignants-non-vaccines-la-niche-lfi-s-eteint-dune-ambiance>, https://www.bfmtv.com/politique/parlement/invectives-menaces-seance-tendue-a-l-assemblee-sur-la-reintegration-des-carers-non-vaccinateurs_AN-202211240884.html

c) https://www.lemonde.fr/politique/article/2022/12/07/soignants-non-vaccines-lfi-retire-sa-proposition-de-loi-apres-la-reprise-de-son-texte-par-le-rn_6153346_823448.html

d) <https://www.infirmiers.com/profession-ide/actualite-sociale/soignants-non-vaccines-le-gouvernement-consulte-avant-make-your-decision>

e) <https://www.francebleu.fr/infos/sante-sciences/soignants-non-vaccines-francois-braun-souhaite-que-leur-reintegration-se-passe-least-mal-possible-5727509>

f) *Comité Consultatif National d’Ethique. La vaccination des professionnels exerçant dans les secteurs sanitaires et médico-sociaux: sécurité des patients, responsabilité des professionnels et contexte social.* 54 (2023).

g) https://www.lemonde.fr/sante/article/2023/05/14/soignants-non-vaccines-comment-les-etablissements-de-sante-se-preparent-a-leur-reintegration_6173338_1651302.html

h) https://www.liberation.fr/societe/sante/reintegration-des-personnels-suspendus-le-soignant-croquemitaine-antivax-est-un-fantasma-20230515_GOXR3VVPZHCLKT2NNZO2340QI/

i) <https://www.lefigaro.fr/actualite-france/covid-19-les-professionnels-de-sante-en-colere-apres-l-annonce-de-la-reintegration-of-non-vaccinated-caregivers-20230331>, <https://france3-regions.francetvinfo.fr/bourgogne-franche-comte/cote-d-or/fin-de-l-obligation-vaccinale-pour-les-soignants-leur-retour-vamener-tensions-au-sein-des-services-2744234.html>, https://www.bfmtv.com/sante/on-est-ecoeures-la-colere-de-medecins-face-a-la-perspective-de-reintegration-des-soignants-non-vaccines_AN-202303310484.html, https://www.lemonde.fr/sante/article/2023/05/14/soignants-non-vaccines-comment-les-etablissements-de-sante-se-preparent-a-leur-reintegration_6173338_1651302.html, https://www.lemonde.fr/politique/article/2023/04/09/en-guadeloupe-la-difficile-reintegration-des-soignants-suspendus_6168859_823448.html

Vaccination attitudes vary widely among healthcare workers

Behind the general picture we have just painted, there are in fact major disparities. Healthcare workers are not a homogenous group, but differ from one another in terms of their position in health institutions' hierarchy, working status, level of training, age, social background, role, etc.

Attitudes vary widely depending on the profession

The first important finding is that opinions on vaccines, and Covid-19 vaccination in particular, vary widely from one profession to another. In a survey carried out in 2020 in hospitals in the Auvergne-Rhône-Alpes region (n=1,964, online survey, in eleven hospitals), doctors, surgeons, pharmacists and medical biologists were 86% in favour of the vaccine, compared with just 47% of paramedical staff, including nurses, carers and stretcher-bearers^[6]. This study also suggested that self-employed doctors were more hesitant than public sector doctors. Another study carried out between March and July 2020 (n=1,554, administered online using a snowball method via email, social media and the Saint Etienne hospital website) also showed very significant differences: while 92.2% of doctors declared their intention to be vaccinated, this figure fell to 64.7% and 60.1% respectively for nurses and carers³. This difference was also found among students (n=1,465, online), since being enrolled in a medical course was associated with less hesitancy to vaccinate, compared with other health courses^[7]. In February 2021 (n=1,965, online survey, published on the Centre Hospitalo-Universitaire de Rennes website), around 90% of medical professionals, interns, students and management staff declared their intention to be vaccinated, while 76% of nurses and other healthcare staff did so, and 55% of cleaning staff, carers and stretcher-bearers did so^[8]. Finally, a study crossing intentions to vaccinate against seasonal influenza and Covid-19 (n=3,556, online survey, distributed by the GERES network) confirmed the existence of this gradient in vaccine uptake between professions^[28].

These differences in attitudes were reflected in the latter stages of the Covid-19 vaccination campaign. In July 2021 (n=256,589, data collected via 220 healthcare establishments), i.e. before the introduction of mandatory vaccination for healthcare workers, 76.2% of doctors had received at least one dose and 70.6% had a complete vaccination

schedule^[15]. The figures for nurses were 62.1% and 54.9% respectively, and for carers 55.2% and 43.3%. On the other hand, by 1 December 2021, vaccination coverage for healthcare workers ranged - depending on the category - from 96.2% to 99.3% for a full primary schedule of Covid-19 vaccination^[29]. Disparities were also observed when it came to booster vaccinations: almost 28% of doctors and pharmacists were covered by a booster, compared with around 15% of carers.

The explanations of these differences were not substantively developed in the scientific articles published during the pandemic. Among the main explanations put forward were the differences in training and knowledge of vaccines among these different professionals^[6]. A review of the literature on the determinants of vaccine hesitancy among healthcare professionals highlighted the fact that, in most developed countries, the gradient in vaccine hesitancy and non-vaccination observed among healthcare professionals (from doctors to carers) tended to correspond to the length of medical training^[30]. Similar disparities had already been identified in France prior to the Covid-19 pandemic, particularly in relation to annual vaccination against seasonal influenza and against the 2009 A/H1N1 pandemic influenza. These studies also showed lower vaccination coverage and less favourable attitudes to these vaccines, as well as to vaccines in general, among nurses and carers than among doctors, but also that there was a marked disparity between the private sector and the hospital sector, with the private sector being more favourable to vaccines^a. These analyses gave rise to other explanations that could be applied to the case of vaccination against Covid-19. Firstly, the professional role: self-employed doctors and nurses are more involved in mass vaccination of the population than those working in hospitals. Self-employed workers may also have more incentive to be vaccinated because of the greater loss of earnings in the event of prolonged absence due to illness. Secondly, the deterioration in working conditions, and pay and career prospects deemed unsatisfactory by hospital nurses. This last explanation was based in particular on the finding that nurses and carers

a) WILSON R., SCRONIAS D., ZAYTSEVA A., FERRY M.-A., CHAMBOREDON P., DUBÉ E., VERGER P., 2019, "Seasonal influenza self-vaccination behaviours and attitudes among nurses in Southeastern France", *Human Vaccines & Immunotherapeutics*. WILSON R., ZAYTSEVA A., BOCQUIER A., NOKRI A., FRESSARD L., CHAMBOREDON P., CARBONARO C., BERNARDI S., DUBÉ E., VERGER P., 2020, "Vaccine hesitancy and self-vaccination behaviors among nurses in southeastern France", *Vaccine*, 38, 5, p. 1144-1151.

were significantly more distrustful of the health authorities than doctors^a. This mistrust reflects a significant deterioration in working conditions in public hospitals due to a succession of cost-cutting policies implemented in the decades preceding the pandemic^b. These policies have had a particular impact on the work of nurses and carers at a time when the former are seeking to redefine their role in the healthcare system and gain greater recognition for their expertise (see^c). The relationship between the crisis in public hospitals and the reluctance to get vaccinated among some of its staff, especially nurses and carers, has been discussed in media interventions by sociologists who have studied this issue extensively^d. Researchers expressing their views in the media have also suggested that these tensions have crystallized around the fight against hospital-acquired diseases, of which infectious diseases are a part^e. On the other hand, it is worth noting the publication in a chapter of an academic book of initial results of an in-depth interview survey of some fifteen members of an intensive care unit (doctors, nurses and carers)^[20]. The study examined the reasons for vaccine reluctance among the various professionals involved, and highlighted the importance of the nurses' and carers' impression of a lack of recognition, of having been badly treated by the health authorities at the start of the pandemic (feelings of abandonment, contradictory injunctions and a lack of consultation in the decisions taken), and of dissatisfaction with their working conditions and pay.

Finally, while the difference between doctors and other healthcare professionals is a striking feature, it should not obscure the fact that a significant proportion of doctors displayed unfavourable or hesitant attitudes towards vaccines, particularly in the surveys carried out in autumn-winter 2020. This result echoes the analyses developed before the pandemic, which showed that unfavourable, ambivalent or uncertain attitudes towards certain vaccines were common among doctors, and GPs in particular^f. These attitudes can be explained by the fact that trust in the health authorities regulating the market authorization of vaccines and formulating recommendations is far from being systematic or straightforward among doctors^g (see also^[32,33]). But it also reflects the fact that the training received by GPs in France and their day-to-day practice lead them to have a certain distance from Evidence-Based Medicine and the recommendations issued by the health authorities^h.

a) WILSON R., ZAYTSEVA A., BOCQUIER A., NOKRI A., FRESSARD L., CHAMBOREDON P., CARBONARO C., BERNARDI S., DUBÉ E., VERGER P., 2020, "Vaccine hesitancy and self-vaccination behaviors among nurses in southeastern France", *Vaccine*, 38, 5, pp. 1144-1151.

b) JUVEN, PIERRU F., VINCENT F., 2019, *La casse du siècle. A propos des réformes de l'hôpital public*, Paris, Raisons d'agir, 185 p.

c) DOUGUET F., VILBROD A., 2018, *Les infirmières libérales: Une profession face au défi des soins à domicile*, Paris, Seli Arslan, 243 p.

LUAN L., FOURNIER C., AFRITE A., 2023, « Infirmière en pratique avancée (IPA) en soins primaires : la construction difficile d'une profession à l'exercice fragile », *Questions d'économie de la santé*, 277, p. 1-8.

SCHLEGEL V., 2023, « Une analyse du déploiement des infirmières en pratique avancée exerçant en soins primaires sur le territoire francilien », 588, Paris, IRDES.

d) https://www.liberation.fr/societe/sante/reintegration-des-personnels-suspendus-le-soignant-croquemitaine-antivax-est-un-fantasme-20230515_GOXRS3VVPZHKLKT2NNZO234OQI/, https://www.liberation.fr/societe/sante/un-sentiment-de-vide-de-flou-de-panique-paroles-de-soignants-non-vaccines-20230411_EZCIT6HJFBFB7FLBA7PDC3CWSU/

e) <https://aoc.media/analyse/2021/04/08/reflexions-sur-la-vaccination-des-soignants-et-son-obligation/>

For further information, see [31]

f) RAUDE J., FRESSARD L., GAUTIER A., PULCINI C., PERETTI-WATEL P., VERGER P., 2016, "Opening the 'Vaccine Hesitancy' black box: how trust in institutions affects French GPs' vaccination practices", *Expert Review of Vaccines*, 15, 7, pp. 937-948. VERGER P., COLLANGE F., FRESSARD L., BOCQUIER A., GAUTIER A., PULCINI C., RAUDE J., PERETTI-WATEL P., 2016, "Prevalence and correlates of vaccine hesitancy among general practitioners: a cross-sectional telephone survey in France, April to July 2014", *Eurosurveillance*, 21, 47, pp. 1-10. VERGER P., DUALÉ C., LENZI N., SCRONIAS D., PULCINI C., LAUNAY O., 2021, "Vaccine hesitancy among hospital staff physicians: A cross-sectional survey in France in 2019", *Vaccine*, 39, 32, pp. 4481-4488. VERGER P., FRESSARD L., COLLANGE F., GAUTIER A., JESTIN C., LAUNAY O., RAUDE J., PULCINI C., PERETTI-WATEL P., 2015, "Vaccine Hesitancy Among General Practitioners and Its Determinants During Controversies: A National Cross-sectional Survey in France", *EBioMedicine*, 2, 8, pp. 891-897.

g) VERGER P., FRESSARD L., COLLANGE F., GAUTIER A., JESTIN C., LAUNAY O., RAUDE J., PULCINI C., PERETTI-WATEL P., 2015, "Vaccine Hesitancy Among General Practitioners and Its Determinants During Controversies: A National Cross-sectional Survey in France", *EBioMedicine*, 2, 8, pp. 891-897. VERGER P., SCRONIAS D., DAUBY N., ADEDZI K.A., GOBERT C., BERGEAT M., GAGNEUR A., DUBÉ E., 2021, "Attitudes of healthcare workers towards COVID-19 vaccination: a survey in France and French-speaking parts of Belgium and Canada, 2020", *Eurosurveillance*, 26, 3, p. 2002047. WILSON R.J.I., VERGÉLYS C., WARD J., PERETTI-WATEL P., VERGER P., 2020, "Vaccine hesitancy among general practitioners in Southern France and their reluctant trust in the health authorities", *International Journal of Qualitative Studies on Health and Well-Being*, 15, 1, p. 1757336.

h) For in-depth analyses of the role of training and working conditions in doctors' prescribing practices, see BLOY G., 2010, *La constitution paradoxale d'un groupe professionnel*, Presses de l'EHESP. BLOY G., SCHWEYER F.-X., 2010, *Singuliers généralistes: Sociologie de la médecine générale*, 1re édition, Rennes, Presses de l'EHESP, 423 p. EBERHART J., LEGRAND J., 2022, « La prescription médicale comme enjeu de pouvoir », *Genèses*, 127, 2, p. 39. Pour une application de ces analyses durant la pandémie de Covid-19 au cas de la prescription de l'hydroxychloroquine, voir: LUTAUD R., WARD J.K., GENTILE G., VERGER P., 2021, « Between an Ethics of Care and Scientific Uncertainty: Dilemmas of General Practitioners in Marseille », dans *The COVID-19 Crisis: Social Perspectives*, London, Routledge, p. 144-155.

Impact of socio-demographic and health factors among carers.

Among healthcare professionals, as in the general population, intention to vaccinate is also linked to socio-demographic factors. Age was found to be positively correlated with intention to vaccinate against Covid-19. Older healthcare workers were proportionally more likely to intend to be vaccinated, even when controlling for sex/gender and profession, and both before and after the introduction of Covid-19 vaccines^[3,4,6,28,34,35]. In general, younger people reported more negative attitudes towards vaccines than older people, which was reflected, for example, in the greater propensity of the latter to say they were prepared to take part in a possible clinical trial (n=2,512, administered online using a snowball method via email, social media and the Saint Etienne hospital website)^[2]. With regard to sex/gender, studies have shown that identifying as male was more closely associated with intention to vaccinate^[3,6,28,34,35], although one study found the opposite to be true^[4]. Here again, this is not specific to the world of health professions, since in the general population too, identifying as a female was found to be a factor linked to greater hesitancy to vaccinate against Covid-19. Finally, in an attempt to place the relationship between the Covid-19 vaccine and individuals' vaccination history, several teams have looked at the links between vaccination intention and vaccination history. Being vaccinated against influenza in the previous season was associated with greater acceptance of the Covid-19 vaccine^[3,4,6,36].

Beliefs about Covid-19 vaccines and their socio-cultural anchoring

The relationship between healthcare workers and vaccines is also determined by factors such as the influence of family and friends, fear of disease, and perceptions of the risks and benefits of vaccines. Several teams of researchers have documented the fact that healthcare professionals' perception of the risk-benefit ratio was strongly associated with the intention to vaccinate, as well as their fear of major side-effects^[4,12,37]. To a lesser extent, the fear of developing a severe form of Covid-19 is also a factor in healthcare workers' intention to vaccinate. Vaccine safety has been shown in other studies conducted among healthcare workers to be one of the most important factors in their declared intention to vaccinate (N=1,827, online survey, distributed via professional email addresses and professional organisations)^[36]. This is confirmed by

qualitative studies which have shown that healthcare professionals' intention to vaccinate is largely influenced by their confidence in the vaccines on offer, but also by their past experience of vaccination or illness^[38]. According to a study published by Santé Publique France (n=3,556, online survey, distributed by the Geres network), the main reasons given for refusing to vaccinate were lack of information (76.4%), fear of side effects (57.1%), fear of the influence of laboratories (25.2%), lack of confidence in the health authorities (18.2%) and not wanting to be controlled by the organisation's management (11.3%)^[28].

The importance of the environment and interpersonal relationships has also been highlighted in several studies. For example, the intention to be vaccinated was linked to the majority opinion on the subject among friends and family, a high level of vaccination among colleagues, and employer encouragement of vaccination^[12,34,36]. The fact of being able to meet elderly people safely or to participate in controlling the pandemic were also among the main motivations of the intention to vaccinate (n=4,346, online survey, snowball method, sample including both healthcare professionals and other professionals practising in a medical environment)^[39]. Another survey (n=3,556, online, distributed by the Geres network) confirmed the importance of inter-professional and interpersonal links, since the main reasons given for accepting the vaccine were to avoid transmitting the virus to patients and colleagues (83.4%), to protect oneself (55.9%), to help control the pandemic (23.7%) and to protect one's close social circle (18.6%)^[28].

Overseas Departments and Regions (DROMs)

During the health crisis, the French overseas departments and regions (DROM) were particularly exposed to the consequences of Covid-19. Réunion, Mayotte, Guadeloupe, Martinique, French Guiana, Saint-Barthélemy and Saint-Martin are obviously not homogenous territories, but they have specific characteristics that set them apart from the situation in mainland France. Their healthcare systems, and in particular their hospitals, have been particularly put to the test, as reported in numerous articles in the general press^a. This has also led to French medical staff being sent to overseas hospitals to reinforce local teams^b.

With regard to the relationship between healthcare professionals and vaccination, some studies have shown that there was a greater reluctance to vaccinate against Covid-19 in these territories. Research conducted in French Guiana between January and March 2021 (n=579, online survey, distributed to a sample of healthcare professionals in French Guiana) identified that while 65.6% of the professionals questioned had already been vaccinated or intended to be vaccinated, almost 25% did not want to be, while 11% were unsure^[40]. While the same factors associated with intention to vaccinate were found as in mainland France (age, concern about side-effects and previous influenza vaccination), the researchers also noted that being from the French West Indies or French Guyana was independently associated with greater mistrust of vaccination. Another article, based on the same data, also highlighted differences in terms of profession (nurses were more likely not to want to be vaccinated or to be undecided than doctors) or type of practice (self-employed workers were less often opposed to vaccination against Covid-19 than hospital workers)^[41]c.

Here again, there are few scientific sources of information on the consequences and experiences of mandatory Covid-19 vaccination for healthcare. Based on a study carried out in March 2022 (n=502, online survey, distribution via hospital mailing lists, social media, ARS newsletter, trade unions and professional organisations), a medical thesis showed that mandatory vaccination in French Guyana was experienced as an injustice and an attack on physical integrity by those who were against it: 17% of survey participants also asked for this requirement to be adapted locally^[43]. Using data from the same study, a group of researchers showed that 8% of participants would not have been vaccinated without mandatory vaccination, and that only 69% were in favour of mandatory vaccination for all healthcare workers. An interesting element of understanding provided by this study was the relatively low percentage of respondents (42%) who felt that the information accompanying mandatory vaccination had been sufficient, while 67% said that the measure had been imposed without consultation^[42].

Tensions over the Covid-19 vaccine mandate for healthcare workers have also been noted in Guadeloupe. In an article published on 18 November 2022, Le Monde reported on the tug-of-war waged by the Guadeloupe General Workers' Union over the reinstatement of suspended healthcare workers, whose numbers varied between those provided by the union (878) and those of the ARS (361), which acknowledged that they were unreliable^d. In Guadeloupe, the mandate applied to 17,400 healthcare workers. Against a backdrop of very dilapidated health care services on the island and of staff shortages, the issue of reintegrating healthcare workers when the mandate was abrogated was a source of major tensions, including violent demonstrations^e.

a) <https://www.lefigaro.fr/sciences/covid-19-aux-antilles-les-hopitaux-debordes-par-l-epidemie-20210810>, <https://www.lefigaro.fr/sciences/covid-19-en-guadeloupe-le-chu-de-pointe-a-pitre-est-submerge-20210812>, <https://information.tv5monde.com/international/coronavirus-guadeloupe-martinique-mayotte-comment-loutre-mer-gere-la-crise-sanitaire>

b) <https://www.ouest-france.fr/sante/virus/coronavirus/covid-19-des-soignants-envoyes-en-renfort-depuis-l-ete-en-oultre-sea-always-waiting-for-their-payroll-cccf97f4-6eff-11ec-a06f-68f1fb79f28c>

c) It should also be noted that several studies in progress but unpublished at the time of writing this report deal with this question of the experience of the vaccination campaign in the French overseas departments and territories. For a brief presentation of some of them, see^[42].

d) https://www.lemonde.fr/societe/article/2022/11/18/en-guadeloupe-l-amere-fin-de-lutte-des-suspendus-non-vaccines-contre-le-covid-19_6150414_3224.html

e) https://www.lemonde.fr/politique/article/2023/04/09/en-guadeloupe-la-difficile-reintegration-des-soignants-suspendus_6168859_823448.html

Interactions with the public during the vaccination campaign

Healthcare workers, and doctors in particular, are the preferred sources of information and advice on vaccination for the vast majority of people. This fact has been amply documented by research carried out prior to the Covid-19 pandemic^a, including in France^b.

However, it should be noted that we know relatively little about the extent to which members of the public were able to talk to a health professional before being vaccinated during the Covid-19 vaccination campaign. In fact, the vast majority of people were vaccinated at large vaccination centres, where there was relatively little room for discussion with those who booked an appointment. A questionnaire survey carried out in May 2022 asked a representative sample of adults living in France (n=2053, NPR^[44]) about their source of advice on vaccination against Covid-19: 42.2% of respondents had received advice from a doctor, 11.2% from a pharmacist, 8.7% from a nurse and 7.5% from another health professional. This survey also included an additional sample of 1,004 people with at least one dependent child aged between 2 and 11. In this sample, 52% of parents with children of Covid-19 vaccination age (5-11 years) thought that their child's doctor did not recommend vaccination, and 28.9% did not know whether their doctor would recommend it. A survey of 664 pregnant women conducted between February and April 2021 found that 71.2% of respondents had never discussed vaccination against Covid-19 with a healthcare professional (PR^[45]c).

a) PATERSON P., MEURICE F., STANBERRY L.R., GLISMANN S., ROSENTHAL S.L., LARSON H.J., 2016, "Vaccine hesitancy and healthcare providers", *Vaccine*, 34, 52, pp. 6700-6706. VERGER P., BOTELHO-NEVERS E., GARRISON A., GAGNON D., GAGNEUR A., GAGNEUX-BRUNON A., DUBÉ E., 2022, "Vaccine hesitancy in healthcare providers in Western countries: a narrative review", *Expert Review of Vaccines*, 0, 0, p. 1-19.

b) VERGER P., FRESSARD L., COLLANGE F., GAUTIER A., JESTIN C., LAUNAY O., RAUDE J., PULCINI C., PERETTI-WATEL P., 2015, "Vaccine Hesitancy Among General Practitioners and Its Determinants During Controversies: A National Cross-sectional Survey in France", *EBioMedicine*, 2, 8, pp. 891-897.

c) Another source of information on this point would be surveys asking people about the confidence they have in the company.

In a survey on the ordinary relationship between science and healthcare professionals, for example, respondents were asked "Who do you trust to tell the truth about the coronavirus? For example, a survey of ordinary people's relationship with science carried out in October and November 2020 asked 3023 respondents "Who do you trust to tell the truth about the coronavirus? 92% said they trusted doctors, with scientists/academics coming second with 83% of respondents trusting them, while the Ministry of Health received only 65% of such responses[46].

Other vaccination issues among healthcare workers during the pandemic

During the Covid-19 pandemic, studies on healthcare professionals' attitudes to vaccination against other types of virus were also published. In the context of the extension of human papillomavirus (HPV) vaccination to boys, a study conducted in 2022 (n=300, online, quota method) sought to gain a better understanding of the views and vaccination practices of self-employed GPs^[47]. The study showed that 99% of doctors questioned were in favour of vaccination in general, and 94% in favour of the HPV vaccine. Furthermore, 8 out of 10 doctors thought the HPV vaccine was safe and effective, a clear improvement on the situation observed a few years earlier^d. However, a similar proportion said it was one of the most difficult vaccinations to get their patients to accept. A survey carried out on behalf of Pharmaceutical Companies (n=306, online, quota method) also reported that over 90% of doctors and pharmacists had confidence in vaccines in general, levels equivalent to those seen before Covid-19^[48].

Another study conducted between June and September 2020 among French hospital carers (n=1,214, online, invitation via registers and professional organisations, sample combining nurses, doctors and other professionals working in hospitals) showed a high vaccine hesitancy rate (having already refused a recommended vaccine) of 23% and a proportion of respondents vaccinated against seasonal flu of only 51%^[36]. At the same time, 93% of the surveyed sample said they were in favour of vaccination in general. Vaccine safety and efficacy appeared to be particularly linked to vaccine acceptance. Indeed, the perception that there was a controversy over vaccines or a proven serious side effect were the most important reasons for vaccine reluctance. With regard to seasonal flu, another study (n= 3,556, online, distributed by the Geres network) first showed the strong professional gradient in terms of vaccination coverage for the 2018-2019 period: 72.2% among doctors, 35.9% among nurses and 20.9% among carers. The share of the sample who intended to vaccinate against the flu during the upcoming 2020-21 season for these three professions

d) COLLANGE F., FRESSARD L., PULCINI C., SEBBAH R., PERETTI-WATEL P., VERGER P., 2016, "General practitioners' attitudes and behaviors toward HPV vaccination: A French national survey", *Vaccine*, 34, 6, p. 762-768.

were 80.5%, 47.1% and 28% respectively^[28]. The perceived low efficacy of this vaccine, the fear of adverse effects and the perceived low severity of influenza were the main reasons for the refusal to vaccinate. In terms of intention to vaccinate against influenza of 2020-2021, the study also showed a “gender gap” (men were more likely to declare an intention to vaccinate), a positive effect of age, but also of previous vaccination practices against seasonal influenza and the belief that good seasonal influenza vaccination coverage could help the healthcare system cope with the Covid-19 pandemic.

Work in the field of intervention research has focused on ways of improving vaccination coverage among healthcare workers. One study (n=161) looked at whether it was possible to improve vaccination practices among professionals by using *nudges* to influence behaviour^[49]. The results were inconclusive insofar as these *nudges* did not help to increase vaccination coverage, even though carers were very receptive to them. Another study looked at the acquisition of motivational interviewing techniques by general medical interns, a method proven to reduce vaccine hesitancy in Quebec^[50]. The results showed that the doctors were very satisfied with their training in this practice, and that they had acquired good interview technique skills.

Finally, the discussions on mandatory vaccinations for healthcare professionals provided an opportunity to take stock of what is known about the vaccination coverage of healthcare professionals. These assessments were presented in the Haute Autorité de la Santé’s opinions on these vaccination requirements^a. Data on non-Covid-19 vaccination coverage among healthcare workers is patchy, difficult to standardise and sometimes dated. Where recent data does exist, it suggests that vaccination coverage among healthcare workers varies considerably depending on whether or not the vaccine is mandatory, on the profession (better among doctors and midwives than nurses and carers, for example) and on the department and type of establishment.

a) Haute Autorité de la Santé. *Actualisation des recommandations et obligations vaccinales des professionnels. Volet 1/2: diphtérie, tétanos, poliomyélite, hépatite B, Covid-19.* 97 (2023). Haute Autorité de la Santé. *Actualisation des recommandations et obligations vaccinales des professionnels Volet 2/2: coqueluche, grippe saisonnière, hépatite A, rougeole, oreillons, rubéole varicelle.* 183 (2023).

Conclusion

In this chapter, we have attempted to provide an overview of research into the relationship between healthcare professionals and vaccination during the Covid-19 pandemic.

Firstly, this research shows that these professionals, and particularly doctors, are reluctant to vaccinate. In the case of GPs, we found that at least a quarter were hesitant about vaccination against Covid-19. However, this must be seen as a dynamic phenomenon: hesitation was particularly prevalent at the start of the pandemic, when there was a high level of uncertainty about the very possibility of producing vaccines and their reliability. This obviously raises questions about the relationship between doctors and the public, and in particular their patients, over whom they have been shown to have a major influence through their advice and recommendations. In turn, they can be influenced by their patients and the experiences reported by them, especially as they might already be experiencing doubts about certain vaccines themselves.

However, there is a consensus in the literature that hesitancy to vaccinate is greater among nurses and carers (“Aides-soignants” in France). This specific reluctance to vaccinate relates more broadly to tensions within the hospital, but also to social tensions linked to working conditions, the feeling of low recognition and the income of these workers, although these links remain to be explored in greater depth. These tensions, which predate the appearance of SARS-COV-2, were considerably exacerbated during the health crisis. According to a survey conducted by the French National Order of Nurses in 2021, 85% of salaried nurses believe that their working conditions have deteriorated since the start of the pandemic crisis^b. The solution generally proposed, therefore, of increasing training for these professionals in order to limit vaccine hesitancy, while necessary, does not appear to be sufficient on its own to address the problem.

From this point of view, improving relations with vaccines would mean shifting the focus away from vaccines alone, to improving working conditions, the recognition of healthcare staff at the ‘bottom’ of the hospital hierarchy (through pay, but also through consultation and participation mechanisms), the

b) <https://www.ordre-infirmiers.fr/l-ordre-national-des-infirmiers-alerte-de-nouveau-sur-la-situation-de-la-profession-et-call>

deployment of more general strategies within hospitals for organising work, and improving consistency in the implementation of measures to prevent the transmission of contagious infectious diseases.

The Covid-19 crisis appeared as the culmination of tensions in the French healthcare system. Today, the hospital sector is experiencing a major crisis in nurse recruitment, and almost 50% of nurses leave the hospital (for private or self-employed practice) or change profession after ten years of career^a. As far as generational renewal is concerned, the indicators do not look much more encouraging, insofar as three times as many students in nursing training are three times more likely to drop out of their first year at the start of the 2020s than they were in the previous decade^b. Similarly, more than 100,000 nursing assistant positions were unfilled in 2019, and it is estimated that nearly 300,000 positions will be needed in this profession by 2030^c. This is all the more problematic that nurses and carers are the most numerous healthcare professionals, play a central role in care, and have, from this perspective, a very broad potential to reach the diversity of social groups in the public.

However, recent developments are likely to alter nurses' relationship with vaccination. Against the backdrop of a demographic crisis in the medical profession and a reduction in the amount of time devoted to patients in general practice, nurses have been given greater powers not only to vaccinate but also to prescribe vaccines, thereby extending their prerogatives in the field of healthcare. What effect will this have on vaccine hesitancy? Will the fact that they are clearly involved, in the same way as doctors, in the promotion of vaccination lead to greater acceptance of vaccination by nurses and the general public? The answer will probably lie in the way nurses perceive this extension of their role, again linking the issue of vaccines to the more general question of working conditions: will this new prerogative be seen

as recognition of their professional expertise, or as an additional workload entirely designed to palliate for the shortage of doctors? This, in turn, will depend in part on how this development is supported by the authorities and hospital and training establishments, in terms of initial and continuing training strategy, but also salary recognition, career prospects and working conditions.

Vaccine hesitancy among healthcare professionals at the 'bottom' of the hospital hierarchy is not just a health problem; it is also a symptom of a crisis in the organisation of health care in France, and of the maintenance or even worsening of inequalities in social trajectories (vaccination reluctance is already present and prevalent among nurses student)^[30].

a) PORA P., 2023, « Près d'une infirmière hospitalière sur deux a quitté l'hôpital ou changé de métier après dix ans de carrière », *Etudes et Résultats*, 1277, p. 1-6. c) SIMON M., 2023, "Les étudiantes en formation d'infirmière sont trois fois plus nombreuses à abandonner en première année en 2021 qu'en 2011", 1266, p. 1-7.

b) SIMON M., 2023, « Les étudiantes en formation d'infirmière sont trois fois plus nombreuses à abandonner en première année en 2021 qu'en 2011 », 1266, p. 1-7.

c) JOLLY C., FLAMAND J., COUSIN C., EIDELMAN A., 2023, « Métiers 2030 quelles perspectives de recrutement en région ? Paris, France Stratégie, DARES.

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Chapter 5:

Communication, public
debates and the information
landscape

Introduction

As we saw in Chapter 3, the mobilisation of the public depends largely on the information available to them. In this chapter, we will look at the production and circulation of information and discourse on vaccination since the start of the Covid-19 pandemic.

We will adopt a broad definition of communication that extends to face-to-face interactions in everyday sociability.

Covid-19 vaccination at the heart of media coverage and day-to-day interactions

When we talk about communication, we spontaneously think of the ability of certain actors to reach a large audience via wide-reaching (or potentially wide-reaching) media such as the newsmedia and online social media. They are indeed very important, but we must not forget that, as we developed in chapter 2, a wide range of local actors have set up initiatives aimed at people who are more distant from the healthcare system, to help them through the process (outreach). It is important to note that these local actions did not only involve assisting individuals in scheduling appointments, taking them to appointments, or conversely bringing vaccinators to the foot of their building. They also involved making people who were known to the target groups (healthcare workers, health mediators, community representatives and town hall staff) available to discuss vaccination directly and respond to any doubts the public might have about it. Vaccine representations are also formed through face-to-face interactions with the diversity of actors involved in the campaign, which is why distance from the healthcare system is a major factor in non-vaccination: it is a barrier to taking action, but it is also often associated with distrust of official recommendations. Focusing on face-to-face interactions brings home an essential point: if we are interested in the way people form opinions about vaccines, the processing of information is inseparable from the people who transmit it and the contexts in which it is transmitted. What's more, for many French people, vaccination against Covid-19 has been discussed in the course of many everyday events, in the context of a variety of family, friends and professional relationships...

The fact that vaccination against Covid-19 has been widely discussed has another implication: the diversity of people and collective actors who have given their opinion on these vaccines, particularly in public. For example, the government

has issued messages, relayed by representatives of health agencies, doctors and scientists, and numerous journalists. Vaccination has become a topic in the news and political cycles. It became the subject of debate and public statements, with a wide range of actors expressing their analyses, points of disagreement or radical criticisms of the handling of the pandemic in general and vaccination recommendations in particular. These disagreements were made public via the general news media, but not exclusively. Social media and the Internet more generally have enabled certain actors to reach a wide audience alongside traditional media channels. Among the actors who spring to mind when criticism of vaccination policies and social media are evoked, the first are usually the activists who are critical of vaccines - the "antivaxxers"^a. We will, of course, discuss the mobilisation of vaccine critical activists and people who devote their time to trying to convince others that vaccines are dangerous. But we mustn't forget the other side of the coin. In France, as in other countries, the years leading up to the pandemic also saw the reinforcement of pro-vaccine activism, often visible online^b, often as part of the recent revival of pro-science activism, at least in France. But social media are not just a place where activists try to rally the widest possible audience to their cause: it is above all a place where people exchange with their social circle as they do in real life. And whether in real life or in the virtual sphere, many people have discussed and given their opinion on this vaccination campaign. Studies into attitudes to vaccines have clearly shown that while health professionals are the preferred sources of information, discussions with friends and family play a major role in shaping decisions^c.

a) For a critique of the use of this concept, see among others: Hobson-West, P., 2007. *Trusting blindly can be the biggest risk of all: organised resistance to childhood vaccination in the UK*. *Sociol. Health Illness* 29, 198-215. Ward J.K., *Rethinking the Antivaccine Movement concept: A case study of public criticism of the swine flu vaccine's safety in France*, *Social Science and Medicine*, 159(3), 2016. COURT J., CARTER S.M., ATTWELL K., LEASK J., WILEY K., 2021, "Labels matter: Use and non-use of 'anti-vax' framing in Australian media discourse 2008-2018"; *Social Science & Medicine*, 291, p. 114502.

b) See in particular: VANDERSLOTT S., 2019, "Exploring the meaning of pro-vaccine activism across two countries"; *Social Science & Medicine*, 222, pp. 59-66. WARD J.K., GUILLE-ESCURET P., ALAPETITE C., 2019, « Les « antivaccins », figure de l'anti-Science », *Déviante et Société*, 43, 2, p. 221-251.

c) For recent data on this point, see for example: <https://www.fondationdescartes.org/2023/10/information-et-sante/>

The many forms of socio-cultural anchoring of vaccination

The study of the informational landscape around vaccines during the Covid-19 epidemic is crucial to understand public attitudes and behaviours. In particular, we saw in chapter 3 that they changed significantly over time and that many of the explanations articulate structural trends and contextual elements. In addition to variations over time in the intensity of mobilisations of both defenders and critics of vaccines and in their ability to reach a wide audience, the way in which vaccines are discussed and framed is just as important in shaping the public's attitudes to vaccination. The way in which the various actors involved link the issue of vaccination to other issues, anchoring it in cultural worldviews, political ideologies and values, targeting certain groups rather than others, the style of communication chosen and the choice of spokespeople all play a part in determining who is likely to hear and believe these messages, and what they remember from them. These communication choices reflect philosophies of public intervention and raise ethical issues. Studying the different ways of intervening on the issue of vaccines during the Covid-19 pandemic is therefore not only important from the perspective of understanding ordinary experiences of the pandemic. Among other things, it also sheds light on the way in which health but also politics are put in practice in contemporary France.

During the pandemic, discourse on vaccines was, even more than usual, rooted in a variety of social spheres, and was connected to a wide range of themes far beyond health (political, scientific, social, etc.) and subjects (maternity, old age, ecology-the environmental crisis, the crisis in the “banlieues”, international relations with the USA and Europe, etc.). For instance, when a mayor speaks out about the vaccine for the first time in the local newspaper, their speech is likely to be interpreted in the light of the diversity of their previous speeches and the readers' opinion of their local policy and general political stance. The same is more or less true of all the actors who took part in the debates over vaccines.

Chapter outline

It is obviously impossible to carry out an exhaustive analysis of all aspects of communication on vaccines and of the actors who have spoken out on vaccines during this period. Here, we will obviously restrict ourselves to the work carried out on communication about vaccines. We will focus on questions relating to the efficacy and safety of vaccines, which the literature has shown to be decisive in shaping attitudes and behaviour towards vaccination. But, as on those dealt with in previous chapters, very little work has yet been published on the circulation of vaccine information in France since the start of the pandemic. For example, to the best of our knowledge, there has been no systematic study of media coverage of vaccine issues in the main general news media. Nor have we found any methodical analysis of the evolution of government communication and the tools it has used in this area. Once again, we hope that the work in progress^a will be able to inform future updates of this report. As in other chapters, we will therefore regularly refer to media sources and non-scientific publications.

We begin by looking at the work that has been conducted on the criticisms of the Covid-19 vaccines, before looking at what is known about the public defences of these vaccines. We will then look at the public stances taken by party representatives before moving on to the coverage provided by the general news media. Finally, we look at mobilisations on online social media, what we know about how controversies are received by different segments of the public and, finally, intervention research on vaccine issues.

a) For example, the ELICO laboratory (Jean Moulin-Lyon3 University) is organising a study day on this topic in November 2022, entitled “Communication, mediatization and reception of the COVID-19 vaccination campaign: an international critical assessment”. The programme is available here: <https://facdeslettres.univ-lyon3.fr/journee-detudes-communication-mediatization-et-reception-de-la-campagne-de-vaccination-covid-19-un-bilan-critique-international>

Vaccine critics

The history of vaccine critical mobilisations in France and its recent dynamism were the subject of a great deal of research before the Covid-19 pandemic^a. These studies showed that there was a diversity of forms of criticism of vaccine recommendations in France, differing in their degree of radicalism and their political and medical roots. This diversity was also observed during the pandemic. Regarding the arguments put forward against Covid-19 vaccination, we saw a certain continuity with the repertoires of arguments critical of vaccines developed before the pandemic. Here, we will concentrate on the criticisms of vaccination for adults with an initial scheme. In previous chapters, we have discussed the debates surrounding childhood vaccination and booster shots, and we will therefore look at the more clearer forms of questioning of official recommendations.

In terms of the most radical arguments, old conspiracy theories have been adapted to the Covid-19 context: the desire of the powerful to establish a new world order, Bill Gates' desire to 'chip' the population, the connection between the vaccine issue and 5G waves, as well as anti-Semitic tropes (see^[1b]). Less radical arguments have also been put forward: suspicion regarding accelerated marketing procedures, of pharmaceutical laboratories presented as capable of biasing studies or selecting data to be sent to the authorities, and of the new technologies used to produce these vaccines. In particular, the messenger RNA technology has been the focus of much of the criticism, with claims being made that this technology would structurally modify the DNA of those vaccinated, and that it constitutes

"gene therapy" rather than a vaccine^c. Moreover, as in the case of the 2009 influenza A(H1N1) vaccination campaign^d, these arguments were combined with a minimisation or even a denial of the risk represented by Covid-19. It would therefore also be interesting to explore the arguments and actors who played down the risks of Covid-19.

However, there was a very sharp break in the identity of the actors at the heart of the mobilisations and controversies. The vaccine critical people and organisations that had been at the forefront of earlier controversies and mobilisations curiously appeared marginal during the pandemic. Internet sites dedicated to denouncing the official discourse on the pandemic sprang up as soon as the pandemic began (for initial descriptions, see^[1,3]). Like many of the figures in the pre-Covid-19 vaccine-criticism movement, these sites and the groups that created them were connected to the conspiracy theory milieu and to promoters of the most radical forms of alternative medicine as well as the far right. These elements have been documented throughout the pandemic by journalists, some of whom have been following the protests against vaccines for years^e. At the heart of these new movements is the Réinforcovid collective, founded by Louis Fouché, a doctor from Marseille, which provided a platform for expression of all forms of vaccine criticism and, in particular, a place to connect the worlds of conspiracy theories and alternative medicine. Several figures associated with or members of this collective have become particularly visible, such as naturopath Thierry Casanovas and conspiracy theorist Sivano Trotta. This was also the case with former geneticist and INSERM researcher Alexandra Henrion-Caude, who

a) Bertrand, A. & Torny, D. *Libertés individuelle et santé collective. Une étude socio-historique de l'obligation vaccinale*. (2004). Cafiero, F., Guille-Escuret, P. & Ward, J. K. "I'm not an antivaxer, but...": Spurious and authentic diversity among vaccine critical activists. *Social Networks* 65, 63–70 (2021). Fressoz, J.-B. *L'apocalypse joyeuse: une histoire du risque technologique*. (Seuil, 2012). Guimier, L. *Approche géopolitique de la résistance aux vaccinations en France: le cas de l'épidémie de rougeole de 2008-2011*. (Paris 8 - Vincennes-Saint-Denis, 2016). Guimier, L. *Les résistances françaises aux vaccinations: continuité et ruptures à la lumière de la pandémie de Covid-19*. *Hérodote* 183, 227–250 (2021). Salvadori, F. & Vignaud, L.-H. *Antivax: la résistance aux vaccins du XVIIIe siècle à nos jours*. (Vendémiaire, 2019). Ward, J. K. *Rethinking the antivaccine movement concept: A case study of public criticism of the swine flu vaccine's safety in France*. *Social Science & Medicine* 159, 48–57 (2016). Moulin, A.-M. *L'Aventure de la vaccination*. (Fayard, 1996). Zylberman, P. *La Guerre des vaccins*. (Odile Jacob, 2020).

b) For an international reference: LARSON H.J., 2020, *Stuck: How Vaccine Rumors Start -- and Why They Don't Go Away*, New York, NY, Oxford University Press, 200 pp.

c) It should be noted that in a survey carried out in the summer of 2023 among a representative sample of the adult population living in France, 20% of respondents agreed with the statement "messenger RNA vaccines modify the DNA of those vaccinated" and 31% with "messenger RNA vaccines are not real vaccines, they are gene therapies" [2].

d) Ward J.K., *Rethinking the Antivaccine Movement concept: A case study of public criticism of the swine flu vaccine's safety in France*, *Social Science and Medicine*, 159(3), 2016.

e) See for example: <https://www.marianne.net/societe/sante/du-new-age-a-lextreme-droite-comment-le-mouvement-antivax-a-mute-pendant-la-pandemie>, <https://www.la-croix.com/France/Covid-19-nebuleuse-militants-anti-vaccins-2020-12-15-1201130223> https://www.lexpress.fr/societe/la-sensibilite-catholique-tradi-fil-conducteur-de-nombreux-reseaux-antivax_2157523.html https://www.lemonde.fr/societe/article/2021/06/14/alexandra-henrion-caude-caution-scientifique-des-covid-19-sceptics_6084016_3224.html, <https://www.leparisien.fr/societe/covid-19-vaccins-et-fake-news-bigard-lalanne-henrion-caude-on-demele-le-vrai-du-faux-31-05-2021-JFO56JEOVNF3FFVSHFYZR6FXVM.php>

also appeared to be very close to traditionalist Catholic circles. After denouncing the over-reaction to the threat of the epidemic, these people mobilised strongly against the vaccination campaign. Similarly, the early days of the pandemic saw the emergence of figures from medical and scientific circles who were critical of the “alarmist” rhetoric about the pandemic in the general news media, and many of whom were heavily involved in defending hydroxychloroquine^a as a way of combating the virus (on this point, see also^[1]). These same actors were then among the most visible critics of Covid-19 vaccines in the run-up to the vaccination campaign and throughout its roll-out. This is the case, for example, of sociologist and CNRS research director Laurent Mucchielli and medical professor Christian Perrone. The case of Didier Raoult, the main defender of hydroxychloroquine, is more complex in that his speeches have been characterised by ambivalence and contradictions^b. On many occasions, he has explicitly denied or played down the efficacy of these vaccines, or suggested that the low level of danger posed by Covid-19 made them unnecessary, at least for healthy adults. He also made contradictory statements or reworded his assertions after the fact. A systematic analysis of his speeches is lacking at this stage.

Finally, it is worth noting the importance of the announcement of the extension of the health pass in July 2021. As we mentioned in chapter 3, it was followed by strong mobilisations every Saturday at least until February 2022. The first demonstration was held on Saturday 17 July 2021, a few days after Emmanuel Macron’s declaration. It brought together more than 100,000 people across France, according to the Ministry of the Interior. The peak in the number of demonstrators was reached on 7 August with almost 240,000 demonstrators, with the number then gradually falling to around 25,000 between the end of October and mid-December^c. There was

a further upsurge on Saturday 8 January 2022, with almost 100,000 demonstrators in France, following the President’s statements on non-vaccinated people and the Senate’s examination of the bill transforming the health pass into a vaccination pass^d. The number of demonstrators fell rapidly again, reaching 38,000 on Saturday 22 January, 30,000 on 29 January and 32,000 in mid-February before announcements suggesting that the pass would be abrogated^e.

At the time of writing this report, very little work on the composition of these mobilisations and their dynamics had been published in academic journals, although several were in progress. Numerous articles and opinion pieces had been published in the general news media or in media targeting an audience more interested in in-depth analysis, such as AOC and The Conversation (longer formats, often involving researchers and specialists in the issues covered). Two studies with summary or summarily presented methodologies were published by social science researchers in the form of notes posted online on analysis media sites. These studies suggest that the demonstrations had brought together very different audiences, particularly in terms of social profiles^f. These initial analyses suggest that the demonstrations had brought together three main political movements: trade unions and political groups close to radical left-wing parties; political actors close to the radical right, particularly those closest to conspiracy movements; and the collectives formed during the Gilets Jaunes movement launched in 2018^g. We will discuss the specific case

a) For a presentation of the debates surrounding hydroxychloroquine and its actors, see E Schultz, JK Ward, *Science under Covid-19’s magnifying glass: Lessons from the first months of the chloroquine debate in the French press*, *Journal of Sociology*, vol 58 (1), p. 76 - 94, 2021. L Berlivet, I Löwy, *Hydroxychloroquine Controversies: Clinical Trials, Epistemology, and the Democratization of Science*, *Medical Anthropology Quarterly* 34(4), p. 525-41, 2020.

b) <https://www.lefigaro.fr/sciences/covid-19-didier-raoult-reconnait-finalement-que-le-vaccin-diminue-le-risque-de-mortality-20230525>, https://www.lemonde.fr/les-decodeurs/article/2021/07/12/covid-19-non-didier-raoult-ne-fait-pas-volte-face-en-encourageant-health-care-workers-to-be-vaccinated_6088052_4355770.html

c) https://www.lemonde.fr/planete/article/2021/11/06/les-manifestations-contre-le-passe-sanitaire-rassemblent-environ-29-000-persons-en-france_6101225_3244.html, https://www.lemonde.fr/planete/article/2021/12/18/plus-de-25-000-manifestants-anti-passe-sanitaire-en-france-en-leger-rebond_6106656_3244.html

d) https://www.lemonde.fr/planete/article/2022/01/08/covid-19-plusieurs-manifestations-contre-le-projet-de-passe-vaccinal-attendues-en-france_6108695_3244.html

e) https://www.francetvinfo.fr/sante/maladie/coronavirus/pass-sanitaire/rassemblements-contre-le-pass-vaccinal-pres-de-38-000-manifestants-en-france-selon-le-ministere-de-l-interieur_4926407.html <https://www.leparisien.fr/societe/sante/covid-19-nouvelle-journee-de-mobilisation-contre-le-passe-vaccinal-suivez-notre-direct-29-01-2022-7VGPJ2PYE5AIBGKYREXGPD2MHQ.php>, <https://www.ouest-france.fr/sante/virus/coronavirus/pass-vaccinal/plus-de-32-100-opposants-aux-mesures-sanitaires-in-authorised-events-in-france-214f5b1c-8c39-11ec-8fd5-efbb8a3fed3>

f) <https://tempspresents.com/2021/08/12/quelques-observations-sur-des-anti-pass-en-territoire-lepeniste/>, <https://qq.media/2021/09/06/enquete-les-manifestants-contre-le-passe-sanitaire-sont-ils-vraiment-les-idiots-egoistes-que-beaucoup-decrivent-par-geoffrey-pion-et-emma-wenckowski/>

See also <https://theconversation.com/luttes-contre-le-passe-sanitaire-et-la-vaccination-un-ete-confus-168327>

g) The so-called “Gilets jaunes” movement, named after the high-visibility waistcoat worn by participants, is a loosely coordinated

of the positions taken by party representatives below. Mobilisations seem to have been particularly strong in the DROMs, and especially in Martinique and Guadeloupe. For an initial analysis of the reasons for the dynamism of these demonstrations in these two territories, see^a and for an exploration of the mobilisations in La Réunion, see^d.

While the most visible representatives of these mobilisations seem to have constantly repeated the fact that they were not against vaccines in general - or even against vaccination against Covid-19 - but simply against the use of coercion, many accounts of these protests emphasise the fact that vaccine criticism was at their heart, whether in the slogans and speeches of spokespeople, texts posted online, etc^b. This again points to a point of continuity with the pre-pandemic period. The importance of demarcation strategies against radical anti-vaccinalism ("I'm not anti-vaccine, but..."^c) can be observed, strategies that sometimes reflect the reality of the actor's position but more often pure rhetoric aimed at concealing the radical nature of the criticism levelled against vaccination.

Who promoted vaccination and how?

To understand the criticisms of vaccines, we need to analyse their symmetrical counterpart: mobilisation in favour of vaccines. Who has been in contact with people or content encouraging them to be vaccinated? From whom? How often and at what times? What was the nature of the messages conveyed? The vaccination campaign was steered

protest movement outside the main trade union centres and political parties that emerged in October 2018 in reaction to a fuel tax increase. The movement grew rapidly in winter 2018 and broadened its issues of concern to encompass a wide range of themes relating to the cost of living and the treatment of the middle and working classes. See in particular.

See also: https://www.lemonde.fr/politique/article/2021/08/07/anti-passe-sanitaire-c-est-un-mouvement-sulfureux-difficile-a-recuperer-pour-un-parti-a-moin-d-un-an-de-la-presidentielle_6090822_823448.html

a) <https://aoc.media/analyse/2021/11/02/sur-le-refus-de-la-vaccination-contre-le-covid-19-en-guadeloupe/>

b) See for example: <https://www.20minutes.fr/societe/diaporama-15142-complotistes-anti-vaccins-ou-contre-le-pass-sanitation-diversified-slogans-in-events-corteges>

<https://www.sudouest.fr/sante/coronavirus/quels-sont-les-principaux-slogans-et-symboles-des-opposants-au-pass-health-4925435.php>

c) This is what Alexandra Henrion-Caude highlights in the first pages of her book on messenger RNA vaccines.

by the French government, with a strong investment of the President of the Republic. It benefited from the support of a large number of civil servants and administrations in central and local government, the hospital civil service, as well as self employed health professionals, associations and other private actors. We saw in chapter 2 that reports were written describing the organisation of the vaccination campaign at its various levels. Unfortunately, these reports did not look into the communication actions of these different actors, and we have not found any academic work exploring some of these aspects. We can therefore only present a few salient points that we have been able to identify concerning the most central actors in the management of this vaccination campaign. Resources giving numerous examples of local actions aimed at reaching out to local populations to encourage vaccination are mentioned in the second chapter^d.

We are not going to do a quick mapping of the arguments put forward in favour of the various forms of vaccination against Covid-19: these arguments were outlined briefly in the first chapter and are developed extensively in the opinions of the various expert bodies presented in this chapter. Nevertheless, it would be very instructive to compare the arguments of the actors we are about to discuss with the exact arguments and recommendations presented in expert opinions. Indeed, pro-vaccine communication is not immune to simplifications or even distortions of the sometimes complex messages of evidence-based expertise. In the defence or promotion of vaccines by the public, there are also deviations from the state of scientific knowledge in the form of false assertions and denial of uncertainties. It would also be instructive to analyse the way in which this promotion of vaccination against Covid-19 has been linked to the defence of other causes, such as party politics. These issues are regularly raised by specialists in the ethics of scientific communication, who have shown the problematic effects on public confidence^e.

d) See in particular: *Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022.*

e) See for example JAMIESON K.H., KAHAN D.M., SCHEUFELE D., 2017, *The Oxford Handbook of the Science of Science Communication, Oxford, Oxford University Press, 513 p.*

The Government and the President of the Republic

We saw in the second chapter that the organisation of the epidemic response differed from the classic crisis management methods usually centred on the Cellule Interministérielle de Crise (CIC) and deployed in particular during the influenza A(H1N1) pandemic in 2009. In terms of communication, a number of differences are also apparent^a, particularly in comparison with the system deployed during this previous epidemic crisis. Firstly, the President of the Republic and the Prime Minister were much more involved during the Covid-19 pandemic, to the detriment of the Ministry of Health. Secondly, during the influenza A(H1N1) crisis, each meeting of the CIC was followed by a press conference at which the various central actors - included in the CIC - appeared before journalists. However, this does not seem to have been the case here systematically, or at least not at the time of the launch of the vaccination campaign. At that point, communication seems to have been divided between the various ministries and actors involved in steering the campaign. A succession of speeches by different actors (ministries, expert agencies, the President, etc.) was observed. The so-called “Pittet Report”, an initial assessment of the governance of the Covid-19 crisis, suggests a relative lack of coordination and strategic thinking on aspects of public communication during this crisis^b. In addition, the Direction Generale de la Santé, a body dedicated to linking the Ministry of Health with the world of medical research, appears to have played a secondary role in communications during the Covid-19 vaccination campaign, whereas it was at the forefront in 2009. The emphasis placed on scientific expertise in government communications appears to have been achieved by highlighting the Conseil scientifique COVID-19 in the run-up to the vaccination campaign, and by highlighting the COSV

and explicitly referring to HAS opinions from the launch of the campaign onwards.

It is important to note that the early stages of pandemic management were marked by very heated debates regarding the government’s communication choices^c. Two points in particular were the subject of discussion. In the first few weeks of the pandemic, a number of researchers and public health actors criticised the ambivalence of the French President’s speeches on the use of hydroxychloroquine as a treatment for Covid-19. In particular, at the height of the public controversy on this subject, and at a time when it was already relatively clear that the research supporting the recommendation for the use of this pharmaceutical was of very poor quality, the President of the Republic paid an official visit to the research institute of Professor Didier Raoult, the promoter of this treatment. But it was above all the government’s communication on the use of masks that provoked debates the most. In essence, some actors accused - and still do - the government of having lied during the early stages of the first lockdown in March 2020 about the usefulness of wearing a mask to avoid contamination. The government or certain members of it are said to have asserted, against the best scientific knowledge, that the use of masks would not be effective, except for healthcare workers. This lie is said to have served to preserve masks for essential healthcare workers at a time when strategic stocks were low^d. It is difficult for us to establish the reality of this accusation as we have not identified any systematic analysis comparing the evolution of the speeches of the various members of the government and the President and those of the circles of experts who have given evidence-based opinions on this subject^e. However, the memory of

a) For a description of the communication system during the management of influenza A(H1N1) 2009, see WARD J.K., 2015, *Les vaccins, les médias et la population : une sociologie de la communication et des représentations des risques*, PhD Thesis, Paris, Université Paris Diderot. WARD J.K., 2018, “In crisis management, panic and panic must be avoided”.

Comment les communicants légitiment le sens commun des décideurs politiques», Politiques de communication, 11, 2, p. 103-130.

b) Pittet D., Boone L., Moulin AM, Briet R., Parneix P., *Mission indépendante nationale sur l'évaluation de la gestion de la Covid-19 crisis and the anticipation of pandemic risks - Final report, Independent national mission on the evaluation of the Covid-19 crisis. Covid-19 crisis management and anticipating pandemic risks, March 2021.*

c) For media summaries of the main areas of debate and tension surrounding the government’s communication on Covid-19, see for example:

<https://www.lejdd.fr/Politique/un-an-de-communication-de-crise-comment-lexecutif-a-parle-aux-francais-face-au-covid-19-4036862>

<https://www.leparisien.fr/societe/sante/covid-19-entre-alarmede-optimisme-et-prudence-les-mots-de-lexecutif-pour-parler-de-lepidemie-17-06-2021-2PC5TONPMVGITHVF666NMEUYA4.php>

<https://www.lefigaro.fr/actualite-france/couacs-reversements-tatonnements-le-betisier-de-la-gestion-de-la-pandemie-par-le-gouvernement-20211231>

d) For an analysis of the reasons for the low level of strategic stocks of masks at the time of the pandemic, see: https://www.lemonde.fr/politique/article/2020/06/18/la-commission-d-enquete-obtient-des-reponses-precises-sur-la-penurie-de-masques_6043230_823448.html, <https://www.mediapart.fr.ezprox.y.u-paris.fr/journal/france/020420/masques-les-preuves-d-un-mensonge-d-etat>

e) A very interesting study focusing on the government spokeswoman

this event had a lasting impact on the management of the pandemic^a.

We have not identified any in-depth analyses of government communication on vaccines, apart from a study outlining the content and success of the main ministers' tweets over the period from December 2020 to March 2021 (PR^[6]). This study highlighted the moments when government mobilisation intensified during this crucial period, as well as certain framings chosen to communicate on vaccines.

On the issue of vaccines, there have also been a number of points of debate and criticism. First of all, on 29 January 2021, the French President stated on television that the Astra Zeneca vaccine was ineffective in the over-65s, whereas the opinion of the Haute Autorité de la Santé (HAS) justified its non-recommendation after this age on the grounds of lack of data^b. As well as being criticised in France, this position was widely commented on outside France^[7]. Secondly, the decision by part of the government and elected members of the majority to adopt a confrontational strategy^c with regard to vaccine refuser from summer 2021 on and the introduction of the health pass has also been the subject of debate. The fact that, in an interview in January 2022, the President of the Republic said "The unvaccinated, I really want to annoy them ("les emmerder") (...) So we're going to keep doing it, all the way, that's the strategy." attracted a lot of attention^d.

suggests that she did not really deviate from the state of knowledge available at the time, without however extending this to all government actors or analysing precisely the evolution of the various expert discourses on this subject. GAGLIO G., CALVIGNAC C., COCHOY F., 2022, « Chronique d'un mensonge : déclarations gouvernementales sur l'inutilité du port du masque en Lien social et Politiques », 88, p. 194-212. See also <https://www.mediapart.fr/journal/france/020420/masques-les-preuves-d-un-mensonge-d-etat>

a) For example, a survey carried out in the summer of 2022 among a representative sample of adults living in France (n=4004) found that 60.5% of respondents agreed with the statement "The authorities have deliberately withheld certain information from the public" [5].

b) <https://www.politico.eu/article/coronavirus-vaccine-europe-astrazeneca-macron-quasi-ineffective-older-pe/> <https://www.bbc.com/news/55919245>

c) https://www.lemonde.fr/planete/article/2021/07/25/depuis-la-polynesie-emmanuel-macron-fustige-l-irresponsabilite-et-l-egoisme-de-ceux-qui-refusent-le-vaccin-contre-le-covid-19_6089487_3244.html, https://www.lemonde.fr/politique/article/2021/07/24/covid-19-le-gouvernement-veut-decredibiliser-les-antivax_6089377_823448.html

d) https://www.bfmtv.com/sante/macron-charge-les-non-vaccines-j-ai-tres-envie-de-les-emmerder-on-va-continuer-de-le-do_AV-202201040466.html

<https://www.francetvinfo.fr/sante/maladie/coronavirus/un-irresponsable-n-est-plus-un-citoyen-cette-autre-phrase-de-macron->

These statements have been so publicly discussed that one polling institute introduced a question on the subject in one of their surveys, presented as follows:

"Question: In an interview with Le Parisien newspaper published on Tuesday, Emmanuel Macron made the following comments: "In a democracy, the worst enemy is lies and stupidity. We are putting pressure on the unvaccinated by limiting their access to social activities as much as possible. In fact, almost all people - over 90% - have signed up. It's a very small minority who are reluctant. How do we reduce this minority? You reduce them, I'm sorry to say, by annoying them even more. I'm not in favour of annoying the French. I complain all day long about the administration when it blocks them. Well, in this case, I really want to annoy the unvaccinated. So we're going to keep on doing it, right to the end. That's the strategy". Were you shocked or not shocked by Emmanuel Macron's comments?" 53% of respondents said they were shocked, with 35% of the sample saying they were very shocked (NPR^[8]). A second question was then added: "Question: In the same interview, Emmanuel Macron also made the following remarks: "And that is the immense moral fault of the anti-vax campaigners, they are undermining the solidity of the nation. When my freedom threatens that of others, I become irresponsible. An irresponsible person is no longer a citizen." Were you shocked or not shocked by the comments made by Emmanuel Macron?" The proportion of respondents who were shocked was lower, but close, at 48%.

In addition to these elements pertaining to public debate surrounding the government's action on vaccines, we must also circle back to the low level of investment in the outreach mechanisms we discussed in terms of their organisational aspects in chapter 2. This should also be seen from the point of view of communication, in that they carried a message promoting vaccination against Covid-19. Finally, researchers have questioned the constant use of the political communication strategy of leaking to the press strategic elements of the organisation of the pandemic response and vaccination in particular to journalists in order to assess the

[on-non-vaccines-that-shock_4905037.html](https://www.francetvinfo.fr/sante/maladie/coronavirus/un-irresponsable-n-est-plus-un-citoyen-cette-autre-phrase-de-macron-)

See also the from COSV on these topics: https://sante.gouv.fr/IMG/pdf/cosv_note_du_3_fevrier_2022_-_stigmatisation_des_personnes_non-vaccinees_et_des_personnes_severement_immunodeprimees.pdf

acceptability of the measures (PR^[9]). This practice raises questions about the ethical implications of applying political communication techniques to health issues, which generally have more immediate and practical implications for the public than the issues usually discussed in the political news. The fact that vaccination has become such a central political issue has meant that communication on the subject has been “de-sectoralised”, i.e. carried out by actors outside the specialised health sector. This de-sectorisation raises new issues in terms of the way in which these subjects are debated publicly, particularly in the media (which journalists are talking about them, what place they occupy in the news hierarchy, what framing is used, what sources are mobilised, etc.), but also in terms of the communication tools and methods used by the public authorities. But it is also likely to extend or even exacerbate the classic problems of crisis communication in the health sector. In particular, certain classic works in political science have clearly shown the extent to which the French political class constantly falls back on a vision of the population as a relatively irrational mass, resulting in a rather paternalistic approach to political communication^a. Yet paternalism is also a central issue in the analysis of crisis management and, more specifically, crisis communication. Analyses of the management of the vaccination campaign against influenza A(H1N1) and the preparation for epidemics in France have shown that the fear of a population prone to “panic” and that should above all be reassured was part of the French-style of crisis management^b. This vision is traditionally associated with crisis management and communication methods characterised by a certain opacity and a preference for simplistic communication that hides uncertainties. Crisis management plans were marked by an ambivalence between this injunction to reassure a potentially irrational and unpredictable population and the injunction to rely on the rational potential of this public^c. This raises the question of whether the

in-depth reorganisation of crisis management for the Covid-19 crisis was really associated with an evolution in the principles of short- and long-term crisis communication.

Before moving on to the interventions of the other central actors, it should be noted that our description focused on the potential limits of government communication. This angle probably stems from the identification of the issues via the debates that emerged during this period. However, in order to draw the right conclusions from this period, it is also necessary to identify the successes of the efforts made during this period and not reduce everything to failures. This is another reason why methodical studies of the government’s communication apparatus need to be carried out. Without having carried out this work, we hypothesise that the choice to acknowledge the uncertainties associated with the Covid-19 vaccines at the start of the campaign and not to insist on collective protection enabled government actors to participate in the gradual building of confidence in these vaccines. In fact, this strategy enabled the authorities to gradually build up the certainty of their recommendations and avoid having to change their message. It is likely that this has contributed to the significant increase in the proportion of French people intending to be vaccinated in the first six months of 2021.

Santé publique France and the French Ministry of Health

Santé publique France (SPF) plays an important role in vaccine communication in France. SPF was formed in 2016 from the merger of the Institut de Veille Sanitaire, the Institut National de Prévention et d’Education à la Santé, which until then had been responsible for setting up health communication campaigns, and the Établissement de Préparation et de Réponse aux Urgences Sanitaires. These different roles put it at the heart of the management of the health crisis^d. On the specific subject of communication on vaccine issues, this agency inherited the function of monitoring epidemic threats and was responsible for producing and analysing Covid-19 incidence data. It did the same for vaccination coverage data. It has also carried out a large number of surveys aimed at studying changes in

a) For historical perspectives on the relationship between politicians and the population, see Blondiaux L., *La fabrique de l’opinion : une histoire sociale des sondages*, Seuil, 1998. Farge, Arlette, *Dire et mal dire : l’opinion publique au XVIIIe siècle*, Paris, Seuil, 1992. Chevalier, Louis, *Classes laborieuses et classes dangereuses*, Paris, Perrin 2002.

b) WARD J.K., 2018, « Dans la gestion d’une crise, il faut éviter l’affolement et la panique ». *Comment les communicants légitiment le sens commun des décideurs politiques* », *Politiques de communication*, 11, 2, p. 103-130.

c) WARD J.K., 2016, « Informer sans inquiéter : rationalité et irrationalité du public dans la communication sur la grippe A », dans *Les publics de l’action publique : gouvernement et résistances*,

Villeneuve-d’Ascq, Presses du Septentrion.

d) For a description of its missions during the crisis: <https://www.santepubliquefrance.fr/dossiers/coronavirus-covid-19/covid-19-notre-action>

French people's perception of Covid-19, their support for various barrier measures and their perception of vaccines. These data have been published in a variety of ways for decision-makers, healthcare professionals and the general public, notably via the institution's website^a. Santé Publique France is directly responsible for developing communication tools and campaigns on health issues. During the Covid-19 period, it posted a number of tools on its website aimed at healthcare professionals and local actors to help them with their communication efforts. A large part of his work also seems to have involved providing input for the communication tools set up at the time of the extension of vaccination requirements in 2018, including a website designed to guide the public in all their vaccination decisions and a mirror site designed to help healthcare professionals on this topic (<https://vaccination-info-service.fr> and <https://professionnels.vaccination-info-service.fr>)^b.

While Santé publique France is traditionally responsible for producing large-scale communication campaigns on health issues, these appear to have been steered directly from the Ministry of Health in the case of vaccination against Covid-19. For example, several campaigns promoting vaccination have been deployed on radio, television, the internet and on public posters, but they refer to the Ministry and not to Santé publique France^c. The division of communication work between these two major actors therefore remains to be clarified through in-depth work.

As far as these actors are concerned, one of the social science issues that seems to be most salient for a topic such as vaccination is the question of how to deal with social inequalities. Indeed, as sociologists have shown, the principles of communication at the INPES and then Santé Publique France are characterised by a view that the State must communicate for the benefit of all French people (universalism) and refrain from targeting certain specific groups so as not to stigmatise them^d. Another

issue is the place of communication expertise versus medical expertise in shaping content. These two forms of expertise can push in opposite directions, with the former aiming in particular to ensure that messages are clear and can be understood by all, which can lead to simplifications or even imprecisions in the vocabulary that are far removed from scientific reality^e. It would therefore be interesting to analyse how the issues of social inequalities in access to and perception of vaccines have been integrated into this communication approach. For example, migrants are generally over-represented among people who are distant from the healthcare system. However, there are relatively few references to communication tools on vaccination against Covid-19 in languages other than French on the Santé Publique France and Ministry of Health websites. The <https://vaccination-info-service.fr> website, for example, is exclusively in French, as already highlighted in publications prior to the pandemic^f.

The Caisse Nationale d'Assurance Maladie (CNAM, National Health Insurance Fund)

The Caisse Nationale d'Assurance Maladie was another very important actor in supporting the vaccination campaign^g. In addition to providing analyses of vaccination coverage^h, the CNAM has been able to rely on the fact that it has the information needed to identify particularly at-risk groups and to contact them directly. Since the start of the campaign, the CNAM has contacted millions of French people - particularly those most at risk - using a variety of media (letters, emails, text messages, telephone calls) to inform them of the new stages in the campaign affecting them (opening of the initial

nutrition. Rev. Fr. Soc. 60 (3), 457-481.

*e) On this point, see also Boubal, C. (2019). L'art de ne pas gouverner les conduites. Étude de la conception des campagnes de prévention en nutrition. Rev. Fr. Soc. 60 (3), 457-481. As well as our article comparing government communication on vaccine issues in France and Australia. ATTWELL K., WARD J.K., TOMKINSON S., 2021, "Manufacturing Consent for Vaccine Mandates: A Comparative Case Study of Communication Campaigns in France and Australia", *Frontiers in Communication*, 6.*

*f) ATTWELL K., WARD J.K., TOMKINSON S., 2021, "Manufacturing Consent for Vaccine Mandates: A Comparative Case Study of Communication Campaigns in France and Australia", *Frontiers in Communication*, 6.*

g) Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022.

h) For a discussion of the differences found between the data from the Caisse Nationale d'Assurance Maladie and those analysed by Santé Publique France, see : Cour des Comptes, La Vaccination contre la COVID-19 : Des résultats globaux favorables, des disparités persistantes, Cour des Comptes, Paris, December 2022.

a) <https://www.santepubliquefrance.fr>

*b) For an analysis of the emergence and challenges posed by these tools, see : ATTWELL K., WARD J.K., TOMKINSON S., 2021, "Manufacturing Consent for Vaccine Mandates: A Comparative Case Study of Communication Campaigns in France and Australia", *Frontiers in Communication*, 6.*

c) See, for example, the main "À chaque vaccination, c'est la vie qui reprend" campaign, which will be rolled out in June 2021, and whose particularly attractive video can be seen here: <https://www.youtube.com/watch?v=h7HONnjqQA>

d) See in particular; Boubal, C. (2019). L'art de ne pas gouverner les conduites. Étude de la conception des campagnes de prévention en

vaccination schedule, eligibility for booster doses). Its activity seems to have been particularly intense during the early stages of the roll-out of the primary vaccination schedule against Covid-19, when these mass communications appear to have been repeated very regularly. It should also be noted that the CNAM, via its local branches, organised numerous outreach campaigns in partnership with local actors (town halls, associations). Finally, it should be noted that from July 2021, the CNAM has also made it possible for GPs to consult the list of their non-vaccinated patients, in order to encourage their initiatives.

Healthcare workers

Health professionals, and doctors in particular, are a key source of information for the vast majority of the public. We will not expose again the timing of the involvement of the various professionals in the vaccination campaign and the ways in which they intervene. We presented these elements in chapter 4. It should simply be remembered that we observed quite different degrees of support for the idea of widespread vaccination against this disease depending on the profession (doctors being more favourable than nurses, who were themselves more favourable than carers), but also a clear change over time (improvement in the first half of 2021).

Public stances of political party representatives

With Covid-19, vaccination found itself at the centre of the political agenda in a way unprecedented in French history. As a result, the campaign was caught up in political competition, with the parties attempting to highlight their differences on the basis of this issue. In particular, parties outside the government expressed a number of criticisms of the government's action in this area.

On this point, we have not found any systematic analysis either. However, some of these positions were documented in articles dealing with the role of political identities in public attitudes to vaccination (PR^[10,11]) and in a work dedicated to analysing the circulation of false information on Twitter (PR^[12]). These articles focus on positions taken on the safety and efficacy of vaccines. In particular, they highlight the fact that several representatives of the two main opposition parties of this period, La France insoumise (LFI) (located more on the radical left side of the political spectrum) and the Rassemblement National

(RN) (radical right) expressed their doubts about the safety of these vaccines when the campaign was launched. However, they also highlight the fact that the angle of criticism adopted by these two parties seems to have changed rapidly afterwards. They later focused on the inequalities in access to these vaccines for the former and on the slowness of the campaign and certain organisational flaws for the latter. Subsequently, both parties mobilised strongly against the introduction of the health pass and, later, for the reinstatement of healthcare workers suspended for non-vaccination (see chapter 4). But their arguments focused on issues of individual freedom and the ways in which the state should intervene in health matters. Criticism of efficacy and safety of vaccines, or questioning of the government's vaccine recommendations, therefore seems to have been quickly abandoned by the most visible members of these parties. It should be noted, however, that other radical right-wing parties have taken a clear stance against vaccines. This is particularly true of Les Patriotes, a party led by Florian Philippot, whose position in the Twitter political landscape on the subject of vaccines seems to have been particularly important (PR^[12]). The main ecologist party defined a resolutely "pro-vaccine" line in 2017. However, it still included one of the leading political figures of vaccine criticism, MEP Michèle Rivasi, who has repeatedly criticised the safety and efficacy of vaccines against Covid-19. However, her stance does not seem to have received much public visibility.

It would be necessary to carry out a more systematic analysis of the speeches of the representatives of these parties, and in particular their speeches on the dangerousness of Covid-19. It would also be necessary to analyse the position of other parties, such as the former main parties in the French political landscape (the Parti Socialiste and the Republicains^a). It should also be noted that there can be a significant gap between a party's official position and that conveyed on the ground by its activists or supporters. However, a systematic analysis of content published on French-language Twitter showed that Twitter users close to radical left and right-wing movements were very present among

a) For example, there was a wide range of reactions to the announcement of the extension of the health pass from representatives of parties outside the government. See for example: https://www.lemonde.fr/politique/article/2021/07/13/covid-19-face-a-l-extension-du-passe-sanitaire-les-oppositions-sont-partagees_6088135_823448.html

vaccine critics even after the change in positioning of the parties' figureheads (PR^[13]).

Finally, the government party, La République en Marche, which became Renaissance in 2022, should not be completely ignored. While most of the communication embodied by members of this party has been as representatives of institutions involved in vaccine policy (ministers and the president, in particular), other members of the party have also regularly spoken out on vaccine issues. In addition to possible dissensions within this party, a more systematic analysis of the speeches of its members could reveal other ways of politicising the vaccine issue, by politicizing the defense of vaccination.

General news media

Despite the widespread use of online social media, the traditional general news media remain one of the main sources of information for a large proportion of the public. Their influence is doubled by their ability to set the agenda of political news, the themes of discussion on which exchanges on online social media often focus. Unfortunately, we have not identified any systematic analysis of media coverage of vaccine issues, or of the related subject of epidemic risk, or of the diversity of coverage offered by different media^a. This is probably due at least in part to the scale of the task. Studies carried out by the Institut National de l'Audiovisuel (INA) at the start of the pandemic showed the unprecedented importance of Covid-19 in media coverage^b. Some researchers have established the chronology of coverage of key moments in the campaign or identified certain media framings common during the period, but these analyses are not based on a systematic analysis of the data or a validated methodology (PR^[15-17]).

In our brief overview of the debates on the subject of vaccines in this section and in previous chapters, we mentioned the fact that a variety of actors criticising or raising questions about these vaccines have benefited from a certain amount of visibility in the general news media. In particular, this seems to be more specifically the case for those who are most likely to belong to the world of medicine and scientific research (current or former researchers

and professors of medicine). This visibility seems to have been concentrated in the early stages of the campaign (between the end of 2020 and the end of 2021). It also seems to have been higher on 24 hour news channels and especially in the general news media closest to the far right (CNEWS, Sud Radio and Valeurs Actuelles). That said, these informal observations need to be tested through systematic analysis.

Above all, it is crucial to draw on research into changes in the profession of journalist and the media industry to shed light on the media treatment of the Covid-19 vaccination. Indeed, when it is mentioned that the media give a voice to vaccine critics, the spontaneous tendency is to explain this as the normal product of journalists' adherence to a vision of objectivity that balances different, even opposing, points of view, and their preference for controversy and scandal. These elements are indeed part of the explanation, but they are far from exhausting it. In particular, they do not explain why there are differences in coverage over time, depending on the media, or why certain critical actors and arguments are made visible while others are not. Above all, they do not enable us to understand the phenomenon, noted by all observers of the vaccination campaign, whereby the general news media were, for a large part of the time, supportive of the campaign, positioning themselves as auxiliaries to this public policy and disseminating information enabling people to determine whether they were covered by the recommendations and practical information for getting vaccinated. French sociology has produced a large body of work showing the diversity of the constraints bearing on journalists, their dependence on their sources and particularly on the political arena, the importance of professional credibility in their work and the way in which they negotiate these contradictory injunctions^c.

c) See in particular the classic works MARCHETTI D., 2010, *Quand la santé devient médiatique: Les logiques de production de l'information dans la presse*, 1st edition, Grenoble, PUG, 191 p. LEMIEUX C., 2000, *Mauvaise presse*, Paris, Métailié, 466 p.

For references in English, see MARCHETTI D., 2005, "Sub-Fields of Specialized Journalism", in Bourdieu and the Journalistic Field, New York, Wiley, pp. 64-84. MARCHETTI D., CHAMPAGNE P., 2005, "The Contaminated Blood Scandal. Reframing Medical News", in Bourdieu and the Journalistic Field, New York, Wiley, p. 113-134.

For thoughts on science journalism developed during the pandemic, see for example: <https://larevedesmedias.ina.fr/epidemie-Covid-19-avenir-journalisme-scientifique-sante%E2%80%933sciences>, <https://larevedesmedias.ina.fr/coronavirus-etude-bilan-antenne-television-information-personnalites-femmes> <https://larevedesmedias.ina.fr/coronavirus-programmateur-emissions-tv-radio-invites-experts>

a) For exceptions, see for example (PR^[14])

b) See, for example, the analysis carried out by the Institut National de l'Audiovisuel at the start of the pandemic: <https://larevedesmedias.ina.fr/traitement-mediatique-pandemie-un-an-covid-19-coronavirus-chiffres-morts-information-polemique>

In particular, the work of Dominique Marchetti has highlighted the extent to which the treatment of health issues in a polemical or controversial mode is recent and still limited in France. More generally, his work has shown the obstacles to the generalisation of this approach and the fact that there are other approaches that also respond to the competitive injunctions to attract audiences. This analysis was used in particular to examine the way in which journalists dealt with criticism of vaccines during the 2009 influenza A(H1N1) pandemic^a.

The media industry and the political field have changed dramatically since 2009. The general news media have continued to decline, while new media have emerged that are more focused on opinion and editorial formats, and more anchored on the far right. At the same time, one of the ways in which the media reacted to the development of online social media was to strengthen their position as guardians of the boundaries of legitimate debate, in particular through the proliferation of fact-checking and online rumour *debunking* formats^b. It is possible that these changes have prolonged or reinforced some of the trends observed prior to the Covid-19 pandemic. For example, the criticism of Covid-19 vaccines described above have been the main target of these fact-checking exercises^c, as vaccine critical contents in general had been before the Covid-19 pandemic. But it is also possible that the rise of the far right and the media clearly positioned as supporters of this movement have resulted in a relative political polarisation of the media, a phenomenon that would be relatively new in France since the rise of the media industry after the Second World War^d.

a) Ward, J. K. *Journalists and Science: Boundary-making in the media coverage of the 2009 pandemic flu vaccine's safety in France*. *Sociologie* (2019). Ward, J. K. *Journalists and Science 2: diversity in the media coverage of the 2009 pandemic flu vaccine's safety in France*. *SocArXiv* 1-31 (2020).

b) See in particular, BIGOT L., 2018, « Rétablir la vérité via le fact-checking : l'ambivalence des médias face aux fausses informations », *Le Temps des médias*, 30, 1, p. 62-76. NICEY J., 2022, « Le fact-checking en France, une réponse en condensé du journalisme face aux transformations numériques des années 2000 et 2010 », « Les Enjeux de l'information et de la communication », 23/1, 1, p. 67-79. VAUCHEZ Y., 2019, « Les mythes professionnels des fact-checkers. Un journalisme de données au service de la vérité », *Politiques de communication*, 12, 1, p. 21-44.

c) For an initial exploration of what the fact-checkers have done on this subject and a comparison with the discourse of some of the critics, see (PR[18]).

d) MARCHETTI D., 2010, *Quand la santé devient médiatique : Les logiques de production de l'information dans la presse*, 1re Grenoble, PUG, 191 p.

Social media and the mobilisation of ordinary citizens

As in many countries, the circulation of false information on social media was a major concern in France long before the Covid-19 pandemic. Its role in shaping negative attitudes towards vaccines has been widely analysed and discussed in the international literature for over 10 years. However, much of the analysis carried out on this subject has remained within the framework of the first studies in the field, which diagnosed the widespread circulation of “fake news”. However, the state of the literature on this subject has evolved considerably since the initial, particularly alarmist studies. The idea that “fake news” would spread more rapidly and widely than verified information is now widely considered to be an exaggerated diagnosis, even if the ability of actors producing discourse that breaks with the scientific consensus to reach a wider audience on these platforms remains a major concern^e. The evolution of these ideas reflects both the progress of research in this field and, in particular, the gradual transformation of the methodologies adopted and the platforms studied. But it also reflects significant changes in the way platforms operate. We have seen the beginnings of a desire to regulate or limit the circulation of false information. Indeed, the Covid-19 pandemic coincided with a period when measures to combat misinformation were being stepped up on several platforms.

Analyses of content about vaccines circulating during the pandemic on social media or published on websites seem to have been relatively rare in France^f. A number of researchers have produced interesting reflections on the tools that can be used to analyse online content, particularly on Twitter, mentioning several pieces of content critical of vaccines that

e) For recent literature reviews on this subject, see : ALTAY S., BERRICHE M., ACERBI A., 2023, "Misinformation on Misinformation: Conceptual and Methodological Challenges", *Social Media + Society*, 9, 1, p. 20563051221150412. SCHEUFELE D.A., KRAUSE N.M., FREILING I., 2021, "Misinformation About The "Infodemic?" Science's Ongoing Struggle With Misinformation", *Journal of Applied Research in Memory and Cognition*, 10, 4, pp. 522-526.

f) For analyses of content published before the Covid-19 pandemic, see : CAFIERO F., GUILLE-ESCURRET P., WARD J.K., 2021, "I'm not an antivaxer, but...": Spurious and authentic diversity among vaccine critical activists", *Social Networks*, 65, p. 63-70. GARGIULO F., CAFIERO F., GUILLE-ESCURRET P., SEROR V., WARD J.K., 2020, "Asymmetric participation of defenders and critics of vaccines to debates on French-speaking Twitter", *Scientific Reports*, 10, 1, p. 6599. WARD J.K., PERETTI-WATEL P., LARSON H.J., RAUDE J., VERGER P., 2015, "Vaccine-criticism on the internet: new insights based on French-speaking websites", *Vaccine*, 33, 8, pp. 1063-1070.

circulated widely (PR^[6,12,19-22]). In a report on disinformation on climate issues, researchers at the Institut des Systèmes Complexes d'Île de France documented the fact that the main French relayers of false information on this subject on Twitter were also heavily engaged in vaccine debates during the pandemic (NPR^[23]). In a book devoted to the issue of online disinformation, David Chavalarias, director of the institute, mapped the evolution of political communities on the subject of vaccines during the pandemic, showing in particular the important role played by far right movements (PR^[12]). In addition, a group of researchers including one of the authors of this report has proposed a systematic analysis of French-language content published on the subject of vaccines on Twitter between January 2020 and October 2021 to study the evolution of the influence of French vaccine critics (PR^[13]). They found that, despite the intensity of their mobilisation, their ability to reach a new audience had been limited to users who were particularly suspicious of institutions. Finally, another group of researchers compared the discussions on Twitter in four languages generated by the reporting of adverse events potentially linked to Astra Zeneca's vaccine in early 2021 (PR^[24]). One of their main findings was that discussions in French seemed more negative and focused on risks of this vaccine than those in English, Spanish and Portuguese.

As we can see, the existing research is scarce and has focused on one specific platform: Twitter. However, the type of discourse allowed to be expressed, the ability of heterodox discourse to circulate and the socio-cultural profile of users depend greatly on how each platform operates. It is therefore necessary to diversify the platforms studied but also, in line with recent developments^a, to work on the circulation of content between platforms. In particular, work prior to the pandemic showed a certain segmentation of information between the various platforms and websites in France^b. The debate on the ability of vaccine critics to reach a wide and diverse audience would therefore benefit from the development of studies into the strategies they use to invest in the various platforms and

a) See for example MORALES P.R., COINETET J.-P., BENBOUZID B., CARDON D., FROIO C., METIN O.F., TABANOU B.O., PLIQUE G., 2021, «Atlas multi-plateforme d'un mouvement social : le cas des Gilets jaunes», *Statistique et Société*, 9, 1-2, p. 39-77.

b) INSTITUT MONTAIGNE, 2019, «Media Polarization «à la française»? Comparing the French and American ecosystems», Paris, Institut Montaigne.

the obstacles (or otherwise) to the circulation of their content. In addition, approaches combining quantitative and qualitative methods need to be developed. Finally, it should be noted that this work has focused on mobilisations critical of vaccines. In the years leading up to the pandemic, however, there was a resurgence of mobilisation in defence of science, in particular with the formation of collective movements that were very active on social media. This activism invested heavily the vaccine issue, and their mobilisations began to be explored before the pandemic^c. Did this mobilisation in favour of vaccines continue during the Covid-19 pandemic? How did it fit in with the very high visibility of the Government and of central actors of the healthcare system and the relative politicisation of the debates on this issue?

How does the public navigate public debates on vaccines

Turning our attention to social media also highlights the importance of taking account of the public as participants in the information landscape on vaccine issues. Ordinary users of these platforms share or like the content of the activists and organisations mentioned above, but they also comment on it and publish their own opinions on these subjects. The analysis of the elements published on social media mentioned above is an initial approach to ordinary participation in public debates on vaccines. But this subject remains largely unexplored.

Indeed, few works have dealt directly with this question. Who discussed this subject intensely? To say what? To whom? What are the social geographies of discussions about vaccines? We have been able to identify very little data that goes beyond

c) WARD J.K., GUILLE-ESCURET P., ALAPETITE C., 2019, "Les 'antivaccins', figure de l'anti-Science", *Déviance et Société*, 43, 2, p. 221-251. For an analysis of certain pro-vaccine mobilisations rooted in rationalist movements abroad, see VANDERSLOTT S., 2019, "Exploring the meaning of pro-vaccine activism across two countries".

Social Science & Medicine, 222, p. 59-66. For an analysis of "rationalist" or "pro-science" mobilisations over the long term, see LAURENS S., 2019, *Militer pour la science: Les mouvements rationalistes en France*, Paris, Editions de l'Ecole des Hautes Etudes en Sciences Sociales, 244 p.

For works on certain aspects of these mobilisations in the more recent period, see : BAUR M., 2021, "La lutte contre la désinformation sur YouTube", *Communication. Information médias théories pratiques*, Vol. 38/2. DAUPHIN F., 2022, "Succès et limites du debunking pour lutter contre la désinformation", *Questions de communication*, 42, p. 315-332. VAUCHEZ Y., 2019, "Les mythes professionnels des fact-checkers. Un journalisme de données au service de la vérité", *Politiques de communication*, 12, 1, p. 21-44.

the question of attitudes, representations and beliefs about vaccines - dealt with in Chapter 3 - to examine communication, discussion, advice and ordinary participation to mobilisations in France during the Covid-19 pandemic. In a questionnaire survey conducted in May 2021, researchers asked respondents “Would you ask your family and friends to be vaccinated for your protection?” and found that only 44.2% would do so (NPR^[25]). Older people were logically very over-represented among them. A similar survey carried out a year later asked respondents who had given them advice on vaccination against Covid-19. It found that 42.2% of respondents had received advice from doctors, 11.2% from pharmacists, 8.7% from nurses and 7.5% from other healthcare professionals. Only 3.8% of respondents said they had received advice from people on social media and 18.5% from family and friends, while 31.1% of respondents said they had not received advice from anyone (NPR^[26]).

More data seems to have been collected on the relationship between the use of social media as a source of information and negative attitudes towards vaccines. For example, people who ranked social media among their top three sources of information were over-represented among those who would not get a booster shot against Covid-19 in a survey carried out in summer 2022 (NPR^[5]). In a joint analysis of four surveys of this type carried out between summer 2021 and summer 2022, an article showed that this use of social media was associated with negative attitudes towards vaccines in general (PR^[27]). But it also showed that this preference for social media was only present among a minority of respondents displaying negative attitudes to a diverse set of vaccines (around a third of people who were wary of vaccines in general and of the group who were wary of certain vaccines in particular but not of vaccines in general). In-depth interviews have also been used to contextualise the relationship between the use of social media and vaccine hesitancy. In a qualitative study conducted in the second half of 2020 among volunteers working with the French Red Cross, Heyerdahl, Lana and Gilles-Vernick showed that a large proportion of their interviewees were regularly confronted with false information via social media (PR^[21]). But they also showed that their interviewees were very aware of the circulation of false information and tended to be very suspicious of the information they came across on the Internet^a. Above all, they revealed the extent

to which their respondents seemed to be inundated with contradictory and anxiety-inducing information from all kinds of sources, which they could never fully trust. The work of Jérôme Gaillaguet, who conducted interviews with 39 people at regular intervals between 2016 and 2021, led him to a similar conclusion (PR^[28]). He also showed that, before and during the pandemic, coming across content critical of vaccines on the internet was fairly common among his respondents. However, he also highlighted the extent to which the trajectories of reflection and decision of his respondents were complex, in particular because they had been made aware of the issue of the circulation of unreliable information on social media. He also described the difficulty faced by many when navigating in an information landscape where it was difficult to identify which sources were reliable and trustworthy. Moreover, several questionnaire surveys have highlighted the dissatisfaction of part of the French population with the vaccine information they came across during this period. For example, a questionnaire survey carried out in May 2022 found that a third of respondents (a representative sample of the adult population living in France) felt they had not been properly informed about the Covid-19 vaccine (NPR^[26]). A similar survey carried out in the summer of 2022 showed that this impression was rooted in dissatisfaction with official communication on these subjects (NPR^[5]). It showed that 60.5% of respondents felt that the authorities had deliberately withheld certain information from the public, and 56.1% thought that certain scientific information on vaccines had been concealed. Only 42.6% said that the scientific reasons for the decisions taken to manage the pandemic had been properly explained by the authorities. In addition to the issue of transparency, there is also the issue of the clarity of the explanations provided. For example, only 39.2% of respondents said that the authorities had properly informed the public about the scientific uncertainties surrounding Covid-19, and 52% said that information about vaccines was too complicated.

These results are not specific to the period of the pandemic. Before the pandemic, interviews with mothers aimed at gaining a better understanding of their decision-making processes regarding the vaccination of young children, also highlighted these themes^b. Above all, surveys of media use show that

see Berriche, M. *Enquête de sources Politiques de communication* 16, 115-154 (2021)

a) For a discussion of this subject using data from before the epidemic,

b) PERETTI-WATEL P., WARD J.K., VERGELYS C., BOCQUIER A., RAUDE

social media and the Internet more generally suffer from a generally low level of credibility in France^a despite the growing number of people using them to find information.

Intervention research at the bedside of vaccination

We will conclude this chapter by looking at intervention research, a field which is developing in France. In recent years, several research teams have attempted to develop tools aimed at convincing people to vaccinate themselves or their children. As well as being of interest for public health, this work can be informative regarding how people process the information they come across about vaccines. For example, at the end of 2020, a team of psychologists developed a *chatbot* capable of responding to people's apprehensions about vaccines against Covid-19, and successfully tested its effectiveness on vaccination intentions (PR^[29]). In particular, this *chatbot* provided answers to questions such as the hindsight available on vaccine safety and how that safety has been tested. Another team has developed an interactive tool to improve vaccination intentions among people suffering from chronic illnesses (PR^[30]). Moreover, several major projects have been dedicated to improving attitudes to HPV vaccination. One team has developed a serious game for middle school pupils, which has been tested on thousands of them and discussed in focus groups (PR^[31]). Another team used *Discrete Choice Experiments* to test the comparative effectiveness of different types of message about this vaccine with teenagers in secondary schools (PR^[32]). Finally, a major multi-tool project has been developed involving interventions aimed at training healthcare professionals, facilitating access to vaccines and developing communication tools for different audiences (PR^[33,34]). The team that developed this project explained the method used to build this intervention, in particular the way in which it was based on research into attitudes to vaccines

and involved the stakeholders in vaccination. In addition to these interventions developed in France, we should also note the publication of a theoretical article by French researchers presenting their thoughts on how to integrate context in intervention research (PR^[35]).

Work has also been carried out in France to provide proof of concept that an educational strategy based on motivational interviewing performed by midwives with parents in maternity wards in the days following childbirth, can reduce vaccine hesitancy among parents. This intervention was largely inspired by work conducted in Quebec and the widespread use of this strategy as part of the EMMIE programme (Programme d'entretien motivationnel en maternité pour l'immunisation des enfants^b).

Motivational interviewing is an educational strategy based on listening, empathy, non-judgement and respect for the individual's autonomy, and has been used successfully in a number of areas (addictions, diet, vaccination, etc.). The study (a cluster randomised trial comparing motivational interviewing with the distribution of a vaccination brochure) showed a significant reduction immediately after the intervention as well as 7 months later. It was also shown to be effective in socially disadvantaged groups and to elicit high levels of parental satisfaction (PR^[36]). In another study, health mediators involved in outreach programmes for disadvantaged populations in Marseille during Covid-19 were trained in the use of motivational interviewing in the context of vaccination. The evaluations showed that they had successfully acquired the technical know-how to use motivational interviewing, and that it had a positive impact on the people approached during outreach programmes in poor neighbourhoods of Marseilles, with, in particular, an increase of more than 50% in their intention to be vaccinated against Covid-19 and/or to have a Diphtheria-Tetanus-Polio booster shot (PR^[37]).

J., VERGER P., 2019, "I think I made the right decision... I hope I'm not wrong". *Vaccine Hesitancy, commitment and trust among parents of young children*; *Sociology of Health & Illness*, 41, 6, p. 1192-1206.
WARD J.K., CRÉPIN L., BAUQUIER C., VERGELY S., BOCQUIER A., VERGER P., PERETTI-WATEL P., 2017, "I don't know if I'm making the right decision": French mothers and HPV vaccination in a context of controversy; *Health, Risk & Society*, 19, 1-2, pp. 38-57.

a) See in particular the barometer of confidence in the media produced by the Kantar polling institute: <https://kantarpoll.com/fr/barometres/barometre-de-la-confiance-des-francais-dans-les-media/barometre-2023-de-la-trust-of-the-french-in-the-media>

b) Gagneur A., *Motivational interviewing: A powerful tool to address vaccine hesitancy*, *Canada Communicable Disease Report (CCDR)*, 46(4), 93-97, 2020. <https://www.msss.gouv.qc.ca/professionnels/vaccination/programme-d-entretien-motivationnel-en-maternite-pour-l-immunisation-des-enfants-emmie/>

Conclusion

We ended this chapter by discussing the relationship between widely circulating information and the way in which people form their attitudes to vaccines. In the case of the Covid-19 vaccination, current publications already shed light on some of the phenomena described in Chapter 3. However, the lack of large-scale systematic research into the coverage of the Covid-19 vaccination in the general news media and on the various social media remains an obstacle to a detailed understanding of the mechanisms by which attitudes to vaccines formed since 2020. This study would also be a crucial cog in a wider project aimed at monitoring the Covid-19 pandemic's place in the collective memory over the long term, and the lessons that the French will draw from it^a. It is true that, unlike the first lockdown, for example, vaccination against Covid-19 is not an event with clearly defined boundaries. With booster shots and the opening up of the vaccination to younger children, it continued to spread well after the initial campaign, which saw over 90% of French adults undergo an initial schedule. For many people, the question of whether to be vaccinated against Covid-19 now arises every year, as it does for influenza. The evolution of the virus in circulation and of the vaccines on offer to the public renew the parameters of this reflection. Nevertheless, the intensity of the public debates and discussions sparked by the arrival of these vaccines, the organisation of the campaign and the introduction of the health pass make the first years of the pandemic a major moment, which raises the question of its place in the trajectories of French people's relationship with vaccines, the healthcare system and science.

a) In this area, for example, the Institut de Recherche pour le Développement (IRD) is to set up the Ad Memoriam Institute at the end of 2021 to help build a memory of the pandemic, in particular by collecting and archiving testimonies and other traces of the events that took place during this period. See: www.institutcovid19admemoriam.com

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35. Nguyen, T. et al. Embracing context: Lessons from designing a dialogue-based intervention to address vaccine hesitancy. *Frontiers in Public Health* 11, 1069199 (2023).
36. Verger, P. et al. A postpartum intervention for vaccination promotion by midwives using motivational interviews reduces mothers' vaccine hesitancy, south-eastern France, 2021 to 2022: a randomised controlled trial. *Eurosurveillance* 28, 2200819 (2023).
37. Cogordan, C. et al. Motivational interview-based health mediator interventions increase intent to vaccinate among disadvantaged individuals. *Human Vaccines & Immunotherapeutics* 19, 2261687 (2023).



| Conclusion

It should be remembered that this first edition does not include work published after June 2023, and that we have certainly missed some of the work that falls within the scope of this report. Once again, we invite our readers to help us correct these shortcomings.

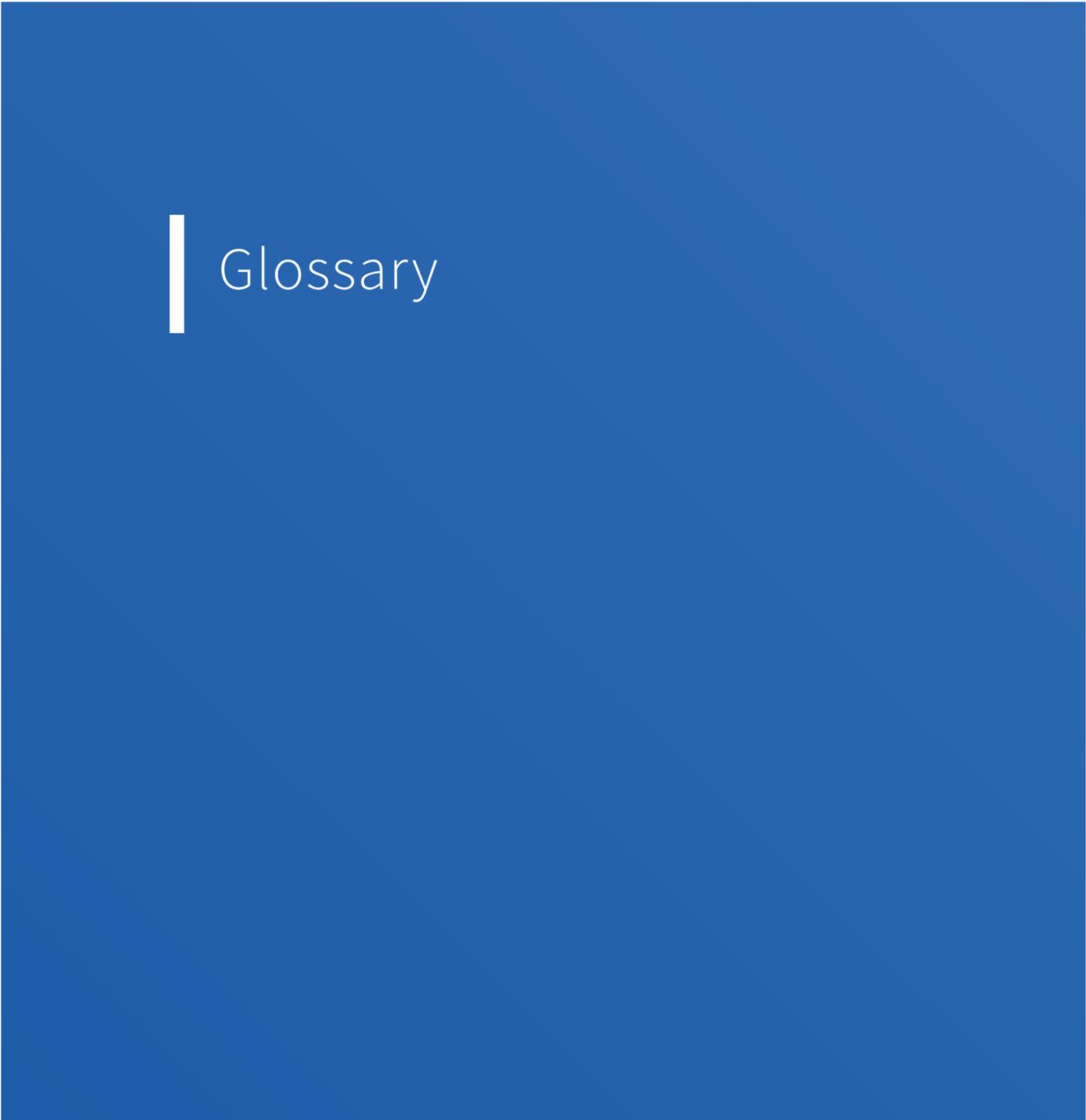
With regard to vaccine recommendations and their evolution during the Covid-19 vaccination campaign, chapter 1 focused on describing the succession of expert opinions, and highlighted the lack of published work, for the time being, on the institutional and decision-making aspects of this campaign, as well as on the controversies between experts (concerning, for example, the impact of the vaccine on transmission, or the measurement of a vaccine's efficacy).

The same provisional observation applies to the organisation and conduct of the campaign (chapter 2), whether in terms of coordination between the State and local authorities, or communication about vaccines.

On the other hand, with regard to people's vaccine attitudes and behaviours, and the factors that determine them (chapter 3), we have seen that a large number of studies, mostly quantitative and often non-academic and highly descriptive, have already been published throughout the pandemic. What remains to be done is to capitalise on this mass of data, bearing in mind that the sheer volume of data and the diversity of the analyses carried out require a great deal of standardisation and contextualisation, and that we are also expecting a great deal of yet unpublished research based on qualitative methodologies.

As for the attitudes and vaccination behaviours of healthcare workers (chapter 4), this area of research was still relatively underdeveloped before the pandemic, but has certainly never been studied to the extent that it has since 2020. The work carried out on this subject has highlighted both the wide disparity in these behaviours and attitudes depending on the position occupied in the hierarchy of healthcare professions and organisations, and the need to place these issues in the context of changes and tensions in the healthcare system more generally. This latter issue is particularly important in the context of the extension of vaccination prerogatives to those healthcare workers that are currently suffering the most from these tensions.

Finally, with regard to communication, public debate and the information landscape during the vaccination campaign, beyond the initial work presented in Chapter 5, it is worth highlighting the lack of systematic, large-scale research into the coverage of the Covid-19 vaccination campaign in the various available media. Such work is all the more necessary that the stories that crystallize around the pandemic and this vaccination campaign will undoubtedly leave a deep and lasting mark on the collective memory, and will certainly have an impact on vaccination in the future.



Glossary

ANR: French National Research Agency

ANSM: French National Agency for the Safety of Medicines and Health Products.

CARE: Comité Analyse Recherche Expertise. The Comité Analyse Recherche Expertise (CARE) is a committee of experts set up on 20 March 2020 to advise the government on aspects relating to the organisation of research into Covid-19.

CCNE: Comité consultatif national d'éthique pour les sciences de la vie et de la santé. This is a committee of experts set up in 1983 to advise on all ethical aspects of medical and health issues.

CNAM: Caisse Nationale d'Assurance Maladie (National Health Insurance Fund).

Comité Scientifique Vaccin COVID-19: The COVID-19 Vaccine Scientific Committee is a committee of experts set up in July 2020 to advise the government on aspects relating to Covid-19 vaccine research and production.

COSV: Conseil d'orientation de la stratégie vaccinale (Vaccine Strategy Steering Committee). This expert committee was set up on 3 December 2020 to advise the government on "the scientific, medical and societal aspects of the design and strategic implementation of vaccine policy". It was dissolved during the summer of 2022.

Conseil Scientifique Covid-19: The Covid-19 Scientific Council is a committee of experts set up on 11 March 2020 to advise the government on all scientific aspects of the Covid-19 epidemic. It was dissolved in July 2022.

CTV: Commission Technique des Vaccinations (Technical Commission on Vaccinations), the main body providing expert advice on vaccination to the French public authorities. The CTV is one of the commissions sitting within the Haute Autorité de la Santé. Prior to 2017, it was part of the Haut Conseil de la Santé Publique.

DROM: French Overseas Departments and Regions

EHPADs: Care homes for dependent elderly people

HAS : The Haute Autorité de Santé is a public agency ("independent scientific authority with legal personality") created in 2004 with the following missions: assessing medical products with a view to their reimbursement, formulating recommendations and guides to good practice in the field of healthcare and certifying healthcare establishments.

HCSP: Haut Conseil à la Santé Publique (High Council for Public Health). Created in 2004, the HCSP is an expert body that issues opinions and recommendations on a wide range of health issues. It is made up of specialised commissions and working groups.

NPR: Non-Peer-reviewed. Published without review by other researchers.

ONIAM: Office National d'Indemnisation des Accidents Médicaux (National Office for Compensation for Medical Accidents)

PR: Peer reviewed. Published following evaluation by other researchers.

SPF: Santé Publique France is an agency of the Ministry of Health responsible for a range of tasks, including epidemic surveillance, health monitoring, the implementation of prevention and health promotion strategies and several aspects of health crisis preparedness.

SHS: Human and Social Sciences

WHO: World Health Organisation



Appendix 1:

Scientific publications

**Full list of references cited with their abstracts,
presented in alphabetical order of authors.**

Algan Y., Cohen D., Davoine E., Foucault M., Stantcheva S., Trust in scientists in times of pandemic: Panel evidence from 12 countries, Proceedings of the National Academy of Sciences (PNAS), vol. 118(40), 2021. DOI: 10.1073/pnas.2108576118

This article analyses the specific and critical role of trust in scientists on both the support for and compliance with nonpharmaceutical interventions (NPIs) during the COVID-19 pandemic. We exploit large-scale, longitudinal, and representative surveys for 12 countries over the period from March to December 2020, and we complement the analysis with experimental data. We find that trust in scientists is the key driving force behind individual support for and compliance with NPIs and for favourable attitudes toward vaccination. The effect of trust in government is more ambiguous and tends to diminish support for and compliance with NPIs in countries where the recommendations from scientists and the government were not aligned. Trust in others also has seemingly paradoxical effects: in countries where social trust is high, the support for NPIs is low due to higher expectations that others will voluntarily social distance. Our individual-level longitudinal data also allows us to evaluate the effects of within-person changes in trust over the pandemic: we show that trust levels and, in particular, trust in scientists have changed dramatically for individuals and within countries, with important subsequent effects on compliant behavior and support for NPIs. Such findings point out the challenging but critical need to maintain trust in scientists during a lasting pandemic that strains citizens and governments.

Alleaume C., Verger P., Dib F., Ward J.K., Launay O., Peretti-Watel P., Intention to get vaccinated against COVID-19 among the general population in France: Associated factors and gender disparities, Human Vaccines & Immunotherapeutics, vol. 17(10), Pages 3421-3432, 2021. DOI: 10.1080/21645515.2021.1893069

As the coronavirus disease 2019 (COVID-19) spreads across the world, the rapid distribution of an effective vaccine and its acceptability among the population constitute priorities for health authorities. This study aimed to document attitudes of the general population toward a future vaccine against COVID-19. We used the national COCONEL surveys conducted during the lockdown to identify factors associated with vaccine refusal, in the whole population, and separately among men and women. We investigate the role of socioeconomic and demographic factors as well as exposure to COVID-19. Among the 5,018 participants, 24.0% reported their intention to refuse the vaccine. Thinking this vaccine would not be safe, being against vaccination in general, and perceiving COVID-19 to be harmless were the three main reasons given to explain vaccine refusal. Women were more likely to refuse the vaccine, especially due to a reluctance toward vaccination in general or the perception that a COVID-19 vaccine would not be safe. Some factors associated with

the intention to refuse the vaccine were the same among men and women such as a lack of prior vaccination against influenza, and concern over being infected with the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), while others differed slightly according to gender such as age, and high prevalence of COVID-19 in their region of residence. Authorities should therefore guarantee that all the necessary precautions are taken before marketing the vaccine and communicate transparently on the process of its development, and on the coverage rate required to reach herd immunity.

Altay S., Hacquin A-S., Chevallier C., Mercier H., Information delivered by a chatbot has a positive impact on COVID-19 vaccines attitudes and intentions, Journal of Experimental Psychology: Applied, vol. 29(1), Pages 52-62, 2023. DOI: 10.1037/xap0000400

The Coronavirus disease; COVID-19 vaccines will not end the pandemic if they stay in freezers. In many countries, such as France, COVID-19 vaccines hesitancy is high. It is crucial that governments make it as easy as possible for people who want to be vaccinated to do so, but also that they devise communication strategies to address the concerns of vaccine hesitant individuals. We introduce and test on 701 French participants a novel messaging strategy: A chatbot that answers people's questions about COVID-19 vaccines. We find that interacting with this chatbot for a few minutes significantly increases people's intentions to get vaccinated ($\beta = 0.12$) and has a positive impact on their attitudes toward COVID-19 vaccination ($\beta = 0.23$). Our results suggest that a properly scripted and regularly updated chatbot could offer a powerful resource to help fight hesitancy toward COVID-19 vaccines (PsyInfo Database Record (c) 2023 APA, all rights reserved).

Araujo-Chaveron L., Sicsic J., Moffroid H., Díaz Luévano C., Blondel S., Langot F., Mueller JE, Impact of a COVID-19 certificate requirement on vaccine uptake pattern and intention for future vaccination. A cross-sectional study among French adults. Vaccine, vol. 41(37), Pages 5412-5423, 2023. doi.org/10.1016/j.vaccine.2023.07.002

Background: In August 2021, France enacted a COVID-19 certificate requirement (vaccination/recovery/test) to access specific services, with mandates for professional groups. We evaluated the impact of this incentive-coercive policy in terms of vaccine uptake equality, future vaccine intention and confidence in authorities' crisis management. **Methods:** In late August 2021, a representative sample of adults (18-75 years) completed an internet-based questionnaire. We classified vaccinated participants by stated reasons for vaccination and estimated adjusted prevalence ratios (aPR) using multivariable Poisson regression. Counterfactual vaccine status assumed non-vaccination of those vaccinated for the certificate. We analysed the association of free-text testimonial themes with level of confidence in authorities. **Results:** Among 972 participants, 85.7% were vaccinated or intended vaccination: 3.6% only for certificate/mandate, 17.7% mainly for certificate/mandate plus other reasons, and 64.4% mainly for other reasons. In the counterfactual

situation, vaccine uptake would have been significantly more likely among older vs. younger participants (aPR = 1.35) and among those with moderate-high vs. low levels of confidence in authorities for COVID-19 crisis management (aPR = 2.04). In the observed situation, confidence was the only significant determinant of vaccine status (moderate-high vs. low, aPR = 1.39). Among those without genuine motivation for vaccination, professionally active persons were more likely to have ceded to the certificate requirement (aPR = 3.76). Those vaccinated only for the certificate were more likely to express future COVID-19 vaccine intention than unvaccinated persons (aPR = 6.41). Themes significantly associated with lower confidence were criticism of morality (aPR = 1.76) and poor communication by the authorities (aPR = 1.66). **Conclusion:** The incentive-coercive policy has reduced the negative association of vaccine status with younger age and low confidence in authorities, but may have reinforced isolation of professionally inactive persons. The requirement did not negatively impact future COVID-19 vaccine intention. Future vaccine- incentive policies should pay special attention to populations with low levels of confidence in authorities.

Bajos N., Bagein G., Spire A., Costemalle V., Sireyjol A., Guss M., Warszawski J., the EpiCov team, Bagein G (DREES), Costemalle V (DREES), Council E (Ined), Deroyon T (DREES), Meyer L (Inserm, univ. Paris-Saclay, AP-HP), Pailhé A (Ined), Rahib D (Santé publique France), Sillard P (Insee).Spire A(CNRS) (2023, August), *Couverture vaccinale contre le Covid-19 : des inégalités sociales toujours marquées à la fin de la campagne vaccinale, Études et résultats*, vol. 1280, 2023.

According to the fourth part of the national EpiCov survey, by the end of 2022, 83% of people aged 18 and over in mainland France said they had received a full course of the Covid-19 vaccine, and 93% said they had received at least one dose. The rates measured in Guadeloupe, Martinique and La Réunion, the three overseas departments and regions (DROMs) surveyed, were significantly lower. Despite the fact that vaccination is free in France, there are significant social inequalities in vaccination practices within the population. Individuals without a complete vaccination schedule are more likely to be of modest means, blue-collar workers and people from non-European immigrant backgrounds, as well as people living in mainland France who come from a DROM or who have a parent from a DROM; they frequently declare a low level of trust in government and scientists; and they more often report having experienced discrimination. Social inequalities in vaccination coverage are also found among minors, with differences according to age.

Bajos N., Costemalle V., Leblanc S., Spire A., Franck J-E., Jusot F., Sireyjol A., Warszawski J., The EpiCov study group, *Recours à la vaccination contre le Covid-19 : de fortes disparités sociales, Études et résultats*, vol. 1222, 2022. <https://drees.solidarites-sante.gouv.fr/publications-communique-de-presse/etudes-et-resultats/recours-la-vaccination-contre-le-covid-19de#:~:text=En%20juillet%202021%2C%2070%20%25%20des,des%20cadres%20ou%20anciens%20cadres>

Vaccination against Covid-19 is being rolled out progressively in France from January 2021, initially targeting the elderly or people with health problems likely to increase the risk of developing a serious form of the disease. Carried out in July 2021, the third part of the Epidemiology and Living Conditions survey (EpiCov) reveals marked social inequalities in terms of vaccination uptake. While almost three quarters of adults had already been vaccinated by that date (at least once), nine out of ten people in the top 10% of the population had been vaccinated, compared with five out of ten in the bottom 10%. At the time of the survey, 8% of the adult population of mainland France said they did not wish to be vaccinated. More than half of these people said they had no confidence at all in the government's efforts to limit the spread of the virus, compared with one in eight of those who had been vaccinated. Finally, a third of parents say they are not ready to have their child aged between 5 and 11 vaccinated, while one in six do not yet know whether they would be ready to do so. The fact that a parent has been vaccinated is a major factor in their child's willingness to be vaccinated.

Bajos N., Spire A., Silberzan L., for the EPICOV study group, *The social specificities of hostility toward vaccination against Covid-19 in France*, PLoS One, vol. 17(1), 2022. DOI: 10.1371/journal.pone.0262192

Equal Access to the COVID-19 vaccine for all remains a major public health issue. The current study compared the prevalence of vaccination reluctance in general and COVID-19 vaccine hesitancy and social and health factors associated with intentions to receive the vaccine. A random socio-epidemiological population-based survey was conducted in France in November 2020, in which 85,855 adult participants were included in this study. We used logistic regressions to study being "not at all in favour" to vaccination in general, and being "certainly not" willing to get vaccinated against Covid-19. Our analysis highlighted a gendered reluctance toward vaccination in general but even more so regarding vaccination against COVID-19 (OR = 1.88 (95% CI: 1.79-1.97)). We also found that people at the bottom of the social hierarchy, in terms of level of education, financial resources, were more likely to refuse the COVID-19 vaccine (from OR =

1.22 (95% CI:1.10-1.35) for respondents without diploma to OR = 0.52 (95% CI:0.47-0.57) for High school +5 or more years level). People from the French overseas departments, immigrants and descendants of immigrants, were all more reluctant to the Covid-19 vaccine (first-generation Africa/Asia immigrants OR = 1.16 (95% CI:1.04-1.30)) versus OR = 2.19 (95% CI:1.96-2.43) for the majority population). Finally, our analysis showed that those who reported not

trusting the government were more likely to be Covid-19 vaccine-reluctant (OR = 3.29 (95% CI: 3.13-3.45)). Specific campaigns should be thought beforehand to reach women and people at the bottom of the social hierarchy to avoid furthering social inequalities in terms of morbidity and mortality.

Bajos N., Spire A., Silberzan L., Sireyjol A., Jusot F., Meyer L., Franck J-E., Warszawski J., the EpiCov study group, *When Lack of Trust in the Government and in Scientists Reinforces Social Inequalities in Vaccination Against COVID-19*, Front Public Health, vol. 10, 2022. DOI: 10.3389/fpubh.2022.908152

Objective: To assess whether lack of trust in the government and scientists reinforces social and racial inequalities in vaccination practices. **Design:** A follow-up of the EpiCov random population-based cohort survey. **Setting:** In July 2021, in France. **Participants:** Eighty-thousand nine hundred and seventy-one participants aged 18 years and more. **Main Outcome Measures:** Adjusted odds ratios of COVID-19 vaccination status (received at least one dose/ intends to get vaccinated/ does not know whether to get vaccinated/ refuses vaccination) were assessed using multinomial regressions to test associations with social and trust factors and to study how these two factors interacted with each other. **Results:** In all, 72.2% were vaccinated at the time of the survey. The population of unvaccinated people was younger, less educated, had lower incomes, and more often belonged to racially minoritized groups, as compared to vaccinated people. Lack of trust in the government and scientists to curb the spread of the epidemic were the factors most associated with refusing to be vaccinated: OR = 8.86 (7.13 to 11.00) for the government and OR = 9.07 (7.71 to 10.07) for scientists, compared to vaccinated people. Lack of trust was more prevalent among the poorest which consequently reinforced social inequalities in vaccination. The poorest 10% who did not trust the government reached an OR of 16.2 (11.9 to 22.0) for refusing to be vaccinated compared to the richest 10% who did. **Conclusion:** There is a need to develop depoliticised outreach programmes targeted at the most socially disadvantaged groups, and to design vaccination strategies conceived with people from different social and racial backgrounds to enable them to make fully informed choices.

Barbaroux A., Benoit L., Raymondie R.A., Milhabet I., *Nudging health care workers towards a flu shot: reminders are accepted but not necessarily effective. A randomized controlled study among residents in general practice in France*, Family Practice, vol. 38(4), Pages 410-415, 2021. DOI: 10.1093/fampra/cmab001

Background: A nudge corresponds to any procedure that influences choice architecture, without using persuasion or financial incentives. Nudges are effective in increasing vaccination with heterogeneous levels of acceptability. **Objective:** To evaluate the effectiveness and acceptability of a nudge promoting influenza vaccination for general practice trainees, also called residents. **Methods:** The hypothesis was that a reminder would be efficient and

accepted and that prior exposure to a nudge increases its acceptability. Residents were randomly divided into three parallel experimental arms: a nudge group, a no-nudge group and a control group in order to evaluate the Hawthorne effect. The nudge consisted of providing a paper form for the free delivery of the vaccine and contacts for occupational health services. **Results:** The analysis included 161 residents. There was a strong consensus among the residents that it is very acceptable to nudge their peers and patients. Acceptability was better with residents exposed to the nudge and with residents included in step 1 (Hawthorne effect). The nudge did not increase vaccination coverage. **Conclusion:** The failure of this nudge highlights the importance of matching an intervention to the population's needs. The experimental approach is innovative in this context and deserves further attention.

Becker B., *La vaccination contre la COVID-19 : entre responsabilité individuelle et sens moral*, Ethique Sante, vol. 18(2), Pages 96-101, 2021. DOI: 10.1016/j.ethique.2021.04.005

Vaccination against COVID-19, which began at the end of last year, is shaping up to be one of the most heated social debates of early 2021. Should people be forced to undergo vaccination in the name of their civic duty to protect the most vulnerable among us? Or should it be left to the free and informed choice of the citizen, who is the guarantor of the consequences of his or her choice, in the name of the most precious thing the Republic has to offer: freedom of choice and equality for all? But where does this democratic freedom of action and decision-making end, when it comes to the safety of the lives of some of us? Faced with this pandemic, who is to decide who should live with the individuality defended by a few or take the risk of infecting their peers by refusing vaccination? This would mean losing both what we owe to ourselves and, above all, what we owe to others: a sense of consideration for human vulnerability, and respect for the precious price of life. The philosophy of freedom and the ethics of responsibility will help us to shed humanist light on our individual and collective decisions, which today herald the common design of a shared future that concerns us all.

Bell D., Brown G.W., Oyibo W.A., Ouédraogo S., Tacheva B., Barbaud E., Kalk A., Ridde V., Paul E., *COVAX-Time to reconsider the strategy and its target*, Health Policy Open, vol. 4(376), 2023. DOI: 10.1016/j.hpopen.2023.100096

COVAX, the international initiative supporting COVID-19 vaccination campaigns globally, is budgeted to be the costliest public health initiative in low- and middle-income countries, with over 16 billion US dollars already committed. While some claim that the target of vaccinating 70% of people worldwide is justified on equity grounds, we argue that this rationale is wrong for two reasons. First, mass COVID-19 vaccination campaigns do not meet standard public health requirements for clear expected benefit, based on costs, disease burden and intervention effectiveness. Second, it constitutes a diversion of resources from more cost-effective and impactful public health programmes, thus reducing health equity. We conclude that the COVAX initiative warrants urgent review.

Bocquier A., Bruel S., Michel M., Le Duc-Banaszuk A-S., Bonnay S., Branchereau M., Chevreul K., Chyderiotis S., Gauchet A., Giraudeau B., Hagiou D-P., Mueller J.E., Gagneux-Brunon A., Thilly N., PrevHPV Study Group, Co-development of a school-based and primary care-based multicomponent intervention to improve HPV vaccine coverage amongst French adolescents (the PrevHPV Study), Health Expect, vol. 26(5), Pages 1843- 1853, 2023. DOI: 10.1111/hex.13778

Introduction: Despite various efforts to improve human papillomavirus (HPV) vaccine coverage in France, it has always been lower than in most other high-income countries. The health authorities launched in 2018 the national PrevHPV research programme to (1) co-develop with stakeholders and (2) evaluate the impact of a multicomponent complex intervention aimed at improving HPV vaccine coverage amongst French adolescents. **Objective:** To describe the development process of the PrevHPV intervention using the GUIDance for rEporting of intervention Development framework as a guide. **Methods:** To develop the intervention, we used findings from (1) published evidence on effective strategies to improve vaccination uptake and on theoretical frameworks of health behaviour change; (2) primary data on target populations' knowledge, beliefs, attitudes, preferences, behaviours and practices as well as the facilitators and barriers to HPV vaccination collected as part of the PrevHPV Programme and (3) the advice of working groups involving stakeholders in a participatory approach. We paid attention to developing an intervention that would maximise reach, adoption, implementation and maintenance in real-world contexts. **Results:** We co-developed three components: (1) adolescents' and parents' education and motivation using eHealth tools (web conferences, videos, and a serious video game) and participatory learning at school; (2) general practitioners' e-learning training on HPV using motivational interviewing techniques and provision of a decision aid tool and (3) easier access to vaccination through vaccination days organised on participating middle schools' premises to propose free of charge initiation of the HPV vaccination. **Conclusion:** We co-developed a multicomponent intervention that addresses a range of barriers and enablers of HPV vaccination. The next step is to build on the results of its evaluation to refine it before scaling it up if proven efficient. If so, it will add to the small number of multicomponent interventions aimed at improving HPV vaccination worldwide.

Bocquier A., Michel M., Giraudeau B., Bonnay S., Gagneux-Brunon A., Gauchet A., Gilberg S., Le Duc-Banaszuk A-S, Mueller J.E., Chevreul K., Thilly N., PrevHPV Study group, Impact of a school-based and primary care-based multicomponent intervention on HPV vaccination coverage among French adolescents: a cluster randomised controlled trial protocol (the PrevHPV study), BMJ Open, vol. 12(3), 2022. DOI: 10.1136/bmjopen-2021-057943

Introduction: Vaccination is an effective and safe strategy to prevent Human papillomavirus (HPV) infection and related harms. Despite various efforts by French authorities to improve HPV vaccine coverage (VC) these past few years, VC has remained far lower than in most other high-income countries. To improve it, we have coconstructed

with stakeholders a school-based and primary care-based multicomponent intervention, and plan to evaluate its effectiveness, efficiency and implementation through a cluster randomised controlled trial (cRCT). **Methods and analysis:** This pragmatic cRCT uses an incomplete factorial design to evaluate three components applied alone or in combination: (1) adolescents and parents' education and motivation at school, using eHealth tools and participatory learning; (2) general practitioners' training on HPV using motivational interviewing techniques and provision of a decision aid tool;

(3) free-of-charge access to vaccination at school. Eligible municipalities (clusters) are located in one of 14 preselected French school districts and must have only one secondary school which enrolls at least 2/3 of inhabitants aged 11-14 years. A randomisation stratified by school district and deprivation index allocated 90 municipalities into 6 groups of 15. The expected overall sample size estimate is 41 940 adolescents aged 11-14 years. The primary endpoint is the HPV VC (≥ 1 dose) among adolescents aged 11-14 years, at 2 months, at the municipality level (data from routine databases). Secondary endpoints include: HPV VC (≥ 1 dose at 6 and 12 months; and 2 doses at 2, 6 and 12 months); differences in knowledge, attitudes, behaviours, and intention among adolescents, parents and general practitioners between baseline and 2 months after intervention (self-administered questionnaires); incremental cost-effectiveness ratio. Implementation measures include dose, fidelity, adaptations, reached population and satisfaction (activity reports and self-administered questionnaires). **Ethics and dissemination:** This protocol was approved by the French Ethics Committee 'CPP Sud-Est VI' on 22 December 2020 (ID-RCB: 2020-A02031-38). No individual consent was required for this type of research; all participants were informed of their rights, in particular not to participate or to oppose the collection of data concerning them. Findings will be widely disseminated (conference presentations, reports, factsheets and academic publications).

Borga L.G., Clark A.E., D'Ambrosio C., Lepinteur A., Characteristics associated with COVID-19 vaccine hesitancy, Scientific Reports, vol. 12(1), 2022. DOI: 10.1038/s41598-022-16572-x

Understanding what lies behind actual COVID-19 vaccine hesitancy is fundamental to help policy makers increase vaccination rates and reach herd immunity. We use June 2021 data from the COME-HERE survey to explore the predictors of actual vaccine hesitancy in France, Germany, Italy, Luxembourg, Spain and Sweden. We estimate a linear-probability model with a rich set of covariates and address issues of common-method variance. 13% of our sample say they do not plan to be vaccinated. Post-Secondary education, home-ownership, having an underlying health condition, and one standard-deviation higher age or income are all associated with lower vaccine hesitancy of 2-4.5% points. Conservative-leaning political attitudes and a one standard-deviation lower degree of confidence in the government increase this probability by 3 and 6% points respectively. Vaccine hesitancy in Spain and Sweden is significantly lower than in the other countries.

Bosetti P., Tran Kiem C., Andronic, A., Colizza V., Yazdanpanah Y., Fontanet A., Benamouzig D., Cauchemez S., Epidemiology and control of SARS-CoV-2 epidemics in partially vaccinated populations: a modeling study applied to France, BMC Medicine, vol. 33, 2022. DOI: 10.1186/s12916-022-02235-1

Background: Vaccination is expected to change the epidemiology and management of SARS-CoV-2 epidemics. **Methods:** We used an age-stratified compartmental model calibrated to French data to anticipate these changes and determine implications for the control of an autumn epidemic. We assumed vaccines reduce the risk of hospitalization, infection, and transmission if infected by 95%, 60%, and 50%, respectively. **Results:** In our baseline scenario characterized by basic reproduction number $R_0=5$ and a vaccine coverage of 70-80-90% among 12-17, 18-59, and ≥ 60 years old, important stress on healthcare is expected in the absence of measures. Unvaccinated adults ≥ 60 years old represent 3% of the population but 43% of hospitalizations. Given limited vaccine coverage, children aged 0-17 years old represent a third of infections and are responsible for almost half of transmissions. Unvaccinated individuals have a disproportionate contribution to transmission so that measures targeting them may help maximize epidemic control while minimizing costs for society compared to non-targeted approaches. Of all the interventions considered including repeated testing and non-pharmaceutical measures, vaccination of the unvaccinated is the most effective. **Conclusions:** With the Delta variant, vaccinated individuals are well protected against hospitalization but remain at risk of infection and should therefore apply protective behaviors (e.g., mask-wearing). Targeting non-vaccinated individuals may maximize epidemic control while minimizing costs for society. Vaccinating children protects them from the deleterious effects of non-pharmaceutical measures. Control strategies should account for the changing SARS-CoV-2 epidemiology.

Bourreau C., Baron A., Schwarzinger M., Alla F., Cambon L., Donzel Godinot L., CoVaMax Study Group, Determinants of COVID-19 Vaccination Intention among Health Care Workers in France: A Qualitative Study, Vaccines, vol. 10(10), 2022. DOI: 10.3390/vaccines10101661

COVID-19 vaccines are one of the best tools to limit the spread of the virus. However, vaccine hesitancy is increasing worldwide, and France is one of the most hesitant countries. From the beginning of the COVID-19 vaccination campaign, health care workers (HCW) have been prioritized in the vaccination strategy but were also hesitant. This study was conducted to identify and understand the determinants of COVID-19 vaccination intention in the French context, with a view to promoting HCW vaccination. A qualitative study using individual semi-structured interviews of HCWs was carried out at the beginning of the vaccination campaign (January to April 2021) in a French university hospital. Interviews indicated that the vaccination intention of HCWs was influenced by confidence in the proposed vaccines, past experience with vaccines and disease, the opinions and vaccination status

of others, and media handling of information related to COVID-19 vaccination. Improving HCW vaccination intention regarding COVID-19 vaccines could be achieved through the dissemination of clear, reassuring, scientific information. Information should be disseminated by HCWs and vaccination experts and adapted to local contexts. To improve the level of confidence and vaccination uptake through a compliance effect, it would be useful to promote positive COVID-19 vaccination experiences and increased rates of immunization.

Brachotte G., Frame A., Gautier L., Nazarov W., Selmi A., Les discours complotistes sur Twitter à propos de la vaccination contre la Covid-19 en France : communautés et analyse sémio-linguistique des hashtags, Mots. Les langages du politique, vol. 130, Pages 79-103, 2022. DOI: 10.4000/mots.30587

This article studies the communicational and linguistic mechanisms that enable the circulation of conspiracy-oriented discourse on Twitter, based on a corpus of over 55.5 million tweets in French about the Covid-19 vaccination. Using an innovative tensor decomposition method, it identifies 'clusters' of accounts structured over time around societal and current events. Quantitative and qualitative analyses of tweets from a specific cluster highlight the influence on its circulation of the constituents of a tweet, and of the constructional and pragma-semantic level of the hashtags making up the cluster.

Breuker C., Guedj A.M., Allan M., Coinus L., Molinari N., Chapet N., Roubille F., Le Quintrec M., Duhalde V., Jouglen J., Cestac P., Kinowski J.M., Faure S., Faucanie M., Lohan L., Villiet M., Altwegg R., Sultan A., The COVID-19 Pandemic Led to a Small Increase in Changed Mentality Regarding Infection Risk without Any Change in Willingness to Be Vaccinated in Chronic Diseases Patients, Journal of Clinical Medicine, vol. 10(17), 2021. DOI: 10.3390/jcm10173967

The objective of this study was to assess the impact of the COVID-19 pandemic on patients' perceptions regarding infection risk and vaccination in subjects suffering from chronic diseases. A prospective observational multicentric study conducted from December 2020 to April 2021 in three French University Hospitals. Patients with chronic diseases were proposed to complete a questionnaire regarding the impact of the COVID-19 pandemic on infectious risk knowledge and vaccination. A total of 1151 patients were included and analyzed (62% of which were people with diabetes). The COVID-19 pandemic increased awareness of infectious risks by 19.3%, significantly more in people with diabetes (23.2%, from 54.4% to 67.0%, $p < 0.01$) when compared to the other high-risk patients (12.5%, from 50.5% to 56.8%, $p = 0.06$). Respectively, 30.6% and 16.5% of patients not up-to-date for pneumococcal and flu vaccines reported wanting to update their vaccination due to the COVID-19 pandemic. By contrast, the proportion of patients against vaccines increased during the COVID-19 pandemic (6.0% vs. 9.5%, $p < 0.01$). The COVID-19 pandemic has led to a small increase in awareness regarding the risks of infection in patients with chronic diseases, including

people with diabetes, but without any change in willingness to be vaccinated. This underlines the urgent need to sensitise people with diabetes to infection risk and the importance of vaccination.

Bertin P., Nera K., Delouée S.. Conspiracy Beliefs, Rejection of Vaccination, and Support for Hydroxychloroquine: A Conceptual Replication-Extension in the COVID-19 Pandemic Context, *Frontiers in Psychology*, vol. 11, 2020. DOI: 10.3389/fpsyg.2020.565128

Many conspiracy theories appeared along with the COVID-19 pandemic. Since it is documented that conspiracy theories negatively affect vaccination intentions, these beliefs might become a crucial matter in the near future. We conducted two cross-sectional studies examining the relationship between COVID-19 conspiracy beliefs, vaccine attitudes, and the intention to be vaccinated against COVID-19 when a vaccine becomes available. We also examined how these beliefs predicted support for a controversial medical treatment, namely, chloroquine. In an exploratory study 1 (N = 409), two subdimensions of COVID-19 conspiracy beliefs were associated with negative attitudes toward vaccine science. These results were partly replicated and extended in a pre-registered study 2 (N = 396). Moreover, we found that COVID-19 conspiracy beliefs (among which, conspiracy beliefs about chloroquine), as well as a conspiracy mentality (i.e., predisposition to believe in conspiracy theories) negatively predicted participants' intentions to be vaccinated against COVID-19 in the future. Lastly, conspiracy beliefs predicted support for chloroquine as a treatment for COVID-19. Interestingly, none of the conspiracy beliefs referred to the dangers of the vaccines. Implications for the pandemic and potential responses are discussed.

Calvas P., *Relation entre « l'opinion vaccinale » anti-Covid-19 des français et les publications de la presse écrite*, *Droit, Santé et Société*, vol. 2-3, Pages 18-27, 2022.

French reluctance to vaccinate has been established by all the studies on the subject. The factors influencing this reluctance are many and complex. In a comparison of French people's vaccination intentions between the announcement of vaccine development in July 2020 and the achievement of full vaccine capacity in April 2021, we study changes in French people's vaccination intentions. We found a correlation between publications in the national press and month-by-month fluctuations in vaccination intentions. This correlation suggests a clear influence of the press on public opinion, because it is slightly out of sync with publications. What's more, the content of the articles brings into play the major and multiple determinants of vaccination intentions analysed in the scientific literature, and the way in which they are presented in the articles in the dailies and weeklies analysed clearly reinforces this influence. It is remarkable that the clarity and transparency of press articles, which evolve over time, may be one of the key factors in public support for vaccination against Covid-19 before any policy of constraint is put in place by the authorities.

Cassier M., *Il y a des alternatives: Une autre histoire des médicaments (XIXe-XXIe siècle)*, Seuil, Paris, 384 p, 2023.

From 2020 onwards, pharmaceutical companies made new vaccine technologies operational in record time, helping to overcome the Covid-19 crisis. However, these multinationals, which had patented their vaccines, made national public health systems pay a high price for them, accumulating colossal profits in the process. But the monopoly of exploitation reserved by the patent to the inventor, while it may encourage innovation through the prospect of returns, has meant that Moderna, BioNTech or Pfizer vaccines have been too expensive for many countries, not to mention threatening the very funding of health systems in rich countries. What's more, the pharmaceutical monopolies have prevented the rapid dissemination of technology to produce vaccines quickly in all regions of the world in order to combat the pandemic effectively. So are there alternatives to such a system? This book provides a positive answer to this urgent question, and does so through the original medium of an unbeatable socio-history. Maurice Cassier recounts the many experiments that, from the nineteenth century to the present day, have focused on the collective, shared dimension of health issues and access to medicines. These initiatives, which have really worked, provide a wealth of resources for devising new pharmaceutical industrial policies. So there is hope: fairer, more egalitarian and democratic access to healthcare is possible.

Catalan-Matamoros D., Prieto-Sanchez I., Langbecker A., *Crisis Communication during COVID-19: English, French, Portuguese, and Spanish Discourse of AstraZeneca Vaccine and Omicron Variant on Social Media, Vaccines*, vol. 11(6), 2023. DOI: 10.3390/vaccines11061100

Social media have been the arena of different types of discourse during the COVID-19 pandemic. We aim to characterize public discourse during health crises in different international communities. Using Tweepy and keywords related to the research, we collected 3,748,302 posts from the English, French, Portuguese, and Spanish Twitter communities related to two crises during the pandemic: (a) the AstraZeneca COVID-19 vaccine, and (b) the Omicron variant. In relation to AstraZeneca, 'blood clot' was the main focus of public discourse. Using quantitative classifications and natural language processing algorithms, results are obtained for each language. The English and French discourse focused more on "death", and the most negative sentiment was generated by the French community. The Portuguese discourse was the only one to make a direct reference to a politician, the former Brazilian President Bolsonaro. In the Omicron crisis, the public discourse mainly focused on infection cases follow-up and the number of deaths, showing a closer public discourse to the actual risk. The public discourse during health crises might lead to different behaviours. While public discourse on AstraZeneca might contribute as a barrier for preventive measures by increasing vaccine hesitancy, the Omicron discourse could lead to more preventive behaviours by the public, such as the use of masks. This paper broadens the scope of crisis communication by revealing social media's role in the constructs of public discourse.

Charlety X., *Perceptions et impacts de l'obligation vaccinale contre le COVID-19 parmi les professionnels du secteur de la santé de Guyane*, Thèse de médecine, Aix-Marseille Université, Marseille, 96 pages, 2023.

Context: on 05 August 2021, France decrees for all its territories a vaccination obligation against COVID-19 for healthcare and healthcare sector professionals (PDS). In French Guyana, confidence in vaccination against COVID-19 is low and misinformation increases fears. The aim of this study was to investigate the perceptions and impact of mandatory vaccination among HCPs in this context. Methods: A cross-sectional epidemiological study was conducted between 22/03/2021 and 10/06/2021 using an online questionnaire distributed to HCPs in French Guyana. It included quantitative data and open-ended questions to gather the opinions and experiences of the professionals questioned. Results: The qualitative analysis showed that the concepts of collective protection and exemplarity were emphasised among the health professionals who were generally in favour of introducing mandatory vaccination, either generally or exceptionally during the crisis. The SDPs who were not generally in favour, or who were opposed, emphasised the threat to the physical integrity and autonomy of individuals (and sometimes the territory). Communication from the health authorities and the penalties applied to unvaccinated professionals were considered inadequate by most of the SDPs. Conclusions: the perception of mandatory vaccination among health professionals in French Guyana is heterogeneous and sometimes needs to be adapted to the health context, and sometimes the local context, otherwise it is likely to have a deleterious effect.

Chavalarias D., *TOXIC DATA : Comment les réseaux manipulent nos opinions*, Flammarion, Paris, 269 p, 2023.

A contemporary thriller that you have to read to avoid falling victim.

With the rise in power of social networks, democracies are being swept along by a tidal wave: the social fabric is being torn apart, opinions are being manipulated and elections are being destabilised. While digital tools have represented a major innovation in the production and dissemination of knowledge, they also have their darker side: they give the keys to social influence to any actor, political or state, wishing to establish their ideas with a large number of our fellow citizens.

How can we guard against intoxication and save our democracy from digital overdose? Science is revealing how dangerously ill-adapted we are to the new digital order, but it is also helping us to combat its ravages. David Chavalarias offers a staggering analysis of the effects of the GAFAMs' actions on our daily lives, and suggests concrete ways, both individually and collectively, to protect ourselves.

Chyderiotis S., Sicsic J., Raude J., Bonmarin I., Jeanleboeuf F., Le Duc Banaszuk A-S., Gauchet A., Bruel S., Michel M., Giraudeau B., Thilly N., Mueller J.E., *Optimising HPV vaccination communication to adolescents: A discrete choice experiment*, *Vaccine*, vol. 39(29), Pages 3916-3925, 2021. DOI: 10.1016/j.vaccine.2021.05.061 **Background:** Human Papillomavirus (HPV) vaccine coverage in France is below 30%, despite

proven effectiveness against HPV infections and (pre-) cancerous cervical lesions. To optimise vaccine promotion among adolescents, we used a discrete choice experiment (DCE) to identify optimal statements regarding a vaccination programme, including vaccine characteristics. **Methods:** Girls and boys enrolled in the last two years of five middle schools in three French regions (aged 13-15 years) participated in an in-class cross-sectional self-administered internet-based study. In ten hypothetical scenarios, participants decided for or against signing up for a school-based vaccination campaign against an unnamed disease. Scenarios included different levels of four attributes: the type of vaccine-preventable disease, communication on vaccine safety, potential for indirect protection, and information on vaccine uptake among peers. One scenario was repeated with an added mention of sexual transmission. **Results:** The 1,458 participating adolescents (estimated response rate: 89.4%) theoretically accepted vaccination in 80.1% of scenarios. All attributes significantly impacted theoretical vaccine acceptance. Compared to a febrile respiratory disease, protection against cancer was motivating (odds ratio (OR) 1.29 [95%-CI 1.09-1.52]), but not against genital warts (OR 0.91 [0.78-1.06]). Compared to risk negation ("vaccine does not provoke serious side effects"), a reference to a positive benefit-risk balance despite a confirmed side effect was strongly dissuasive (OR 0.30 [0.24-0.36]), while reference to ongoing international pharmacovigilance without any scientifically confirmed effect was not significantly dissuasive (OR 0.86 [0.71-1.04]). The potential for indirect protection motivated acceptance among girls but not boys (potential for eliminating the disease compared to no indirect protection, OR 1.57 [1.25-1.96]). Compared to mentioning "insufficient coverage", reporting that ">80% of young people in other countries got vaccinated" motivated vaccine acceptance (OR 1.94 [1.61-2.35]). The notion of sexual transmission did not influence acceptance. **Conclusion:** HPV vaccine communication to adolescents can be tailored to optimise the impact of promotion efforts.

Chyderiotis S., Sicsic J., Thilly N., PrevHPV Consortium; Mueller JE. *Vaccine eagerness: A new framework to analyse preferences in single profile discrete choice experiments. Application to HPV vaccination decisions among French adolescents*, *SSM - Population Health*, vol. 17, 2022. DOI: 10.1016/j.ssmph.2022.101058

Background: We previously conducted a single-profile discrete choice experiment to elicit preferences of adolescents around HPV vaccine communication, finding that only half of participants made variable choices (non-uniform respondents) from which preferences were elicited. In this paper we provide a framework to evaluate post-choice certainty information to elicit preferences

even among respondents who uniformly accepted (serial demanders) or refused (serial non-demanders) hypothetical vaccination scenarios. **Methods:** During an in-class online questionnaire among 1458 French adolescents aged 13-15 years old, we collected certainty levels (0-10) after decisions on nine hypothetical scenarios, including four vaccination attributes: information on vaccine-preventable disease type, on vaccine safety, on potential for indirect protection and on vaccine coverage. We developed a vaccine eagerness scale (ranging from -10 to 10), by combining information on the binary decision (accept vs. refuse the hypothetical vaccine) and the decision certainty level. We used random effects linear regressions to evaluate attributes' impact on vaccine eagerness. Sensitivity analyses were performed taking into account low response quality, assessed as invariant certainty and low response time. **Results:** Attributes' impact on decision certainty were similar between serial demanders (N = 659) and non-uniform respondents (N = 711): mentioning a positive benefit-risk balance significantly decreased certainty to accept (coefficient -0.93), while information on 80% coverage in other countries (+0.33) and potential for disease elimination (+0.09) increased it. Among serial non-demanders, significant attribute impacts were observed only after exclusion of low-quality responses (N = 31): a potential for disease elimination (coefficient: +0.24) and 80% coverage in other countries (+0.42) significantly increased certainty of refusing vaccination. Combining decision and certainty into a vaccine eagerness indicator allowed analysing preferences in the full sample, including "hesitant" respondents, who were sensitive to the content of the vaccination profile. **Conclusion:** Choice certainty informs on respondents' preferences in single-profile discrete-choice experiments, in particular among those with uniform responses.

The COCONEL Group, A future vaccination campaign against COVID-19 at risk of vaccine hesitancy and politicization, Lancet Infectious Diseases, vol. 20(7), Pages 769-770, 2020. DOI: 10.1016/S1473-3099(20)30426-6

Just a few weeks ago, more than half of the world's population was on lockdown to limit the spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Scientists are racing against time to provide a proven treatment. Beyond the current outbreak, in the longer term, the development of vaccines against SARS-CoV-2 and their global access are a priority to end the pandemic. However, the success of this strategy relies on people's acceptability of immunisation: what if people don't want the shot? This question is not rhetorical; many experts have warned against a worldwide decline in public trust in immunisation and the rise of vaccine hesitancy during the past decade, especially in whole Europe and in France. Early results from a survey done in late March in France suggests that this distrust is likely to become an issue when the vaccine will be made available. We did an online survey in a representative sample of the French population aged 18 years and older 10 days after the nationwide lockdown was introduced (March 27-29). We found that 26% of respondents stated that, if a vaccine against SARS-CoV-2 becomes available, they would not use it. It might come as

a surprise given the situation a few weeks ago: the whole population was confined as the outbreak had not yet reached its peak, and media were flooded with daily death tolls and the saturation of intensive care wards. The social profile of reluctant responders is even more worrying: this attitude was more prevalent among low-income people (37%), who are generally more exposed to infectious diseases, among young women (aged 18-35 years; 36%), who play a crucial role regarding childhood vaccination, and among people aged older than 75 years (22%), who are probably at an increased risk for severe illness from COVID-19. Our data also suggest that the political views of respondents play an important part in their attitude. Participants' acceptance of a vaccine against SARS-CoV-2 strongly depended on their vote at the first round of the 2017 presidential election (figure): those who had voted for a far left or far right candidate were much more likely to state that they would refuse the vaccine, as well as those who abstained from voting.

Cogordan C., Fressard L., Ramalli L., Rebaudet S., Malfait P., Dutrey-Kaiser A., Attalah Y., Roy D., Berthiaume P., Gagneur A., Verger P., Motivational interview-based health mediator interventions increase intent to vaccinate among disadvantaged individuals, Human Vaccines & Immunotherapeutics, vol. 19(2), 2023. DOI: 10.1080/21645515.2023.2261687

Coverage for recommended COVID-19 and diphtheria-tetanus-poliomyelitis (DTP) booster shots is often inadequate, especially among disadvantaged populations. To help health mediators (HMs) involved in outreach programmes deal with the problems of vaccine hesitancy (VH) in these groups, we trained them in motivational interviewing (MI). We evaluated the effectiveness of this training among HMs on their MI knowledge and skills (objective 1) and among the interviewees on their vaccination readiness (VR) and intention to get vaccinated or accept a booster against COVID-19 and/or DTP (objective 2). Two MI specialists trained 16 HMs in a two-day workshop in May 2022. The validated MISI questionnaire evaluated HMs' acquisition of MI knowledge and skills (objective 1). Trained HMs offered an MI-based intervention on vaccination to people in disadvantaged neighbourhoods of Marseille (France). Those who consented completed a questionnaire before and after the interview to measure VR with the 7C scale and intentions regarding vaccination/booster against COVID-19 and DTP (objective 2). The training resulted in HMs acquiring good MI skills (knowledge, application, self-confidence in using it). HMs enrolled 324 interviewees, 96% of whom completed both questionnaires. VR increased by 6%, and intentions to get vaccinated or update COVID-19 and DTP vaccination increased by 74% and 52% respectively. Nearly all interviewees were very satisfied with the interview, although 21% still had questions about vaccination. HMs assimilated MI principles well. MI use in outreach programs appears to show promise in improving vaccine confidence and intentions among disadvantaged people.

Colosi E., Bassignana G., Contreras D.A., Poirier C., Boëlle P.Y., Cauchemez S., Yazdanpanah Y., Lina B., Fontanet A., Barrat A., Colizza V., *Screening and vaccination against COVID-19 to minimise school closure: a modelling study, The Lancet Infectious Diseases*, vol. 22(7), Pages 977-989, 2022. DOI:10.1016/S1473-3099(22)00138-4

Background: Schools were closed extensively in 2020-21 to counter SARS-CoV-2 spread, impacting students' education and wellbeing. With highly contagious variants expanding in Europe, safe options to maintain schools open are urgently needed. By estimating school-specific transmissibility, our study evaluates costs and benefits of different protocols for SARS-CoV-2 control at school. **Methods:** We developed an agent-based model of SARS-CoV-2 transmission in schools. We used empirical contact data in a primary and a secondary school and data from pilot screenings in 683 schools during the alpha variant (B.1.1.7) wave in March-June, 2021, in France. We fitted the model to observed school prevalence to estimate the school-specific effective reproductive number for the alpha (R_{alpha}) and delta (B.1.617.2; R_{delta}) variants and performed a cost-benefit analysis examining different intervention protocols. **Findings:** We estimated R_{alpha} to be 1-40 (95% CI 1-35-1-45) in the primary school and 1-46 (1-41-1-51) in the secondary school during the spring wave, higher than the time-varying reproductive number estimated from community surveillance. Considering the delta variant and vaccination coverage in Europe as of mid-September, 2021, we estimated R_{delta} to be 1-66 (1-60-1-71) in primary schools and 1-10 (1-06-1-14) in secondary schools. Under these conditions, weekly testing of 75% of unvaccinated students (PCR tests on saliva samples in primary schools and lateral flow tests in secondary schools), in addition to symptom-based testing, would reduce cases by 34% (95% CI 32-36) in primary schools and 36% (35-39) in secondary schools compared with symptom-based testing alone. Insufficient adherence was recorded in pilot screening (median ≤53%). Regular testing would also reduce student-days lost up to 80% compared with reactive class closures. Moderate vaccination coverage in students would still benefit from regular testing for additional control-i.e., weekly testing 75% of unvaccinated students would reduce cases compared with symptom-based testing only, by 23% in primary schools when 50% of children are vaccinated. **Interpretation:** The COVID-19 pandemic will probably continue to pose a risk to the safe and normal functioning of schools. Extending vaccination coverage in students, complemented by regular testing with good adherence, are essential steps to keep schools open when highly transmissible variants are circulating.

Coulaud P.-J., Ablona A., Bolduc N., Fast D., Bertrand K., Ward J.K., Greyson D., Jauffret-Roustide M, Knight R., *COVID-19 vaccine intention among young adults: Comparative results from a cross-sectional study in Canada and France, Vaccine*, vol. 40(16), Pages 2442-2456, 2022. DOI: 10.1016/j.vaccine.2022.02.085

Background: High rates of COVID-19 vaccination uptake are required to attain community immunity. This study aims to identify factors associated with COVID-19 vaccine uncertainty and refusal among young adults,

an underexplored population with regards to vaccine intention generally, in two high-income settings: Canada and France. **Methods:** A cross-sectional online survey was conducted from October to December 2020 among young adults ages 18-29 years (n

= 6663) living in Canada (51.9%) and France (48.1%). Multinomial logistic regression analyses were performed to identify the sociodemographic and COVID-19-related measures (e.g., prevention behavior and perspectives, health-related concerns) associated with vaccine uncertainty and refusal. We conducted weighted analyses by age, gender and province/region of residence. **Results:** Intention to accept vaccination was reported by 84.3% and 59.7% of the sample in Canada and France, respectively. Higher levels of vaccine uncertainty and refusal were observed in France compared to Canada (30.1% versus 11%, 10.2% versus 4.7%). In both countries, we found higher levels of vaccine acceptance among young adults who reported COVID-19 prevention actions. Vaccine uncertainty and refusal were associated with living in a rural area, having lower levels of educational attainment, not looking for information about COVID-19, not wearing a face mask, and reporting a lower level of concern for COVID-19's impact on family. Participants who had been tested for COVID-19 were less likely to intend to refuse a vaccine. **Conclusions:** COVID-19 vaccine acceptance was high among young adults in Canada and France during a time in which vaccines were approved for use. Targeted interventions to build confidence in demographic groups with greater hesitance (e.g., rural and with less personal experience with COVID-19) may further boost acceptance and improve equity as vaccine efforts continue to unfold.

D'Albis H., Etner J., Thuilliez J., *Vaccination under pessimistic expectations in clinical trials and immunization campaigns, Journal of Public Economic Theory*, 2022. DOI: 10.1111/jpet.12617

We provide one of the first formalizations of a vaccination campaign in a decision-theoretic framework. We analyze a model where an ambiguity-averse individual must decide how much effort to invest into prevention in the context of a rampant disease. We study how ambiguity aversion affects the effort and the estimation of the vaccine efficacy in clinical trials and immunization campaigns. We find that the behaviors of individuals participating in a clinical trial differ from individuals not participating. Individuals who are more optimistic toward vaccination participate more in trials. Their behaviors and efforts are also affected. As a result, because vaccine efficacy depends on unobserved behaviors and efforts, the biological effect of the vaccine becomes difficult to evaluate. During the scale-up phase of a vaccination campaign, provided that vaccine efficacy is established, we show that vaccine hesitancy may still be rational.

Davin-Casalena B., Jardin M., Guerrero H., Mabilie J., Tréhard H., Lapalus D., Ménager C., Nauleau S., Cassaro V., Verger P., Guagliardo V., *The impact of the COVID-19 epidemic on primary care in South-eastern France: implementation of a real-time monitoring system based on regional health insurance system data*, *Revue d'Épidémiologie et de Santé Publique*, vol. 69(5), Pages 255-264, 2021. DOI: 10.1016/j.respe.2021.07.006

Background: The spring 2020 COVID-19 epidemic severely impacted France's healthcare system. The associated lockdown (17 March- 11 May 2020) and the risk of exposure to SARS-CoV-2 led patients to change their use of healthcare. This article presents the development and implementation of a real-time system to monitor i) private doctors' activity in South-eastern France, and ii) changes in prescription of drugs for people with diabetes, mental health disorders and for certain vaccines from March 2020 to October 2020. **Methods:** Data extracted from the regional healthcare insurance databases for 2019 and 2020 were used to construct indicators of healthcare use. They were calculated on a weekly basis, starting from week 2 2020 and compared for the same period between 2019 and 2020. **Results:** Private doctors' activity decreased during the spring 2020 lockdown (by 23 % for general practitioners and 46 % for specialists), followed by an almost complete return to normal after it ended until week 41. Over the same period, a huge increase in teleconsultations was observed, accounting for 30% of private doctors' consultations at the height of the crisis. The start of the lockdown was marked by a peak in drug prescriptions, while vaccinations declined sharply (by 39 % for the measles, mumps and rubella (MMR) vaccine in children under 5 years old, and by 54 % for human papillomavirus vaccine in girls aged 10-14 years old). **Conclusion:** The ongoing COVID-19 epidemic may lead to health consequences other than those directly attributable to the disease itself. Specifically, lockdowns and foregoing healthcare could be very harmful at the individual and population levels. The latter issue is a concern for French public authorities, which have implemented actions aimed at encouraging patients to immediately seek treatment. However, the COVID-19 crisis has also created opportunities, such as the roll-out of teleconsultation and tele-expertise. The indicators described here as part of the monitoring system can help public decision-makers to become more responsive and to implement tailored actions to better meet the general population's healthcare needs.

Débarre F., Lecoœur E., Guimier L., Jauffret-Roustide M., Jannot A.S., *The French Covid-19 vaccination policy did not solve vaccination inequities: a nationwide study on 64.5 million people*, *European Journal of Public Health*, vol. 32(5), Pages 825-830, 2022. DOI: 10.1093/eurpub/ckac125

Background: To encourage Covid-19 vaccination, France introduced during the Summer 2021 a 'Sanitary Pass', which morphed into a 'Vaccine Pass' in early 2022. While the sanitary pass led to an increase in Covid-19 vaccination rates, spatial heterogeneities in vaccination rates remained. To identify potential determinants of these heterogeneities and evaluate the French sanitary and vaccine passes'

efficacies in reducing them, we used a data-driven approach on exhaustive nationwide data, gathering 141 socio-economic, political and geographic indicators. **Methods:** We considered the association between vaccination rates and each indicator at different time points: before the sanitary pass announcement (week 2021-W27), before the sanitary pass came into force (week 2021-W31) and 1 month after (week 2021-W35) and the equivalent dates for the vaccine pass (weeks 2021-W49, 2022-W03 and 2022-W07). **Results:** The indicators most associated with vaccination rates were the share of local income coming from unemployment benefits, overcrowded households rate, immigrants rate and vote for an 'anti-establishment' candidate at the 2017 Presidential election. These associations increase over time. Consequently, living in a district below the median of such indicator decreases the probability to be vaccinated by about 30% at the end of the studied period, and this probability gradually decreases by deciles of these indicators. **Conclusions:** Our analysis reveals that factors related to poverty, immigration and trust in the government are strong determinants of vaccination rate, and that vaccination inequities tended to increase after the introduction of the French sanitary and vaccination passes.

De Lignieres A., Charlety X., Epelboin L., Blaise T., Douine M., Vignier N., *Perception de l'obligation vaccinale contre le Covid-19 des professionnels de santé en Guyane*, *Médecine et Maladies Infectieuses Formation*, vol. 2(2), Page S64, 2023. DOI: 10.1016/j.mmifmc.2023.03.165

Introduction: The mandatory vaccination of healthcare professionals (HCPs) against COVID-19 was decided and implemented at national level in September 2021 in order to improve vaccination coverage. This decision was accompanied by numerous reactions from opponents in French Guyana in a context where there was significant hesitancy to vaccinate among healthcare professionals. The aim of this study was to assess the perception of mandatory vaccination by health professionals in French Guyana. **Materials and methods:** A multicentre descriptive cross-sectional epidemiological survey was conducted from 22 March 2022 to 8 June 2022, targeting all professionals in French Guyana affected by the mandatory vaccination requirement, using an online questionnaire distributed via multiple channels. **Results:** A total of 503 healthcare professionals responded to the survey, giving an estimated response rate of 12.1% (503/4151). Participants were women (69.5%), born in mainland France (58.7%) or French Guiana and the French West Indies (28.7%), doctors (39.6%) or paramedics (40.0%), and working in hospitals (66.7%). With regard to mandatory COVID-19 vaccination for DDSs, 38.4% were against it and 61.6% were in favour overall. (61.6%: 47.2% for all SDPs, and 14.3% for certain SDPs according to criteria of exposure or medical vulnerability). The factors associated with opposition to mandatory vaccination were female gender, having been born in French Guyana or the West Indies, having been in practice for more than 5 years and a history of Covid-19. Factors associated with adherence to mandatory vaccination were medical profession, having been born in France and being at risk of severe Covid-19. SDPs vaccinated against influenza for the 2019-2020 and

2021-2022 seasons were also more likely to be in favour of mandatory COVID-19 vaccination. There was no difference according to the type of practice.

While 57.4% (280/488) of SDPs felt that the obligation was justified from a public health point of view, only 46.8% (227/485) found it ethically acceptable.

In addition, 69.7% did not find the communication from the health authorities prior to the introduction of mandatory professional vaccination satisfactory, 79.7% felt that the measure had been imposed on them without consultation, and 62.2% felt that the measures restricting their practice were severe.

When mandatory vaccination was introduced, 61.2% of participating SDPs said they were already up to date with their vaccination against COVID-19. Of the respondents who were not up to date, half (92/184) said they had been vaccinated following the introduction of mandatory vaccination. Of those who had updated their vaccination status, half were in favour and half against. **Conclusion:** Healthcare professionals working in French Guyana are divided on the legitimacy of mandatory vaccination for healthcare professionals, with those most opposed more often being non-medical professionals from French Guyana or the West Indies.

De Meijere G., Valdano E., Castellano C., Debin M., Kengne-Kuetche C., Turbelin C., Noël H., Weitz J.S., Paolotti D., Hermans L., Hens N., Colizza V., Attitudes towards booster, testing and isolation, and their impact on COVID-19 response in winter 2022/2023 in France, Belgium, and Italy: a cross-sectional survey and modelling study, Lancet Regional Health, vol. 28, 2023. DOI: 10.1016/j.lanepe.2023.100614

Background: European countries are focusing on testing, isolation, and boosting strategies to counter the 2022/2023 winter surge due to SARS-CoV-2 Omicron subvariants. However, widespread pandemic fatigue and limited compliance potentially undermine mitigation efforts. **Methods:** To establish a baseline for interventions, we ran a multicountry survey to assess respondents' willingness to receive booster vaccination and comply with testing and isolation mandates. Integrating survey and estimated immunity data in a branching process epidemic spreading model, we evaluated the effectiveness and costs of current protocols in France, Belgium, and Italy to manage the winter wave. **Findings:** The vast majority of survey participants (N = 4594) was willing to adhere to testing (>91%) and rapid isolation (>88%) across the three countries. Pronounced differences emerged in the declared senior adherence to booster vaccination (73% in France, 94% in Belgium, 86% in Italy). Epidemic model results estimate that testing and isolation protocols would confer significant benefit in reducing transmission (17-24% reduction, from R = 1.6 to R = 1.3 in France and Belgium, to R = 1.2 in Italy) with declared adherence. Achieving a mitigating level similar to the French protocol, the Belgian protocol would require 35% fewer tests (from 1 test to 0.65 test per infected person) and avoid the long isolation periods of the Italian protocol (average of 6 days vs. 11). A cost barrier to test would significantly decrease adherence in France and Belgium,

undermining protocols' effectiveness. **Interpretation:** Simpler mandates for isolation may increase awareness and actual compliance, reducing testing costs, without compromising mitigation. High booster vaccination uptake remains key for the control of the winter wave.

Demuth-Labouze K., Vaccination et Covid-19 : l'éthique face aux hésitants, in Israel-Jost, V., Weil-Dubuc P-L., Éthique vaccinale, 73-88 (Èrès, 2023)

An environment conducive to the rapid development of anti-sars-cov-2 vaccines Reductive and anxiety-provoking communication to the general public

Not very accessible institutional communication

Conclusion

Detoc M., Bruel S., Frappe P., Tardy B., Botelho-Nevers E., Gagneux-Brunon A., Intention to participate in a COVID-19 vaccine clinical trial and to get vaccinated against COVID-19 in France during the pandemic, Vaccine, vol. 38(45), Pages 7002-7006, 2020. DOI: 10.1016/j.vaccine.2020.09.041

Introduction: The world is facing the COVID-19 pandemic. The development of a vaccine is challenging. We aimed to determine the proportion of people who intend to get vaccinated against COVID-19 in France or to participate in a vaccine clinical trial. **Methods:** We conducted an anonymous on-line survey from the 26th of March to the 20th of April 2020. Primary endpoints were the intention to get vaccinated against COVID-19 if a vaccine was available or participate in a vaccine clinical trial. **Results:** Three thousand two hundred and fifty nine individuals answered the survey; women accounted for 67.4% of the respondents. According to their statements, 2,512 participants (77.6%, 95% CI 76.2-79%) will certainly or probably agree to get vaccinated against COVID-19. Older age, male gender, fear about COVID-19, being a healthcare worker and individual perceived risk were associated with COVID-19 vaccine acceptance. Vaccine hesitancy was associated with a decrease in COVID-19 vaccine acceptance. One thousand and five hundred and fifty respondents (47.6% 95% CI 45.9-49.3%) will certainly or probably agree to participate in a COVID-19 vaccine clinical trial. Older age, male gender, being a healthcare worker and individual perceived risk were associated with potential acceptance to participate in a COVID-19 vaccine clinical trial. Vaccine hesitancy was associated with refusal for participation in a COVID-19 vaccine clinical trial. **Conclusions:** Nearly 75% and 48% of the survey respondents were respectively likely to accept vaccination or participation in a clinical trial against COVID-19. Vaccine hesitancy will be the major barrier to COVID19 vaccine uptake.

Derhy S., Gaillot J., Rousseau S., Piel C., Thorington D., Zanetti L., Gall B., Venot C., Chyderiotis S., Mueller J.E., *Extension of HPV vaccination to boys: a survey of families and general practitioners, Bulletin du Cancer, vol. 109(4), Pages 445-456, 2022. DOI: 10.1016/j.bulcan.2022.01.005*

Introduction: As part of the HAS's 2019 work on extending human papillomavirus (HPV) vaccination to boys, INCa and the HAS conducted a survey in July 2019 on the acceptability of HPV vaccination. This study was carried out among parents with children aged eleven to nineteen and general practitioners. It looked at their perceptions, practices and intentions with regard to extending HPV vaccination to boys. **Method:** The survey was carried out between 20 June and 12 July 2019, among two audiences: a nationally representative sample of parents with at least one girl aged between eleven and nineteen and/or one boy aged between eleven and fourteen in their household (n = 1984) and a representative sample of 300 self-employed GPs practising in mainland France. The data for the survey were collected using an online questionnaire with an average completion time of ten minutes. The samples were constructed using the quota method applied to the following variables: (i) for parents: gender, age, child in the household (girl aged eleven to nineteen and/or boy aged eleven to fourteen), socio-professional category (CSP) of the household reference, conurbation category and region; and (ii) for GPs: type of practice (private practice/mixed), gender, age and region. **Results:** Although GPs were very much in favour of HPV vaccination (94%), a majority of them (82%) felt that it was one of the most difficult vaccinations to get their patients to accept. A significant proportion of parents were against HPV vaccination (25%). The three main obstacles cited by parents of unvaccinated girls were: fear of side-effects, lack of information and the fact that the doctor had not suggested it. With regard to extending the vaccination to boys, 84% of GPs said they would recommend vaccination to boys if it were included in the vaccination schedule, and 88% of those who did not systematically recommend it to girls said they would be more inclined to offer it to girls if the extension were recommended.

Díaz Luévano C., Sicsic J., Pellissier G., Chyderiotis S., Arwidson P., Olivier C., Gagneux-Brunon A., Botelho-Nevers E., Bouvet E., Mueller J.E., *Quantifying healthcare and welfare sector workers' preferences around COVID-19 vaccination: a cross-sectional, single-profile discrete-choice experiment in France, BMJ Open, vol. 11(10), 2021. DOI: 10.1136/bmjopen-2021-055148*

Objectives: To analyse preferences around promotion of COVID-19 vaccination among workers in the healthcare and welfare sector in France at the start of the vaccination campaign. **Design:** Single-profile discrete-choice experiment. Respondents in three random blocks chose between accepting or rejecting eight hypothetical COVID-19 vaccination scenarios. **Setting:** 4346 healthcare and welfare sector workers in France, recruited through nation-wide snowball sampling, December 2020 to January 2021. **Outcome:** The primary outcomes were the effects of attributes' levels on hypothetical acceptance, expressed as

ORs relative to the reference level. The secondary outcome was vaccine eagerness as certainty of decision, ranging from -10 to +10. **Results:** Among all participants, 61.1% made uniform decisions, including 17.2% always refusing vaccination across all scenarios (serial non-demanders). Among 1691 respondents making variable decisions, a strong negative impact on acceptance was observed with 50% vaccine efficacy (compared with 90% efficacy: OR 0.05, 95% CI 0.04 to 0.06) and the mention of a positive benefit-risk balance (compared with absence of severe and frequent side effects: OR 0.40, 0.34 to 0.46). The highest positive impact was the prospect of safely meeting older people and contributing to epidemic control (compared with no indirect protection: OR 4.10, 3.49 to 4.82 and 2.87, 2.34 to 3.50, respectively). Predicted acceptance was 93.8% for optimised communication on messenger RNA vaccines and 16.0% for vector-based vaccines recommended to ≥55-year-old persons. Vaccine eagerness among serial non-demanders slightly but significantly increased with the prospect of safely meeting older people and epidemic control and reduced with lower vaccine efficacy. **Discussion:** Vaccine promotion towards healthcare and welfare sector workers who hesitate or refuse vaccination should avoid the notion of benefit-risk balance, while collective benefit communication with personal utility can lever acceptance. Vaccines with limited efficacy will unlikely achieve high uptake.

Di Domenico L., Sabbatini C.E., Boëlle P.Y., Poletto C., Crépey P., Paireau J., Cauchemez S., Beck F., Noel H., Lévy-Bruhl D., Colizza V., *Adherence and sustainability of interventions informing optimal control against the COVID-19 pandemic, Communications Medicine, vol. 6(1), Page 57, 2021. DOI: 10.1038/s43856-021-00057-5*

Background: After one year of stop-and-go COVID-19 mitigation, in the spring of 2021 European countries still experienced sustained viral circulation due to the Alpha variant. As the prospect of entering a new pandemic phase through vaccination was drawing closer, a key challenge remained on how to balance the efficacy of long-lasting interventions and their impact on the quality of life. **Methods:** Focusing on the third wave in France during spring 2021, we simulate intervention scenarios of varying intensity and duration, with potential waning of adherence over time, based on past mobility data and modeling estimates. We identify optimal strategies by balancing efficacy of interventions with a data-driven "distress" index, integrating intensity and duration of social distancing. **Results:** We show that moderate interventions would require a much longer time to achieve the same result as high intensity lockdowns, with the additional risk of deteriorating control as adherence wanes. Shorter strict lockdowns are largely more effective than longer moderate lockdowns, for similar intermediate distress and infringement on individual freedom. **Conclusions:** Our study shows that favouring milder interventions over more stringent short approaches on the basis of perceived acceptability could be detrimental in the long term, especially with waning adherence.

Ducarroz, S., Figueiredo N., Scarlett H., et al. *Motives for COVID-19 vaccine hesitancy amongst marginalized groups, including homeless persons and migrants, in France: a mixed-methods study, Preprint, 2022.* <https://doi.org/10.21203/rs.3.rs-1662988/v1>

Background: Persons experiencing unstable housing - including recently arrived migrants - are at elevated risk of contracting COVID-19 and suffer from high morbidity and mortality. In this context, the COVID-19 vaccine was foreseen as a promising way to control the pandemic and reduce social inequalities in this area. Understanding the motives of COVID-19 vaccine acceptability in people with unstable housing, including migrants, is therefore crucial to tailor public health communication and outreach. Thus, the main objective of our study was to investigate - both quantitatively and qualitatively - the motivations behind vaccine hesitancy in people experiencing unstable housing when vaccines became available in France. **Methods:** A cross-sectional study was performed in Spring 2021, using convergent mixed-methods approach. Participants were recruited from homeless shelters and day centres and face-to-face interviews were offered, with help, where necessary, from phone-based interpreters. Factors associated with motives for COVID-19 vaccine hesitancy were explored using logistic regression models. Qualitative data - collected through semi-structured individual interviews - were analysed via an inductive thematic approach. Both quantitative and qualitative data were then integrated. **Results:** Vaccine hesitancy was found to be at an elevated rate (58.0%). The three most reported motives of hesitancy were related to COVID-19 vaccine effectiveness, safety, and trust in information about the vaccine. Factors of elevated hesitancy comprised the interviewees' age, level of education, French-language aptitude, feeling of worry about COVID-19, and time of residence in France. Generic distrust in official information was a shared associated factor for the 3 motives of hesitancy. This result was expanded upon by the interview data where participants described having differential trust depending on who is recommending the vaccination. Another emerging key theme related to hopes that the vaccine would release them from the burden of the pandemic. **Conclusions:** Our mixed methods study provides a comprehensive understanding of COVID-19 vaccine hesitancy among persons with unstable housing in France in Spring 2021. Elevated levels of hesitancy remain a public health concern as "No one is safe until everyone is safe". The already established role of trust in vaccine hesitancy is still to be adequately addressed as a potentially effective route of intervention.

Duong C-H., Mueller J.E., Tubert-Bitter P., Escolano S., *Estimation of mid-and long-term benefits and hypothetical risk of Guillain-Barre syndrome after human papillomavirus vaccination among boys in France: A simulation study, Vaccine, vol. 40(2), Pages 359-363, 2022. DOI: 10.1016/j.vaccine.2021.11.046*

Background: The burden of human papillomavirus (HPV) infection can be substantially reduced through vaccination of girls, and gender-neutral policies are being adopted in many countries to accelerate disease control among women and expand direct benefits to men. Clinical direct

benefit of boys HPV vaccination has been established for ano-genital warts and anal cancer. HPV vaccines are considered safe, but an association with Guillain-Barre syndrome has been found in French reimbursement and hospital discharge data. **Methods:** We conducted a Monte-Carlo simulation assuming a stable French population of 11- to 14-year-old boys, adult men and men having sex with men. We modelled and quantified the mid-term benefits as the annually prevented ano-genital warts among the 8.72 M men aged 15-35 years and the long-term benefits as the annually prevented anal cancer cases among the 17.4 M men aged 25-65 years. We also estimated the number of Guillain-Barre syndrome cases hypothetically induced by vaccination. **Results:** With a vaccine coverage of 30%, an annual number of 9310 (95% uncertainty interval [7050-11,200]) first ano-genital warts episodes among the 8.72 M men aged 15-35 years are prevented. According to more or less optimistic hypotheses on the proportion of HPV cancers covered by the vaccine, between 15.1 [11.7-17.7] and 19.2 [15.0-22.6] cases of anal cancer among the 17.4 M men aged 25-65 years would be annually avoided. Among men having sex with men, the corresponding figures were 1907 (1944-2291) for ano-genital warts and between

2.0 [0.23-4.5] and 2.6 [0.29-5.7] for anal cancer. Among 11- to 14-year-old boys, 0.82 (0.15-2.3) Guillain-Barre syndrome cases would be induced annually. **Interpretation:** A long-term program of HPV vaccination among boys in France would avoid substantially more cancer cases than hypothetically induce Guillain-Barre syndrome cases, in the general and specifically the homosexual population. Additional benefits may arise with the possible vaccine protection against oro-laryngeal and -pharyngeal cancer.

Egloff C., Couffignal C., Cordier A.G., Deruelle P., Sibiude J., Anselem O., Benachi A., Luton D.,

Mandelbrot L., Vauloup-Fellous C., Vivanti A.J., Picone O., *Pregnant women's perceptions of the COVID-19 vaccine: A French survey, PLoS One, vol. 17(2), 2022. DOI: 10.1371/journal.pone.0263512*

Introduction: Pregnant women are at increased risk for COVID-19, and COVID-19 vaccine is the most promising solution to overcome the current pandemic. This study was conducted to evaluate pregnant women's perceptions and acceptance of COVID-19 vaccination. **Materials & methods:** A cross-sectional study was conducted from February 18 to April 5 2021. An anonymous survey was distributed in 7 French obstetrics departments to all pregnant women before a prenatal visit. All pregnant women attending a follow-up consultation were asked to participate in the study. An anonymous web survey was available through a QR code and participants were asked whether or not they would agree to be vaccinated against SARS-CoV-2, and why. The questionnaire included questions on the patients' demographics and their knowledge of COVID-19 vaccines. **Results:** Of the 664 pregnant women who completed the questionnaire, 29.5% (95% CI 27.7; 31.3) indicated they would agree to be vaccinated against COVID-19. The main reason for not agreeing was being more afraid of potential side effects of the SARS-CoV-2 vaccine on the fetus than of COVID-19. Factors influencing acceptance of vaccination were: being slightly older, multiparity, having discussed it

with a caregiver and acceptance of the influenza vaccine. **Discussion:** Nearly one-third of pregnant women in this population would be willing to be vaccinated. In addition to studies establishing fetal safety, public health agencies and healthcare professionals should provide accurate information about the safety of COVID-19 vaccines.

Eynaud M., Racon P., *La Covid-19 en Guadeloupe : souffrances et résistances, Perspectives Psy*, vol. 60(3), Pages 291-300, 2021. DOI: 10.1051/pps/2021603291

The Covid-19 epidemic was particularly intense in Guadeloupe, with very high incidence and mortality rates. It occurred in a population with a number of risk factors, a precarious socio-economic situation and a fragile hospital system, making it a syndromic situation. The viral epidemic has gone hand in hand with a psychological epidemic, with a sharp rise in the use of public psychiatric services, reflected in an increase in the number of new patients, outpatient treatment and hospitalisation, both in general and child psychiatry. Defences against the anxiety generated by the epidemic, and the measures taken to restrict travel and social relations, have taken many forms and involve a variety of factors and mechanisms, in adults, minors and healthcare professionals alike. There was strong resistance to vaccination, illustrating the limits of health democracy. Opposition to vaccines is linked in particular to the ecological and health scandal surrounding the use of Chlordecone, with opposition to a chemical becoming opposition to the state, but also to any form of authority. This politicisation of health is also supported by a trade union with independence in mind. Distrust of anything that comes from outside, as well as identity and cultural issues, have also contributed to the delay in vaccination, with a retreat to traditional pharmacopoeia combining an identity of resistance and a protective sense of belonging. The retreat into confrontational identities between “pro” and “anti” calls into question the relational identity that is the basis of creolisation.

Faccin M., Gargiulo F., Atlani-Duault L., Ward J.K., *Assessing the influence of French vaccine critics during the two first years of the COVID-19 pandemic, PLoS One*, vol. 17(8), 2022. DOI: 10.1371/journal.pone.0271157

When the threat of COVID-19 became widely acknowledged, many hoped that this pandemic would squash “the anti-vaccine movement”. However, when vaccines started arriving in rich countries at the end of 2020, it appeared that vaccine hesitancy might be an issue even in the context of this major pandemic. Does it mean that the mobilization of vaccine-critical activists on social media is one of the main causes of this reticence to vaccinate against COVID-19? In this paper, we wish to contribute to current work on vaccine hesitancy during the COVID-19 pandemic by looking at one of the many mechanisms which can cause reticence towards vaccines: the capacity of vaccine-critical activists to influence a wider public on social media. We analyze the evolution of debates over the COVID-19 vaccine on the French Twittosphere, during two first years of the pandemic, with a particular attention to the spreading capacity of vaccine-critical websites.

We address two main questions: 1) Did vaccine-critical contents gain ground during this period? 2) Who were the main actors in the diffusion of these contents? While debates over vaccines experienced a tremendous surge during this period, the share of vaccine-critical contents in these debates remains stable except for a limited number of short periods associated with specific events. Secondly, analysing the community structure of the re-tweets hyper-graph, we reconstruct the mesoscale structure of the information flows, identifying and characterizing the major communities of users. We analyze their role in the information ecosystem: the largest right-wing community has a typical echo-chamber behavior collecting all the vaccine-critical tweets from outside and recirculating it inside the community. The smaller left-wing community is less permeable to vaccine-critical contents but, has a large capacity to spread it once adopted.

Faucher B., Assab R., Roux J., Levy-Bruhl D., Tran Kiem C., Cauchemez S., Zanetti L., Colizza V., Boëlle P.Y., Poletto C., *Agent-based modelling of reactive vaccination of workplaces and schools against COVID-19, Nature Communications*, vol. 13(1), 2022. DOI: 10.1038/s41467-022-29015-y

With vaccination against COVID-19 stalled in some countries, increasing vaccine accessibility and distribution could help keep transmission under control. Here, we study the impact of reactive vaccination targeting schools and workplaces where cases are detected, with an agent-based model accounting for COVID-19 natural history, vaccine characteristics, demographics, behavioural changes and social distancing. In most scenarios, reactive vaccination leads to a higher reduction in cases compared with non-reactive strategies using the same number of doses. The reactive strategy could however be less effective than a moderate/high pace mass vaccination program if initial vaccination coverage is high or disease incidence is low, because few people would be vaccinated around each case. In case of flare-ups, reactive vaccination could better mitigate spread if it is implemented quickly, is supported by enhanced test-trace-isolate and triggers an increased vaccine uptake. These results provide key information to plan an adaptive vaccination rollout.

Fino C., *Les vaccins. Questions éthiques, Revue d'éthique et de théologie morale*, vol. 311(3), Pages 61-71, 2021. DOI: 10.3917/retm.314.0061

The use of a vaccine requires ethical discernment about the conditions in which it is produced, the way it is used, and the tension between respect for individual freedom and the promotion of the common good. This sometimes involves assessing the degree of responsibility involved in collaborating with evil, or the effectiveness of manipulating living organisms, and making a proportionate judgement. It is always a question of preserving the necessary adaptability of living beings in the face of danger, as a gift of Creation that reinforces the duty to assess the limits that must be assigned to technology. Finally, we must promote justice in access to vaccines, giving priority to the most vulnerable, and the common good, which requires

collaboration and concrete action on the part of every citizen, from institutions including the Church, to the economic and geopolitical levels.

Frame A., Brachotte G., Selmi A., *A vos seringues: French Governmental Communication on COVID-19 Vaccination via Twitter*, in *Manufacturing Government Communication on Covid-19: A Comparative Perspective* (ed. Maarek, P. J.) 371-395 (Springer International Publishing, 2022). DOI: 10.1007/978-3-031-09230-5_19.

In January 2021, the French government was widely criticised in social media for having been slow to organize the COVID-19 vaccination campaign, despite considerable suspicion of vaccination in general among the French public. This paper examines French governmental communication on Twitter regarding vaccinations, from 1st December 2020 to 1st April 2021, in relation with public discussion of the question on the same social network and other media sources during this period.

Gagneux-Brunon A., Botelho-Nevers E., Bonneton M., Peretti-Watel P., Verger P., Launay O., Ward J.K., *Public opinion on a mandatory COVID-19 vaccination policy in France: a cross-sectional survey*, *Clinical Microbiology and Infection*, vol. 28(3), Pages 433-439, 2022. DOI: 10.1016/j.cmi.2021.10.016

Objectives: Reaching the last pockets of unvaccinated people is challenging, and has led to the consideration of mandatory vaccination for coronavirus disease 2019 (COVID-19). Our aim was to assess attitudes toward mandatory COVID-19 vaccination in France before the announcement of-and factors associated with opposition to-this type of policy. **Methods:** Between the 10th and 23rd May 2021, we conducted a cross-sectional online survey among a representative sample of the French population aged 18 and over, and a specific sample of the French senior population aged over 65. **Results:** Among 3056 respondents, 1314 (43.0%) were in favour of mandatory COVID-19 vaccination, 1281 (41.9%) were opposed to such a policy, and 461 (15.1%) were undecided. Among opponents to mandatory COVID-19 vaccination for the general population, 385 (30.05%) were in favour of mandatory COVID-19 vaccination for healthcare workers (HCWs). In multivariate analysis, the age groups 18-24 and 25-34 years were significantly more opposed than the reference group (>75 years old) with respective adjusted odds ratio (aOR) and 95% confidence interval (95%CI) 4.67 (1.73-12.61) and 3.74 (1.57-8.93). Having no intention of getting COVID-19 vaccination was strongly associated with opposition to mandatory vaccination (aOR 10.67, 95%CI 6.41-17.76). In comparison with partisans of the centre, partisans of the far left and green parties were more likely to be opposed to mandatory COVID-19 vaccine, with respective aORs (95%CI) of 1.89 (1.06-3.38) and 2.08 (1.14-3.81). **Conclusion:** Attitudes toward mandatory COVID-19 vaccination are split in the French general population, and the debate might become politicized.

Gagneux-Brunon A., Botelho-Nevers E., Launay O., *Are the conditions met to make COVID-19 vaccination mandatory for healthcare professionals?*, *Infectious Diseases Now*, vol. 51(6), Pages 507-509, 2021. DOI: 10.1016/j.idnow.2021.06.301

Historically, epidemics claimed the lives of healthcare professionals (HCPs) (Plague, Yellow Fever, SARS, Ebola, etc.) [1]. HCPs have been at the front line of the response to the SARS-CoV-2 pandemic. They are both potential victims and spreaders of the infection [2]. During the opening session of the World Health Assembly on May 24, 2021, the general director of the World Health Organization estimated that 115,000 HCPs had lost their lives due to COVID-19 [3]. In May 2021, the French public health agency (Santé publique France, SPF), reported 81,032 COVID-19 cases (and 19 deaths) among HCPs working in healthcare facilities. This evaluation is probably underestimated [4]. Nurses and assistant nurses were the most affected occupational groups. In May 2021, 62,678 nosocomial cases of COVID-19 were identified by SPF, of which 24,048 cases occurred in HCPs [5]. HCPs were identified as the index case in a third of cases. The proportion of infected HCPs in nosocomial clusters has been decreasing since March 2021 [5]. Worldwide, HCPs represent a priority group for COVID-19 vaccination. In France, their intention to get vaccinated against COVID-19 varied across time and across professional categories [6]. On May 18, 2021, SPF reported that 91.7% of HCPs had received one dose of COVID-19 vaccine and 63.4% were fully vaccinated [5]. This proportion of vaccinated HCPs is probably overestimated as other employees of healthcare facilities were vaccinated, but acceptability of COVID-19 vaccines among HCPs does seem to increase. In March 2021, the French National Academy of Medicine stated that COVID-19 vaccine should be mandatory for HCPs [7]. On May 25, 2021, they reiterated their statement and made a decision for mandatory vaccination against COVID-19 for various occupations and activities: HCPs, essential workers, students, travels, etc. [8]. These statements were not endorsed by the authorities at this time. An opinion poll demonstrated that the French general population was favourable to a mandatory vaccine for HCPs (IFOP/Fiducial March 11, 2021). While COVID-19 vaccination is highly recommended for HCPs, and might become required to attend various social events and to travel, it is time to address or re-address the question of a mandatory COVID-19 vaccine in French HCPs. By making a vaccine mandatory for HCPs, high vaccine coverage in healthcare professionals may be obtained and differences observed between occupational groups may be reduced. Suboptimal vaccine coverage against seasonal influenza, pertussis, measles, and varicella (non-mandatory vaccines in France) has indeed been observed [9]. Moreover, vaccine coverage for recommended vaccines (especially influenza vaccine) is lower in nurses and assistant nurses; no difference is observed in terms of vaccine coverage between occupational groups for mandatory vaccines [9]. In 2016, the French High Council for Public Health (French acronym HCSP) published guidelines on mandatory vaccines for French HCPs. They developed the following framework to recommend the mandatory nature of a vaccine for HCPs: [10] (i) HCPs should be at high risk of the vaccine-preventable disease, and highly exposed to the pathogens; (ii) there should be a transmission risk

to patients; (iii) the vaccine should be effective; (iv) the benefit-risk ratio should be favourable for HCPs. In these guidelines, the HCSP considered that these criteria were not fulfilled for the seasonal influenza vaccine. Although they recommended against mandatory influenza vaccine in HCPs, they considered that in a pandemic context and/or if a more effective vaccine became available, this position should be newly discussed.

Gagneux-Brunon A., Detoc M., Bruel S., Tardy B., Rozaire O., Frappe P., Botelho-Nevers E., *Intention to get vaccinations against COVID-19 in French healthcare workers during the first pandemic wave: a cross-sectional survey*, *The Journal of Hospital Infection*, vol. 108, Pages 168-173, 2021. DOI: 10.1016/j.jhin.2020.11.020

Background: Healthcare workers (HCWs) are at the frontline of the COVID-19 pandemic and identified as a priority target group for COVID-19 vaccines. We aimed to determine COVID-19 vaccine acceptance rate in HCWs in France. **Methods:** We conducted an anonymous survey from 26th March to 2nd July 2020. The primary endpoint was the intention to get vaccinated against COVID-19 if a vaccine was available. **Results:** Two-thousand and forty-seven HCWs answered the survey; women accounted for 74% of respondents. Among respondents, 1,554 (76.9%, 95% confidence interval 75.1-78.9) would accept a COVID-19 vaccine. Older age, male gender, fear about COVID-19, individual perceived risk and flu vaccination during previous season were associated with hypothetical COVID-19 vaccine acceptance. Nurses and assistant nurses were less prone to accept vaccination against COVID-19 than physicians. Vaccine hesitancy was associated with a decrease in COVID-19 vaccine acceptance. Flu vaccine rate was 57.3% during the previous season, and 54.6% of the respondents had the intention to get a flu vaccine during the next season. **Conclusions:** Intention to get vaccinated against COVID-19 reached 75% in HCWs with discrepancies between occupational categories. COVID-19 pandemic had no positive effect on flu vaccine acceptance rate.

Gagneux-Brunon A., Ward J.K., Bonneton M., Verger P., Launay O., Botelho-Nevers E., *Intention to participate in COVID-19 vaccine clinical trials in May 2021: a cross-sectional survey in the general French population*, *Human Vaccines & Immunotherapeutics*, vol. 18(5), 2022. DOI: 10.1080/21645515.2022.2072630 In May 2021, while the immunization campaign was in progress, the emergence of new SARS-

CoV-2 variants led us to assess attitudes toward participation in a COVID-19 vaccine clinical trial (VCT) in France. Between the 10th and the 23rd of May 2021, we conducted a cross-sectional online survey among a representative sample of the French population aged 18 and over and a specific sample of the French population over 65. Among the 3,056 respondents, 28.0% (856) would consider participation in a COVID-19 VCT. Factors independently negatively associated with willingness to participate in a COVID-19 VCT were female gender with an adjusted odd ratio (aOR) 0.42 and 95% confidence interval (95% CI) 0.35-0.51, and mistrust in health actors (in their own physician and pharmacists,

health ministry, government, scientists in medias, medias and pharmaceutical companies) with aOR 0.86 (95% CI 0.84-0.88) by one-point increase in mistrust in health actors score. Factors positively associated with willingness to participate in a COVID-19 VCT were COVID-19 vaccination or intention to get vaccinated with aOR 4.89 (95% CI 3.15-7.61), being a healthcare worker with aOR 2.051 (95% CI 1.51-2.80), being at risk for severe COVID-19 with aOR 1.39 (95% CI 1.14-1.69) and altruism as the main reason for getting vaccination with aOR 1.56 (95% CI 1.29-1.88). In May 2021, despite COVID 19 vaccine availability, 28% of the French population would agree to participate in a COVID-19 VCT. Mistrust in health actors contributes to a reduction in the intention to participate. Attitudes toward COVID-19 vaccination predict attitudes toward participation in a COVID-19 VCT.

Garrison A., Karlsson L., Fressard L., Fasce A., Rodrigues F., Schmid P., Taubert F., Holford D., Lewandowsky S., Nynäs P., Anderson E.C., Gagneur A., Dubé E., Soveri A., Verger P., *International adaptation and validation of the Pro-VC-Be: measuring the psychosocial determinants of vaccine confidence in healthcare professionals in European countries*, *Expert Review of Vaccines*, vol. 22(1), Pages 726-737, 2023. DOI: 10.1080/14760584.2023.2242479

Background: Healthcare professionals (HCPs) play an important role in vaccination; those with low confidence in vaccines are less likely to recommend them to their patients and to be vaccinated themselves. The study's purpose was to adapt and validate long- and short-form versions of the International Professionals' Vaccine Confidence and Behaviors (I-Pro-VC-Be) questionnaire to measure psychosocial determinants of HCPs' vaccine confidence and their associations with vaccination behaviors in European countries. **Research design and methods:** After the original French-language Pro-VC-Be was culturally adapted and translated, HCPs involved in vaccination (mainly GPs and pediatricians) across Germany, Finland, France, and Portugal completed a cross-sectional online survey in 2022. A 10-factor multigroup confirmatory factor analysis (MG-CFA) of the long-form (10 factors comprising 34 items) tested for measurement invariance across countries. Modified multiple Poisson regressions tested the criterion validity of both versions. **Results:** 2,748 HCPs participated. The 10-factor structure fit was acceptable to good everywhere. The final MG-CFA model confirmed strong factorial invariance and showed very good fit. The long- and short-form I-Pro-VC-Be had good criterion validity with vaccination behaviors. **Conclusion:** This study validates the I-Pro-VC-Be among HCPs in four European countries; including long- and short-form tools for use in research and public health.

Giry J., *Fake news and conspiracy theories in times of pandemic(s)*, *Quaderni*, vol. 106(2), Pages 43-64, 2022. DOI: 10.4000/quaderni.2303

The emergence and development of the Covid-19 pandemic in early 2020 has given rise to a number of uncertain and even dubious statements being circulated in the public arena, particularly in digital form, including conspiracy theories and fake news. From The aim of this

article, therefore, is to examine, including in their historical depth, the conditions of emergence and circulation of these performative statements, which constitute alternative mechanisms of social and informational regulation to the word of legitimate authorities. We will begin by considering how scientists' lack of knowledge about the new disease, combined with fluctuating and inaudible communication from the political authorities and a high degree of structural distrust of media professionals and politicians, provided a 'window of opportunity' for the emergence of conspiracy theories and fake news. We will then show that these theories largely echo those that have already circulated during previous pandemics, since at least the end of the 19th century. Finally, we will look at the way in which these statements have circulated in the digital space, particularly on social networks.

Gaillaguet, J., *Pour une écologie médiatique de l'expérience des controverses vaccinales*, Quaderni, vol. 109(2), Pages 23-29, 2023.

This article looks at how people who are critical or hesitant about vaccination experience controversy through the media. Often reduced to the influence of 'anti-vaccine' movements on the internet, I propose here to start from the discourse of the actors in order to describe a broader media ecology. To do this, I use a qualitative, longitudinal survey to 1) describe the different ways in which stakeholders use the media, with the aim of outlining an ecology of media controversies, and 2) to analyse the stakeholders' relationship with this ecology.

Giry J., Nicey J., *Des vérités plurielles ?* Quaderni, vol. 67, Pages 96-105, 2022. DOI: 10.4000/revss.8113

A founding value of representative systems, trust refers to the ability of human beings to rely on others, on institutions that act as mediators and on a certain form of civic-mindedness that involves individuals in various forms of social cooperation. However, the erosion of trust would lead actors to fall into various

These "social traps" are manifestations of distrust of the political, media and scientific authorities. Such is the case with vaccine mistrust or hesitancy, which, in the name of various forms of lay knowledge, call into question scientifically established knowledge and understanding. Following on from the historical development of protean antivaccinism or vaccinoscepticism, we propose an analysis of the contemporary French-speaking 'antivax' movement online. Who are the moral entrepreneurs of this protean movement? How, and in what digital spaces, do they manage to express their distrust? What arguments and political/rhetorical devices do they use to convince others? Do they have significant affinities with certain currents of thought, such as the extreme right or new age movements? Finally, to what extent can these "plural truths" - those of the "anti-vaxers" and those of the authorities - be reconciled?

Giry J., Nouvel D., *Étudier les discours «conspirationnistes» et leur circulation sur Twitter, Les théories du complot comme objets du traitement automatique du langage et de l'analyse des données textuelles*, Mots. Les langages du politique, vol. 130(3), Pages 37-55, 2022. DOI: 10.4000/mots.30467

This article looks at conspiracy theories about vaccines and chemtrails circulating on Twitter through the prism of automatic language processing and textual data analysis. While the issue of chemtrails is more relevant to technical content in English, conspiracy theories about vaccines are developing much more in the French-speaking world around more political aspects. The cross-fertilisation of these two themes has enabled us to bring to light prolific conspiracy accounts that are largely invisible to human detection.

Godinot L.D., Sicsic J., Lachatre M., Bouvet E., Abiteboul D., Rouveix E., Pellissier G., Raude J., Mueller J.E., *Quantifying preferences around vaccination against frequent, mild disease with risk for vulnerable persons: A discrete choice experiment among French hospital health care workers*, Vaccine, vol. 39(5), Pages 805-814, 2021. DOI: 10.1016/j.vaccine.2020.12.057

The individual determinants of vaccine acceptance among health workers (HCWs) have been described in the literature, but there is little evidence regarding the impact of vaccine characteristics and contextual factors (e.g., incentives, communication) on vaccination intentions. We developed a single profile discrete choice experiment (DCE) to assess the impact of seven attributes on stated vaccination intention against an unnamed disease, described as frequent with rapid clinical evolution and epidemic potential (similar to influenza or pertussis). Attributes evaluated vaccine characteristics (effectiveness, security profile), inter-individual aspects (epidemic risk, controversy, potential for indirect protection, vaccine coverage) and incentives (e.g., badge, hierarchical injunction). A total of 1214 French hospital-based HCWs, recruited through professional organizations, completed the online DCE questionnaire. The relative impact of each attribute was estimated using random effects logit models on the whole sample and among specific subgroups. Overall, 52% of included HCWs were vaccinated against influenza during 2017-18 and the average vaccination acceptance rate across all scenarios was 58%. Aside from the management stance, all attributes' levels had significant impact on vaccination decisions. Poor vaccine safety had the most detrimental impact on stated acceptance (OR 0.04 for the level controversy around vaccine safety). The most motivating factor was protection of family (OR 2.41) and contribution to disease control (OR 2.34). Other motivating factors included improved vaccine effectiveness (OR 2.22), high uptake among colleagues (OR 1.89) and epidemic risk declared by health authorities (OR 1.76). Social incentives (e.g., a badge I'm vaccinated) were dissuasive (OR 0.47). Compared to HCWs previously vaccinated against influenza, unvaccinated HCWs who were favourable to vaccination in general were most sensitive towards improved vaccine effectiveness. Our study suggests that vaccine safety considerations

dominate vaccine decision-making among French HCWs, while adapted communication on indirect protection and social conformism can contribute to increase vaccination acceptance.

Granier S., Bureau K., Breton J., Michaud C., Gaillet M., Agostini C., Ballet M., Nacher M., Valdes A., Abboud P., Adenis A., Djossou F., Epelboin L., Douine M., Vignier N., *Attitudes et intentions à l'égard du vaccin Covid-19 chez les professionnels de santé de Guyane*, Bulletin épidémiologique hebdomadaire, 2022.

Introduction: In the context of the global Covid-19 pandemic and the worrying expansion of the more transmissible 20J/501Y.V3 (P1) variant, an mRNA vaccine has been made available in French Guyana from mid-January 2021. The aim of this study was to estimate the vaccination intentions of healthcare professionals in French Guyana. **Methods:** A cross-sectional survey was conducted from 22 January to 26 March 2021 among a sample of healthcare professionals in French Guiana using a widely distributed anonymous online questionnaire. **Results:** A total of 579 healthcare professionals agreed to take part in this study, including 220 doctors and 200 nurses working mainly in hospitals (54%) or in the private sector (22%). Overall, 65.6% of respondents said they wanted to be vaccinated or had already been vaccinated against Covid-19, while 24.3% said they did not want to be vaccinated against Covid-19 and 11.2% were unsure. In a multivariate analysis, the factors associated with a better willingness to vaccinate were older age, level of concern about Covid-19, confidence in vaccine information and having been vaccinated against influenza the previous year. Conversely, reluctance to certain vaccinations in general (ORa=0.23, IC95%: [0.13-0.41]) and originating from the West Indies or French Guyana (0.39 [0.21-0.73]) were associated with greater distrust of vaccination. **Conclusion:** Negative opinions and attitudes towards vaccines are a major public health concern among healthcare professionals in French Guyana. Territorial specificities, general hesitancy towards vaccines and concerns about future side-effects in particular, represent major obstacles and/or factors. Low confidence in government and science is a significant factor in the refusal of the Covid-19 vaccine among non-medical staff. Public health messages containing information on vaccine safety should be adapted to address these concerns.

Guillon M., Kergall P., *Factors associated with COVID-19 vaccination intentions and attitudes in France*, Public Health, vol. 198, Pages 200-207, 2021. DOI: 10.1016/j.puhe.2021.07.035

Objectives: The objective of the study is to investigate the factors associated with COVID-19 vaccination intentions and attitudes in France. **Study design:** An online cross-sectional study was conducted among a representative sample of the French population between November 20th and 23rd 2020 (N = 1146). **Methods:** Factors associated with the intention to get vaccinated and with COVID-19 vaccine attitudes were estimated using ordered logistic and multinomial logistic regressions, respectively. Independent variables of interest include COVID-19 and vaccine

perceptions, trust, endorsement of COVID-19 conspiracy theories and time/risk preferences. **Results:** Only 30.5% of our respondents would agree to get vaccinated against COVID-19 during the first semester of 2021 while 31.1% declare being unsure of their vaccination intentions. COVID-19 risk perceptions are associated with vaccination intentions and attitudes. Individual and collective benefits of the vaccine and the concerns over its safety are strongly associated with COVID-19 vaccination intentions and attitudes. Vaccine acceptors are more willing to take risks in the health domain compared with vaccine hesitant respondents which indicates that the COVID-19 vaccine is perceived as a greater health risk than the COVID-19 itself by some respondents. We also find a positive association between future preference and the willingness to get vaccinated. **Conclusion:** Awareness campaigns should be conducted to enhance vaccination uptake among vaccine hesitant individuals. These campaigns could highlight the positive benefit-risk balance of the COVID-19 vaccines or the short-term benefits of vaccination and should reassure the public on the safety of the COVID-19 vaccines.

Guimier L., *Les résistances françaises aux vaccinations : continuité et ruptures à la lumière de la pandémie de Covid-19*, Hérodote, vol. 183(4), Pages 227-250, 2021. DOI: 10.3917/her.183.0227

Over the last ten years or so, international studies have regularly identified France as the epicentre of vaccine scepticism. The public debates surrounding the nationwide vaccination campaign planned to counter the Covid-19 pandemic have confirmed Pasteur's nation's special relationship with vaccines, or more precisely with vaccination policy. This article explores the roots of this French peculiarity by describing its historical foundations, its networks of influence and its systemic causes, in order to provide keys to understanding its geographical variations.

Hacquain A-S., Altay S., de Araujo E., Chevallier C., Mercier H., *Sharp rise in vaccine hesitancy in a large and representative sample of the French population: reasons for vaccine hesitancy*, Preprint, <https://osf.io/preprints/psyarxiv/r8h6z>

A safe and effective COVID-19 vaccine is our only hope to decisively stop the spread of the SARS-CoV-2. But a vaccine will only be fully effective if a significant share of the population agrees to get it. Five consecutive surveys of a large, nationally representative sample (N = 1000 for each wave) surveyed attitudes towards a future COVID-19 vaccine in France from May 2020 to October 2020. We found that COVID-19 vaccine refusal has steadily increased, reaching an all-time high with only 23% of participants willing to probably or certainly take a future COVID-19 vaccine in September 2020. Vaccine hesitant individuals are more likely to be women, young, less educated, to vote at the political extremes, to be dissatisfied with the government's response to the COVID-19 crisis, and to feel less at risk of COVID-19. The reasons why French people would refuse to take the COVID-19 vaccine are similar to those offered for other vaccines, and these reasons are strikingly stable across gender, age and educational level.

Finally, most French people declare they would not take the vaccine as soon as possible but would instead rather wait or not take it at all.

Heyerdahl L. W., Lana B., Giles-Vernick T., *The Impact of the Online COVID-19 Infodemic on French Red Cross Actors' Field Engagement and Protective Behaviors: Mixed Methods Study*, JMIR Infodemiology, vol. 1(1), 2021. DOI: 10.2196/27472

Background: The COVID-19 pandemic has been widely described as an infodemic, an excess of rapidly circulating information in social and traditional media in which some information may be erroneous, contradictory, or inaccurate. One key theme cutting across many infodemic analyses is that it stymies users' capacities to identify appropriate information and guidelines, encourages them to take inappropriate or even harmful actions, and should be managed through multiple transdisciplinary approaches. Yet, investigations demonstrating how the COVID-19 information ecosystem influences complex public decision making and behavior offline are relatively few. **Objective:** The aim of this study was to investigate whether information reported through the social media channel Twitter, linked articles and websites, and selected traditional media affected the risk perception, engagement in field activities, and protective behaviors of French Red Cross (FRC) volunteers and health workers in the Paris region of France from June to October 2020. **Methods:** We used a hybrid approach that blended online and offline data. We tracked daily Twitter discussions and selected traditional media in France for 7 months, qualitatively evaluating COVID-19 claims and debates about nonpharmaceutical protective measures. We conducted 24 semistructured interviews with FRC workers and volunteers. **Results:** Social and traditional media debates about viral risks and nonpharmaceutical interventions fanned anxieties among FRC volunteers and workers. Decisions to continue conducting FRC field activities and daily protective practices were also influenced by other factors unrelated to the infodemic: familial and social obligations, gender expectations, financial pressures, FRC rules and communications, state regulations, and relationships with coworkers. Some respondents developed strategies for "tuning out" social and traditional media. **Conclusions:** This study suggests that during the COVID-19 pandemic, the information ecosystem may be just one among multiple influences on one group's offline perceptions and behavior. Measures to address users who have disengaged from online sources of health information and who rely on social relationships to obtain information are needed. Tuning out can potentially lead to less informed decision making, leading to worse health outcomes.

Hirsch E., *Les libertés à l'épreuve de la stratégie vaccinale*, in Israel-Jost V., Weil-Dubuc P-L., *Éthique vaccinale*, 157-166 (Érès, 2023)

No summary: Topics covered :

Anticipating the ethical conditions of a possible vaccination obligation

A difficult equation

The need to set out rules and ensure they are understood

Dithering

Conclusion

Israel-Jost V., Weil-Dubuc P., *Éthique vaccinale: Ce que nous a appris la crise sanitaire*, Érès, Toulouse, 264 p, 2023.

In a form of reflexive and collective ethics, the authors set out to draw up an overview of the problems associated with vaccination, highlighted in the context of the coronavirus pandemic. Noting the hesitations, mistrust and resistance to vaccination, in a context where uncertainties about the future persist, the authors propose interpretative frameworks and examine in particular the opposition between individualism and solidarity. They address the essential ethical questions that arise on a collective scale: is there a right way to inform and communicate about vaccines? Is the vaccination strategy fair and effective? What impact have measures taken to combat the virus had on children and teenagers? When it comes to mandatory vaccination, do the ends justify the means? Can individual freedoms be set aside in favour of the collective good? What are the international and global justice issues involved in the fair distribution of doses of vaccine around the world?

Izambert C., Gaudillière J-P., *La campagne vaccinale en France : un succès en trompe-l'œil*, in Israel- Jost V., Weil-Dubuc P-L., *Éthique vaccinale*, 105-115 (Érès, 2023).

No summary

Janssen C., Maillard A., Bodelet C., Claudel A-L., Gaillat J., Delory T., *On Behalf Of The Acv Alpin Study Group, Hesitancy towards COVID-19 Vaccination among Healthcare Workers: A Multi-Centric Survey in France*, *Vaccines*, vol. 9(6), 2021. DOI: 10.3390/vaccines9060547

Vaccination programs against COVID-19 are being scaled up. We aimed to assess the effects of vaccine characteristics on vaccine hesitancy among healthcare workers in a multi-center survey conducted within French healthcare facilities from 1 December 2020 to 26 March 2021. We invited any healthcare workers naïve of COVID-19 vaccination to complete an online self-questionnaire. They reported on their socio-demographic characteristics, as well as their perception and beliefs towards vaccination. We measured their willingness to get vaccinated in eight scenarios for candidates' vaccines presented sequentially (1 to 4-point scale). Candidates' vaccines varied for efficacy (25%, 50%, 100%), length of immunization (1 year or lifetime), frequency (<1/100, <1/10,000), and severity (none, moderate, severe) of adverse events. We analysed 4349 healthcare workers' responses with interpretable questionnaires. The crude willingness to get vaccinated was 53.2% and increased over time. We clustered the trajectories of responses using an unsupervised classification algorithm (k-means) and identified four groups of healthcare workers: those willing to get vaccinated in any scenario (18%), those not willing to get vaccinated at all (22%), and those hesitating but more likely to accept (32%) or reject (28%) the vaccination depending on the scenario. In these last two subgroups,

vaccine acceptance was growing with age, educational background and was higher among men with condition. Compared to an ideal vaccine candidate, a 50% reduced efficacy resulted in an average drop in acceptance by 0.8 (SD \pm 0.8, -23.5%), while it was ranging from 1.4 (SD \pm 1.0, -38.4%) to 2.1 (SD \pm 1.0, -58.4%) in case of severe but rare adverse event. The acceptance of a mandatory immunization program was 29.6% overall and was positively correlated to the willingness to get vaccinated, ranging from 2.4% to 60.0%. Even if healthcare workers represent a heterogeneous population, most (80%) could accept the vaccination against COVID-19. Their willingness to get the vaccine increased over time and as immunization programs became available. Among hesitant professionals, the fear of adverse events was the main concern. Targeted information campaigns reassuring about adverse events may increase vaccine coverage, in a population with a strong opinion about mandatory immunization programs.

Jung Y.J., Gagneux-Brunon A., Bonneton M., Botelho-Nevers E., Verger P., Ward J.K., Launay O., Factors associated with COVID-19 vaccine uptake among French population aged 65 years and older: results from a national online survey, BMC Geriatrics, vol. 22(1), Page 637, 2022. DOI: 10.1186/s12877-022-03338-3

Background: In France, the increase in COVID-19 vaccine uptake among older adults slowed down between May and June 2021. Using the data from a national survey, we aimed to assess COVID-19 vaccine uptake among French residents aged 65 years and older, particularly at risk of severe form of the infection, and identify factors associated with non-vaccination. **Methods:** A cross-sectional online survey collected the immunization status/intention to get the COVID-19 vaccine, reasons for vaccination/non-vaccination and factors potentially associated with vaccine uptake between May 10 and 23, 2021 among a large sample of French residents. Characteristics of participants were compared according to immunization status. Factors potentially associated with non-vaccination were computed into a multivariate logistic regression. **Results:** Among the 1941 survey participants, 1612 (83%) reported having received at least one dose of COVID-19 vaccine. Among the 329 unvaccinated, 197 (60%) declared having the intention to get vaccinated. Younger age (adjusted odds ratio (aOR) = 1.50; 95% confidence interval (CI), 1.05-2.14), thinking previously having COVID-19 (aOR = 4.01; 95% CI, 2.17-7.40), having suffered economic impact due to the pandemic (aOR = 2.63; 95% CI, 1.71-4.04), reporting an “unsafe” opinion about COVID-19 vaccine safety (aOR = 6.79; 95% CI, 4.50-10.26), reporting an “unsupportive” opinion about vaccination in general (aOR = 4.24; 95% CI, 2.77-6.49) were independent risk factors for non-vaccination. On the other hand, trust in COVID-19 vaccine information delivered by the doctor (aOR = 0.28; 95% CI, 0.16-0.48) and trust in the government’s actions (aOR = 0.50; 95% CI, 0.34-0.74) were independent protective factors for non-vaccination. Political affiliation also remained significantly associated with vaccine uptake. **Conclusions:** Despite high overall COVID-19 vaccine uptake among the study participants, differences in vaccine uptake according to the level of concerns regarding COVID-19 vaccine safety, socioeconomic profile and trust in the government were

observed. Our results reinforce the importance of “reaching out” vaccination strategy that specifically targets the most vulnerable fringe of older adult population.

Junot A., Chabanet P., Ridde V., Management of the COVID crisis in Reunion Island (SW Indian Ocean): representations of COVID-19 and acceptance of public health measures, Health Psychology and Behavioral Medicine, vol 11(1), 2023. DOI: 10.1080/21642850.2023.2252902

Context: The coronavirus pandemic (COVID-19) has caused a major health crisis, requiring the implementation of various public health measures in order to slow the spread of the virus and reduce the associated mortality. However, the success of these measures depends on people’s acceptance of them. This research aimed at understanding people’s representations of COVID-19 and its crisis management, and ultimately at understanding their attitudes toward health measures for counteracting the spread of COVID-19 in Reunion Island together with the behaviours expected of them. **Method:** Using Random Digit Dialling, a qualitative study was conducted with 53 inhabitants between February and May 2021. The COREQ checklist was followed. A dual textometric and manual thematic analysis was adopted in order to identify

representations of COVID and the management of the crisis. **Results:** Some respondents perceived COVID-19 as a serious disease, while others saw it as a banal virus or even doubted its existence. A perceived ineffectiveness of public health measures and the incompetency of public actors predominated in the participants’ discourse. **Conclusions:** Thus, there was a considerable lack of trust and negative attitudes toward health measures, possibly influencing people’s acceptance and explaining numerous controversies. This research examines the importance of considering people’s representations of the health situation in order to improve people’s acceptance of protective measures.

Khouri C., Larabi A., Verger P., Gauna F., Cracowski J.L., Ward J.K., Exploring the feelings of being at risk of vaccine related adverse effects: A cross-sectional survey in France Journal of Psychosomatic Research, vol. 172, 2023. DOI: 10.1016/j.jpsychores.2023.111433

Objectives: The literature on vaccine hesitancy has widely commented on the various factors leading some to feel particularly at risk of disease infection while others do not. But little attention has been paid to whether we also see such differences regarding people’s assessment of their personal vulnerability towards vaccine adverse events (AEs). **Methods:** We designed two cross-sectional online surveys among representative samples of the French mainland population (n = 2015 and 3087). We asked participants if they felt, more than others, at risk of severe vaccine related side effects and to explain why. We performed two separate mixed effect binomial regressions models: 1) to explore the link between the feeling of being particularly at risk of severe vaccine related AEs and socio-demographic characteristics, source of information, trust in health agencies and partisan orientation; 2) to explore the

link between the fear of side effects and vaccine hesitancy. **Results:** We found that 15% of respondents felt to be, more than others, at risk of severe vaccine-related adverse events and that this feeling was associated with negative attitudes to vaccines. This feeling was particularly prevalent among women, those with a lower income, lower educational attainment and lower trust in public health institutions. The vast majority of the reasons given by responders are unrelated to genuine risk factors of vaccine related adverse events. **Conclusions:** These findings suggest that vaccine hesitancy is at least partly grounded in a feeling of vulnerability towards vaccine adverse events.

Khoury C., Larabi A., Verger P., Gauna F., Cracowski J-L., Ward J.K., *Impact of Vaccine Hesitancy on Onset, Severity and Type of Self-reported Adverse Events: A French Cross-Sectional Survey, Drug Safety, vol. 45(10), Pages 1049-1056, 2022. DOI: 10.1007/s40264-022-01220-0*

In May 2021, while the immunization campaign was in progress, the emergence of new SARS-CoV-2 variants led us to assess attitudes toward participation in a COVID-19 vaccine clinical trial (VCT) in France. Between the 10th and the 23rd of May 2021, we conducted a cross-sectional online survey among a representative sample of the French population aged 18 and over and a specific sample of the French population over 65. Among the 3,056 respondents, 28.0% (856) would consider participation in a COVID-19 VCT. Factors independently negatively associated with willingness to participate in a COVID-19 VCT were female gender with an adjusted odd ratio (aOR) 0.42 and 95% confidence interval (95% CI) 0.35-0.51, and mistrust in health actors (in their own physician and pharmacists, health ministry, government, scientists in medias, medias and pharmaceutical companies) with aOR 0.86 (95% CI 0.84-0.88) by one-point increase in mistrust in health actors score. Factors positively associated with willingness to participate in a COVID-19 VCT were COVID-19 vaccination or intention to get vaccinated with aOR 4.89 (95% CI 3.15-7.61), being a healthcare worker with aOR 2.051 (95% CI 1.51-2.80), being at risk for severe COVID-19 with aOR 1.39 (95% CI 1.14-1.69) and altruism as the main reason for getting vaccination with aOR 1.56 (95% CI 1.29-1.88). In May 2021, despite COVID 19 vaccine availability, 28% of the French population would agree to participate in a COVID-19 VCT. Mistrust in health actors contributes to a reduction in the intention to participate. Attitudes toward COVID-19 vaccination predict attitudes toward participation in a COVID-19 VCT.

Klein O., Yzerbyt V., *Psychologie de la vaccination, Editions de l'Université de Bruxelles, Brussels, 192 p, 2023.*

Mass vaccination has succeeded in curbing or even eradicating certain diseases. However, even when vaccination is proven to be effective, many people do not use it. From simple passivity to a deliberate refusal, sometimes publicly trumpeted, there is a wide range of reasons for not vaccinating attitudes, grouped together under the term "vaccine hesitancy". This book looks at the people who adopt this attitude. It begins with a

general portrait, then looks at the psychological factors that may explain this attitude, examining in particular the motivational dimension and cognitive factors. It then considers certain beliefs and ideologies likely to fuel vaccine hesitancy. It analyses psychosocial factors, looking in particular at conspiracy and trust in institutions. The final section looks at ways of combating vaccine hesitancy and the most effective methods of increasing vaccination coverage among reluctant populations.

Landu C., Billaudelle-Lallemant M., Gerard S., Abdennebi Y., Jatz S., Turpin L., Berki Z., Legac S., Peiffer- Smadja N., Rioux C., *Étude des réactions des professionnels de santé prenant en charge des patients COVID non vaccinés par choix, Médecine et Maladies Infectieuses Formation, vol. 1(2), Pages S152-S153, 2022. DOI: 10.1016/j.mmifmc.2022.03.333*

Introduction: The SARS-Cov2 pandemic has been evolving since early 2020. Vaccination has been available to frail patients since the beginning of 2021, and has since been extended to the entire population. It has been shown to be effective in reducing hospitalisation, the number of patients admitted to intensive care and mortality. We wanted to study the reactions of healthcare professionals caring for unvaccinated patients presenting with COVID. **Materials and methods:** A questionnaire was drawn up by a group of healthcare professionals from the department that had been continuously caring for COVID patients for 2 years. It was distributed widely to all medical and paramedical staff in the hospital sector (a single ward). Participation was free and anonymous. **Results:** Of the 76 participants, 62 (82%) were women. There were 33 doctors (including 10 interns), 20 nurses, 11 care assistants, 8 medical students, 2 psychologists, 1 dietician and 1 social worker. The median age [IQR] was 32 years [26-44] and the median number of years in practice was 5 years [2-11]. 53 participants (70%) had been working in the COVID sector regularly for 2 years (the others on an ad hoc basis). Concerning COVID, 51 participants (67%) were infected, including 11 (19%) with sequelae, and 60 participants out of 75 (80%) were afraid of transmitting COVID to those around them as a result of their professional activity. Sixty-one out of 74 participants (82%) were in favour of SARS-CoV-2 vaccination in general, 48 out of 75 (64%) were in favour of mandatory vaccination for healthcare workers, 41 out of 75 (55%) were in favour of vaccination for the general population and 36 out of 75 (48%) were in favour of vaccination for children. Thirty-one out of 76 participants (41%) were in favour of mandatory vaccination of the entire adult population, while 45 out of 74 (61%) were in favour of mandatory vaccination of the at-risk population only. **Mandatory** vaccination of healthcare workers was supported by 88% of doctors (29/33) and 27% of care assistants and nurses (8/30). When caring for unvaccinated patients, 55/73 participants (75%) had the opportunity to talk to them about not being vaccinated, and 46/75 (63%) said they had tried to convince them to be vaccinated after the acute episode. Free will was often cited by participants as a reason for not trying to convince patients. Annoyance and incomprehension were often reported when dealing with unvaccinated patients, particularly those at risk, but 79% of participants (59/75) considered that these patients should receive the

same care as others (15% did not say). For 31% (33/75) of participants, patients should pay for part of their care, and for 51% (38/75), managing the care of these patients was more complex. **Conclusion:** Caring for COVID patients who have not been vaccinated by choice can be a source of irritation for nursing staff who have been exhausted by 2 years of pandemic. Nevertheless, the majority of staff feel that these patients should receive the same care as others, even though their management is often more complex.

Lantero C., *La pandémie, l'obligation vaccinale et la géographie hospitalière, Actualité juridique Droit administratif*, vol. 20, Pages 1179-1183, 2022.

Following the mandatory vaccination against Covid19 introduced by Law no. 2021-1040 of 5 August 2021 on health crisis management, more than a thousand suspension applications were lodged by public employees who had been suspended from their duties. The exact scope of the obligation had given rise to differences of opinion among judges at first instance. The Conseil d'Etat has now come to define the contours.

Lazarus J.V., Ratzan S.C., Palayew A., Gostin L.O., Larson H.J., Rabin K., Kimball S., El-Mohandes A., *A global survey of potential acceptance of a COVID-19 vaccine, Nature Medicine*, vol. 27(2), Pages 225-228, 2021. DOI: 10.1038/s41591-020-1124-9

Several coronavirus disease 2019 (COVID-19) vaccines are currently in human trials. In June 2020, we surveyed 13,426 people in 19 countries to determine potential acceptance rates and factors influencing acceptance of a COVID-19 vaccine. Of these, 71.5% of participants reported that they would be very or somewhat likely to take a COVID-19 vaccine, and 48.1% reported that they would accept their employer's recommendation to do so. Differences in acceptance rates ranged from almost 90% (in China) to less than 55% (in Russia). Respondents reporting higher levels of trust in information from government sources were more likely to accept a vaccine and take their employer's advice to do so.

Lazarus J.V., Wyka K., White T.M., Picchio C.A., Gostin L.O., Larson H.J., Rabin K., Ratzan S.C., Kamarulzaman A., El-Mohandes A., *A survey of COVID-19 vaccine acceptance across 23 countries in 2022, Nature Medicine*, vol. 29(2), Pages 366-375, 2023. DOI: 10.1038/s41591-022-02185-4

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) continued to mutate and spread in 2022 despite the introduction of safe, effective vaccines and medications. Vaccine hesitancy remains substantial, fueled in part by misinformation. Our third study of Coronavirus Disease 2019 (COVID-19) vaccine hesitancy among 23,000 respondents in 23 countries (Brazil, Canada, China, Ecuador, France, Germany, Ghana, India, Italy, Kenya, Mexico, Nigeria, Peru, Poland, Russia, Singapore, South Africa, South Korea, Spain, Sweden, Turkey, the United Kingdom and the United States), surveyed from 29 June to 10 July 2022, found willingness to accept vaccination

at 79.1%, up 5.2% from June 2021. Hesitancy increased in eight countries, however, ranging from 1.0% (United Kingdom) to 21.1% (South Africa). Almost one in eight (12.1%) vaccinated respondents are hesitant about booster doses. Overall support for vaccinating children under 18 years of age increased slightly but declined among parents who were personally hesitant. Almost two in five (38.6%) respondents reported paying less attention to new COVID-19 information than previously, and support for vaccination mandates decreased. Almost a quarter (24%) of those who became ill reported taking medications to combat COVID-19 symptoms. Vaccination remains a cornerstone of the COVID-19 pandemic response, but broad public support remains elusive. These data can be used by health system decisionmakers, practitioners, advocates and researchers to address COVID-19 vaccine hesitancy more effectively.

Le Coz P., *Éthique et vaccination, Études*, vol. 10(4286), Pages 35-44, 2021. DOI: 10.3917/etu.4286.0035

Weariness of the pandemic and uncertainty about its future have given rise to the temptation of mandatory vaccination. To begin with, this obligation will be imposed on certain professional categories such as healthcare workers, gendarmes or members of the military. Secondly, it is possible that our authorities will extend it to all citizens, as called for by political groups and national institutions responsible for public health. As far back as 2009, in a forward-looking report on the risk of a pandemic, the French National Consultative Ethics Committee argued that solidarity should take precedence over autonomy.

Lindholt M.F., Jørgensen F., Bor A., Petersen M.B., *Public acceptance of COVID-19 vaccines: cross-national evidence on levels and individual-level predictors using observational data, BMJ Open*, vol. 11(6), 2021. DOI: 10.1136/bmjopen-2020-048172

Objectives: The management of the COVID-19 pandemic hinges on the approval of safe and effective vaccines but, equally importantly, on high vaccine acceptance among people. To facilitate vaccine acceptance via effective health communication, it is key to understand levels of vaccine scepticism and the demographic, psychological and political predictors. To this end, we examine the levels and predictors of acceptance of an approved COVID-19 vaccine. **Design, setting and participants:** We examine the levels and predictors of acceptance of an approved COVID-19 vaccine in large online surveys from eight Western democracies that differ in terms of the severity of the pandemic and their response: Denmark, France, Germany, Hungary, Sweden, Italy, UK and USA (total N=18 231). Survey respondents were quota sampled to match the population margins on age, gender and geographical location for each country. The study was conducted from September 2020 to February 2021, allowing us to assess changes in acceptance and predictors as COVID-19 vaccine programmes were rolled out. **Outcome measure:** The outcome of the study is self-reported acceptance of a COVID-19 vaccine approved and recommended by health authorities. **Results:** The data reveal large variations in

vaccine acceptance that ranges from 83% in Denmark to 47% in France and Hungary. Lack of vaccine acceptance is associated with lack of trust in authorities and scientists, conspiratorial thinking and a lack of concern about COVID-19. **Conclusion:** Most national levels of vaccine acceptance fall below estimates of the required threshold for herd immunity. The results emphasise the long-term importance of building trust in preparations for health emergencies such as the current pandemic. For health communication, the results emphasise the importance of focusing on personal consequences of infections and debunking of myths to guide communication strategies.

Loubet P., Rouvière J., Merceron A., Launay O., Sotto A., On Behalf Of The Avnir Group, Patients' Perception and Knowledge about Influenza and Pneumococcal Vaccination during the COVID-19 Pandemic: An Online Survey in Patients at Risk of Infections, Vaccines, vol. 9(11), 2021. DOI: 10.3390/vaccines9111372

Introduction: The objective of our study was to assess, in an at-risk population, perception and knowledge about influenza and pneumococcal vaccinations. **Methods:** An anonymous web-based survey was submitted to patients recruited in France, from both an Ipsos internal panel and AVNIR patient associations. The study was conducted between July and October 2020, in the context of the COVID-19 pandemic. **Results:** Overall, 2177 questionnaires from patients at risk of infection were analysed. Almost all respondents (86%, 1869/2177) declared themselves to be favourable to vaccination. Nearly half of the patients (49%, 1069/2177) were aware of which vaccine was recommended for their specific situation. This percentage was significantly ($p < 0.001$) higher for members of a patient association and for people affected by multiple chronic conditions and varied according to the type of condition. Almost two-thirds of patients (1373/2177) declared having been vaccinated during the 2019/2020 influenza season, and 41% (894/2177) were certain about being up to date with the pneumococcal vaccination. The main barriers to vaccination for influenza are the fear of side effects, doubt regarding the efficacy of the vaccine and for pneumococcal vaccination, and the absence of suggestions by the healthcare professionals (HCPs), as 64% of respondents were not recommended to obtain pneumococcal vaccination. To improve vaccine coverage, information is of prime importance and GPs are recognised as the main HCP to inform about vaccination. Nearly two-thirds (62%, 1360/2177) of patients declared that the COVID-19 pandemic convinced them to have all the recommended vaccines. **Conclusion:** Our study highlighted the non-optimal vaccine coverage in at-risk populations despite a highly positive perception of vaccines and confirmed that physicians are on the front lines to suggest and recommend these vaccinations, especially in the current pandemic context, which may be used to promote other vaccines.

Luyt D., Cardot T., Gautier S., Herr M., Rousseau A., Josseran L., Hésitation vaccinale à la COVID-19 : une étude chez les étudiants en santé, Santé Publique, vol. 34(HS1), Pages 22D, 2022. DOI: 10.3917/spub.220.0022d

Introduction: The UFR Simone Veil-Santé conducted a study to measure vaccine hesitancy (HV) to COVID-19 among health students, and to investigate the associated factors, in order to inform the vaccination strategy. **Method:** An online survey was carried out among students in the UFR's health courses. The questions focused on their overall perception of vaccination, their experience of the epidemic, the concept of caring for COVID-19 patients, their opinions on COVID-19 vaccines and their willingness to be vaccinated. HV was estimated as the proportion of students who said they refused or were unsure about being vaccinated. A multivariate model was used to identify associated factors. **Results:** Of the 1,465 participants, 1,219 (83.2%) were women. Nearly a quarter were in their first year (22.8%), 366 in medicine (25%), 97 in midwifery (6.6%), 342 in nursing (23.3%), and 326 others (22.3%). To the question "Would you be prepared to be vaccinated", 862 (58.9%) would "strongly agree" or "agree", 257 (17.6%) "neither agree nor disagree" and 343 (23.5%) "disagree" or "strongly disagree". The estimated HV was 41% (95% CI [38.5-43.6]). Factors associated with lower HV included : male sex (ORa=0.25, CI95% [0.16-0.37]), medical stream (ORa=0.67, CI 95% [0.42-1.07]), COVID-19 history in the entourage (ORa=0.80, CI 95% [0.61-1.05]), feeling of isolation (ORa=0.73, 95% CI [0.57-0.94]), being up to date with vaccinations (ORa=0.32, 95% CI [0.16-0.62]) and downloading "TousAntiCovid" (ORa=0.41, 95% CI [0.32-0.54]). **Conclusion:** The HV of The number of students at the UFR is lower than the national estimate (January 2021, same age group). However, this figure varies from one course of study to another, with medical students appearing to be less hesitant. These results highlight the importance of reinforcing vaccination training for health students.

Massé R., Vaccination et Covid-19 : l'éthique face aux hésitants, in Israel-Jost V., Weil-Dubuc P-L., Éthique vaccinale, 167-186 (Érès, 2023).

In a form of reflexive and collective ethics, the authors set out to draw up an overview of the problems associated with vaccination, highlighted in the context of the coronavirus pandemic. Noting the hesitations, mistrust and resistance to vaccination, in a context where uncertainties about the future persist, the authors propose interpretative frameworks and examine in particular the opposition between individualism and solidarity. They address the essential ethical questions that arise on a collective scale: is there a right way to inform and communicate about vaccines? Is the vaccination strategy fair and effective? What impact have the measures taken to combat the virus had on children and teenagers? When it comes to mandatory vaccination, do the ends justify the means? Can individual freedoms be set aside in favour of the collective good? What are the international and global justice issues involved in the fair distribution of doses of vaccine around the world?

Massonnaud C.R., Roux J., Colizza V., Crépey P., *Evaluating COVID-19 Booster Vaccination Strategies in a Partially Vaccinated Population: A Modeling Study*, *Vaccines*, vol. 10(3), 2022. DOI: 10.3390/vaccines10030479

Background: Several countries are implementing COVID-19 booster vaccination campaigns. The objective of this study was to model the impact of different primary and booster vaccination strategies. **Methods:** We used a compartmental model fitted to hospital admission data in France to analyze the impact of primary and booster vaccination strategies on morbidity and mortality, assuming waning of immunity and various levels of virus transmissibility during winter. **Results:** Strategies prioritizing primary vaccinations were systematically more effective than strategies prioritizing boosters. Regarding booster strategies targeting different age groups, their effectiveness varied with immunity and virus transmissibility levels. If the waning of immunity affects all adults, people aged 30 to 49 years should be boosted in priority, even for low transmissibility levels. **Conclusions:** Increasing the primary vaccination coverage should remain a priority. If a plateau has been reached, boosting the immunity of younger adults could be the most effective strategy, especially if SARS-CoV-2 transmissibility is high.

Mazzoli M., Valdano E., Colizza V., *Projecting the COVID-19 epidemic risk in France for the summer 2021*, *Journal of Travel Medicine*, vol. 28(7), taab129, 2021. DOI: 10.1093/jtm/taab129

The next weeks will be critical in determining the conditions and timing of the 4th wave of COVID-19 in France. We assessed epidemic risk to assist spatially targeted surveillance and control. Southwest is estimated to be at highest risk, due to summer crowding, low acquired immunity and Delta variant hotspots.

McKinley C.J., Olivier E., Ward J.K., *The Influence of Social Media and Institutional Trust on Vaccine Hesitancy in France: Examining Direct and Mediating Processes*, *Vaccines*, vol.11, 2023. DOI: 10.3390/vaccines11081319

Vaccine hesitancy (VH) remains an ongoing challenge in French society. This project explored how institutional trust and preference for information via social media (PISM) drive hesitancy. Across a large, nationally represented population, our findings show that PISM and trust are strongly correlated measures, with both independently predicting VH. Subsequent mediation tests show that social media operates as primarily an indirect contributor to VH through trust. Additional tests involving VH and non-VH typologies revealed that institutional trust consistently predicts greater general support for vaccines and reduced distrust in vaccination. Conversely, PISM directly drives vaccine distrust, with its impact on non-hesitancy fully mediated by institutional trust. Overall, these findings point to the relevance for researchers and public health deciders to address the nature by which people utilize social media information resources and how that interacts with levels of trust for national institutions.

Mills M.C., Rüttenauer T., *The effect of mandatory COVID-19 certificates on vaccine uptake: synthetic-control modelling of six countries*, *Lancet Public Health*, vol. 7(1), Pages E15-E22, 2022. DOI: 10.1016/S2468-2667(21)00273-5

Background: Mandatory COVID-19 certification (showing vaccination, recent negative test, or proof of recovery) has been introduced in some countries. We aimed to investigate the effect of certification on vaccine uptake. **Methods:** We designed a synthetic control model comparing six countries (Denmark, Israel, Italy, France, Germany, and Switzerland) that introduced certification (April-August, 2021), with 19 control countries. Using daily data on cases, deaths, vaccinations, and country-specific information, we produced a counterfactual trend estimating what might have happened in similar circumstances if certificates were not introduced. The main outcome was daily COVID-19 vaccine doses. **Findings:** COVID-19 certification led to increased vaccinations 20 days before implementation in anticipation, with a lasting effect up to 40 days after. Countries with pre-intervention uptake that was below average had a more pronounced increase in daily vaccinations compared with those where uptake was already average or higher. In France, doses exceeded 55,672 (95% CI 49,668-73,707) vaccines per million population or, in absolute terms, 3 761 440 (3 355 761-4 979 952) doses before mandatory certification and 72 151 (37 940-114 140) per million population after certification (4 874 857 [2 563 396-7 111 769] doses). We found no effect in countries that already had average uptake (Germany), or an unclear effect when certificates were introduced during a period of limited vaccine supply (Denmark). Increase in uptake was highest for people younger than 30 years after the introduction of certification. Access restrictions linked to certain settings (nightclubs and events with >1000 people) were associated with increased uptake in those younger than 20 years. When certification was extended to broader settings, uptake remained high in the youngest group, but increases were also observed in those aged 30-49 years. **Interpretation:** Mandatory COVID-19 certification could increase vaccine uptake, but interpretation and transferability of findings need to be considered in the context of pre-existing levels of vaccine uptake and hesitancy, eligibility changes, and the pandemic trajectory.

Mitilian E., Gosselin V., Casanova L., Fressard L., Berthiaume P., Verger P., Gagneur A., *Assessment of training of general practice interns in motivational interviews about vaccination*, *Human Vaccines and Immunotherapeutics*, vol. 18(6), 2022. DOI: 10.1080/21645515.2022.2114253

The effectiveness of motivational interviewing (MI) for reducing vaccine hesitancy (VH) has been demonstrated in Quebec. We conducted a study to evaluate the acquisition of MI skills after MI training via videoconferencing for interns training as general practitioners (GPs) in southeastern France. A vaccination-specific MI training workshop was offered to interns in 2021, consisting of two separate Zoom videoconference sessions. Participants completed the Motivational Interviewing Skills in Immunization questionnaire before and after the training to measure skills

acquisition. We used pairwise exact Wilcoxon-Pratt signed rank tests for the analysis. Among 45 GP interns enrolled in the first MI session, 34 (75.6%) attended both sessions and completed the questionnaire at 3 different time points. After the first session, MI knowledge scores improved significantly ($+21.1 \pm 21.6$; $P < .0001$), as did application of MI skills ($+36.8 \pm 36.7$; $P < .0001$), and MI practice confidence ($+21.2 \pm 11.1$; $P < .0001$). The second MI session maintained the skills developed after the first session without further improvement. Participant satisfaction was high. This is the first study in France assessing the impact of a vaccination-specific MI training for GP interns. It shows a substantial improvement in knowledge, application of MI skills, and self confidence in the practice of MI. GP interns were highly satisfied with the training despite the videoconference format. These promising results will allow the integration of MI training in GP medical curricula in order to prepare future GPs for communication in the field of vaccination.

Moirangthem S., Olivier C., Gagneux-Brunon A., Péllissier G., Abiteboul D., Bonmarin I., Rouveix E., Botelho- Nevers E., Mueller J.E., *Social conformism and confidence in systems as additional psychological antecedents of vaccination: a survey to explain intention for COVID-19 vaccination among healthcare and welfare sector workers, France, December 2020 to February 2021, Eurosurveillance*, vol. 27(17), 2022. DOI: 10.2807/1560-7917.ES.2022.27.17.2100617

Background: The start of the COVID-19 vaccination campaign among French healthcare and welfare sector workers in January 2021 offered an opportunity to study psychological Aim We explored whether knowledge and attitude items related to social conformism and confidence in systems contributed to explaining intention for COVID-19 vaccination. **Methods:** We developed a knowledge and attitude questionnaire with 30 items related to five established and two hypothetical psychological antecedents of vaccination (KA-7C). The online questionnaire was distributed from 18 December 2020 to 1 February 2021 through chain-referral via professional networks, yielding a convenience sample. We used multivariable logistic regression to explore the associations of individual and grouped KA-7C items with COVID-19 vaccine intention. **Results:** Among 5,234 participants, the vaccine intention model fit (pseudo R-squared values) increased slightly but significantly from 0.62 to 0.65 when adding social conformism and confidence in systems items. Willingness to vaccinate was associated with the majority opinion among family and friends (OR: 11.57; 95% confidence interval (CI): 4.51-29.67) and a positive perception of employer's encouragement to get vaccinated (vs negative; OR: 6.41; 95% CI: 3.36-12.22). The strongest association of a knowledge item was identifying the statement 'Some stages of vaccine development (testing) have been skipped because of the epidemic emergency.' as false (OR: 2.36; 95% CI: 1.73-3.22). **Conclusion:** The results suggest that social conformism and confidence in systems are distinct antecedents of vaccination among healthcare and welfare workers, which should be taken into account in vaccine promotion.

Mongin D., Buclin C.P., Cullati S., Courvoisier D.S., *COVID-19 Vaccination Rate under Different Political Incentives: A Counterfactual Trend Approach Using Nationwide Data, Vaccines*, vol. 11(7), 2023. DOI: 10.3390/vaccines11071149

Background: France implemented a COVID-19 certificate in July 2021 to incentivize the population to uptake COVID-19 vaccines. However, little is known about the variation in its impact across age groups and its dependence on socio-demographic, economic, logistic, or political factors. (2) **Methods:** Using France's weekly first dose vaccination rate, a counterfactual trend approach allowed for the estimation of the vaccination rate across age groups at a small geographical level before and after the implementation of the health pass. The effect of the health pass was operationalized as the vaccination rate among those who would not be vaccinated without it. (3) **Results:** Vaccination before the health pass varied greatly among age groups and was mainly influenced by territory (lower in rural and overseas territories when compared to urban and metropolitan ones), political beliefs, and socio-economic disparities. Vaccine logistics played a minor but significant role, while the impact of COVID-19 did not affect the vaccination rate. The health pass increased the vaccination overall but with varying efficiency across groups. It convinced mainly young people politically close to the governmental vaccination strategy and living in urban metropolitan areas with low socio-economical discrepancies. The selected variables explained most of the variability of the vaccination rate before the health pass; they explained, at most, a third of the variation in the health pass effect on vaccination. (4) **Conclusions:** From a public health perspective, the French health pass increased the overall vaccination, but failed to promote preventive behaviours in all segments of society, particularly in vulnerable communities.

Mueller J.E., Bauer J., *Attitudes of healthcare professionals toward the COVID-19 vaccination campaign in France, Infectious Diseases Now*, vol. 52(8S), Pages S21-S22, 2022. DOI: 10.1016/j.idnow.2022.09.006

During the Covid outbreak, very few health professionals took an extreme position of vaccine refusal. Some differences were observed in terms of theoretical acceptance of the 2018 influenza vaccination campaign and COVID-19 vaccination in winter 2020-2021.

The features most frequently associated with vaccine acceptance were: benefit-risk perception favouring vaccination (OR 13.5 [10.1-18.0]), absence of fear of a serious adverse effect (OR 8.7 [6.8-11.2]), employer's incentive perceived as motivating (OR 7.3 [4.1-13.2]), notion that vaccination is a collective response to the crisis (OR 5.3 [3.4-8.2]), favourable family opinion (OR 4.6 [3.6-6.0]) and fear of a severe form of COVID-19 (OR 1.8 [1.4-2.4]). Vaccine hesitancy has been characterized as a continuum between an individual who accepts all vaccinations and others who refuse all vaccinations. Among health professionals in France, there is a selection process at the time of hiring due to the requirement of vaccination against hepatitis B. As a result, very few health professionals who take an extreme position of vaccine refusal. Attitudes

toward COVID-19 vaccination were generally more extreme with more caregivers accepting vaccination in all scenarios (43.9% vs 9.9% during the influenza vaccination campaign) but also with more caregivers refusing vaccination in all scenarios (17.2% vs 9.9% during the influenza vaccination campaign). In two preference studies presenting series of vaccination scenarios to French healthcare professionals, differences were observed in terms of theoretical acceptance of the 2018 influenza vaccination campaign and COVID-19 vaccination in winter 2020-2021 [1], [2]. Attitudes toward COVID-19 vaccination were generally more extreme, with more caregivers accepting vaccination in all scenarios (43.9% vs 9.9% during the influenza vaccination campaign) but also with more caregivers refusing vaccination in all scenarios (17.2% vs 9.9% during the influenza vaccination campaign). As is often the case, overall hypothetical acceptance was greater among doctors than among paramedical professionals. To summarize, we observed that about one third of healthcare professionals readily accept vaccination, while about half of them accept vaccination in certain scenarios, depending on the characteristics of vaccination presented. The factors impelling healthcare professionals to accept influenza vaccination were the potential for epidemic and disease control, and the protection of patients and families [3]. In addition, higher vaccine effectiveness and longer duration of protection, along with more extensive coverage among colleagues, had a positive impact. On the other hand, messages from hospital management had no impact, while the offer of badges "I'm vaccinated" was seen as dissuasive. As regards vaccination against COVID-19, these factors seem to have been similar, albeit with a negative impact of the uncertainty about vaccine effectiveness and duration of protection (unknown at the beginning of the campaign). The absence of indirect protection and the argument of a favourable benefit-risk balance of vaccination if a severe side effect was known had negative impacts, as well [2]. In a study on Covid-19 vaccine intentions among healthcare professionals in France at the beginning of the campaign, the prevalence of intentions was dynamic and increased in all categories of health professionals, between December 2020 and February 2021. In a similar survey in late summer 2021, the percentage of healthcare workers declaring vaccination before summer (before announcement of obligation) was similar to that of persons with intention to accept a third dose, should it be recommended (unpublished data). This suggests that by then, vaccine acceptance had reached a plateau. As of now, five components or psychological antecedents of vaccine hesitancy and acceptance have been cited: confidence in vaccines and the system that delivers them, complacency (e.g., not perceiving diseases as high risk), constraints (perception of structural barriers), calculation (engagement in extensive information searching and weighing of risks higher than benefits), collective responsibility (determination to protect others) and convenience (perception of practical barriers) [4]. Additional factors such as social conformity and confidence in the wider system (leading to reactance against vaccine promotion) may likewise be brought into play [5]. Among the factors associated with vaccination intention among healthcare professionals at the beginning of the vaccination campaign, we found: benefit-risk perception in favour of vaccination

(OR 13.5 [10.1-18.0]), absence of fear of a serious adverse effect (OR 8.7 [6.8-11.2]), employer's incentive perceived as motivating (OR 7.3 [4.1-13.2]), notion that vaccination is a collective response to the crisis (OR 5.3 [3.4-8.2]), favorable family opinion (OR 4.6 [3.6-6.0]) and fear of a severe form of COVID-19 (OR 1.8 [1.4-2.4]). After the announcement in summer 2021 of mandatory vaccination, the factors most strongly associated with healthcare professionals' having received the Covid-19 vaccination were the notion that vaccination is a collective response to the crisis and a (very) favourable opinion on Covid-19 vaccination among family and friends. The motivating factor most strongly associated with intention for a booster dose was perceived employer incentive. (CAPP-VaCov study, unpublished data). These data illustrate the major role of interpersonal factors in vaccine acceptance.

Mueller J.E., Olivier C., Diaz Luevano C., Bouvet E., Abiteboul D., Pellissier G., Rouveix E., Étude transversale *des intentions de vaccination contre la grippe saisonnière et la Covid-19 des professionnels de santé : quels leviers pour la promotion vaccinale*, *Bulletin épidémiologique hebdomadaire*, vol. 2, Pages 2-9, 2021.

Good vaccination coverage of healthcare workers against seasonal influenza is a public health objective, particularly in the context of the Covid-19 epidemic. A questionnaire for healthcare workers in France was put online and distributed by the Geres network during the summer of 2020. The questions concerned their previous influenza vaccination status and the reasons why they had or had not been vaccinated, as well as their vaccination intentions against influenza for the 2020-2021 winter period and against Covid-19. 3,556 healthcare professionals, most of them working in health, social or medico-social establishments responded. For both vaccinations, the results reflect the professional gradient in adherence to vaccination, which is stronger among doctors than among nurses, and weaker among care assistants. The analysis shows that it would be possible to improve flu vaccination coverage by targeting staff who have been vaccinated occasionally in recent years, and by improving access to vaccination. Theoretical acceptance of vaccination against Covid-19 appears to be correlated with influenza vaccination, even if performed sporadically.

Navarre C., Roy P., Ledochowski S., Fabre M., Esparcieux A., Issartel B., Dutertre M., Blanc-Gruyelle A-L., Suy F, Adelaide L., Pariset C., Kisterman J.P., Champagne H., Saison J., *Determinants of COVID-19 vaccine hesitancy in French hospitals*, *Infectious Diseases Now*, vol. 51(8), Pages 647-653, 2021. DOI: 10.1016/j.idnow.2021.08.004

Objectives: COVID-19 vaccines have become the new hope for stemming the pandemic. We aimed to assess pre-launch vaccine acceptance among hospital workers in the Auvergne-Rhône- Alpes Administrative Region of France. **Methods:** We performed a cross sectional study involving all hospital workers in 11 Auvergne-Rhône-Alpes hospitals in December 2020. Univariate and multivariate analyses were performed to identify factors associated with vaccine hesitancy. **Results:** We analyzed completed questionnaires

from 1,964 respondents (78% women, mean age 42 years, 21.5% physicians, 41% private care centers). A total of 1,048 (53%) hospital workers were in favour of COVID-19 vaccination. Vaccine hesitancy was associated with: female gender; young age; paramedical, technical, and administrative professions (i.e., all non-medical professions); no prior flu vaccination; and employment in the private medical care sector ($p < 0.05$). Distrust of health authorities and pharmaceutical lobbying were the main obstacles to vaccination. Inversely, creating herd immunity and protecting patients and household members were the most frequently cited reasons in favour of vaccination. More than two-thirds of participants feared that the clinical and biological research was too rapid and worried about serious adverse effects. Most participants were interested in written information on the available vaccines, but the most vaccine-hesitant categories preferred oral information. Only 35% supported mandatory vaccination. **Conclusions:** Targeted written and oral information campaigns will be necessary to improve vaccination coverage among hospital workers who show a surprisingly high hesitancy rate. Imposing mandatory vaccination could be counterproductive.

Neumann-Böhme S., Varghese N.E., Sabat, Barros P.P., Brouwer W., van Exel J., Schreyögg J., Stargardt T., *Once we have it, will we use it? A European survey on willingness to be vaccinated against COVID-19*, The European Journal of Health Economics, vol. 21(7), Pages 977-982, 2020. DOI: 10.1007/s10198-020-01208-6

While the focus of attention currently is on developing a vaccine against the Coronavirus SARS-CoV-2 to protect against the disease COVID-19, policymakers should prepare for the next challenge: uptake of the vaccine among the public. Having a vaccine does not automatically imply it will be used. Compliance with the anti-H1N1 vaccine during the 2009 influenza pandemic, for instance, was low [1], and in the decade since, vaccination rates have remained an issue of concern [2] while vaccination hesitancy has become more prevalent, leading to increases in disease outbreaks in multiple countries [3]. It is, therefore, important to understand whether or not people are willing to be vaccinated against COVID-19, as this can have large consequences for the success a vaccination programme-with potentially large health and economic consequences. In this editorial, we provide some first insights into this willingness to be vaccinated, based on a multi-country European study [4], which hopefully result in more attention for this important issue.

Ngono S., Dabbene M., Pitou M., Sontag A., Zitte A., *Les anti-passe sanitaire à La Réunion : répertoires d'action et formes numériques de mobilisation collective à l'ère de la pandémie de Covid-19*, Recherches Francophones en Sciences de l'Information et de la Communication, 2022.

Digital social networks are real tools for coordinating the creation and implementation of activist and, above all, protest movements. This research shows that Facebook has made it possible, via the pages of committed actors (activists from QG Zazalés, Extinction Rébellion 974 and

MPs), to form the anti-pass movement in the context of Reunion Island. She maintains that the mobilising power of networks is a powerful driving force. But it is not enough without the presence of actors who, by appropriating the platform, organise collective mobilisations on a thematic basis and are attempting to bring together a large number of individuals to their cause.

Nguyen T., Boey L., Van Riet C., Dielen S., Dodion H., Giles-Vernick T., Vandaele N., Larson H.J., Peeters Grietens K., Gryseels C., Heyerdahl L.W., *Embracing context: Lessons from designing a dialogue-based intervention to address vaccine hesitancy*, Front Public Health, vol. 11, 2023. DOI: 10.3389/fpubh.2023.1069199

Dialogue with people who are vaccine hesitant has been recommended as a method to increase vaccination uptake. The process of cultivating dialogue is shaped by the context in which it occurs, yet the development of interventions addressing vaccine hesitancy with dialogue often overlooks the role of context and favors relatively fixed solutions. This reflexive paper shares three key lessons related to context for dialogue-based interventions. These lessons emerged during a participatory research project to develop a pilot intervention to create open dialogue among healthcare workers in Belgium about COVID-19 vaccination concerns. Through a mixed methods study consisting of in-depth interviews, focus group discussions, and surveys, we engaged healthcare workers in the design, testing, and evaluation of a digital platform featuring text-based and video-based (face-to-face) interactions. The lessons are: (1) what dialogue means, entails, and requires can vary for a population and context, (2) inherent tension exists between helping participants voice (and overcome) their concerns and exposing them to others' ideas that may exacerbate those concerns, and (3) interactional exchanges (e.g., with peers or experts) that matter to participants may shape the dialogue in terms of its content and form. We suggest that having a discovery-orientation-meaning to work not only inductively and iteratively but also reflexively-is a necessary part of the development of dialogue-based interventions. Our case also sheds light on the influences between: dialogue topic/content, socio-political landscape, population, intervention aim, dialogue form, ethics, researcher position, and types of interactional exchanges.

Oliu-Barton M., Pradelski BSR., Woloszko N., Guetta-Jeanrenaud L., Aghion P., Artus P., Fontanet A., Martin P., Wolff G.B., *The effect of COVID certificates on vaccine uptake, health outcomes, and the economy*, Nature Communications, vol.13(1), 2022. DOI: 10.1038/s41467-022-31394-1

In the COVID-19 pandemic many countries required COVID certificates, proving vaccination, recovery, or a recent negative test, to access public and private venues. We estimate their effect on vaccine uptake for France, Germany, and Italy using counterfactuals constructed via innovation diffusion theory. The announcement of COVID certificates during summer 2021 were associated - although causality cannot be directly inferred - with increased vaccine uptake

in France of 13.0 (95% CI 9.7-14.9) percentage points (p.p.) of the total population until the end of the year, in Germany 6.2 (2.6-6.9) p.p., and in Italy 9.7 (5.4-12.3) p.p. Based on these estimates, an additional 3979 (3453-4298) deaths in France, 1133 (-312-1358) in Germany, and 1331 (502-1794) in Italy were averted; and gross domestic product (GDP) losses of €6.0 (5.9-6.1) billion in France, €1.4 (1.3-1.5) billion in Germany, and €2.1 (2.0-2.2) billion in Italy were prevented. Notably, in France, the application of COVID certificates averted high intensive care unit occupancy levels where prior lockdowns were instated.

Paris C., Bénézit F., Geslin M., Polard E., Baldeyrou M., Turmel V., Tadié É., Garlandezec R., Tattevin P., COVID-19 vaccine hesitancy among healthcare workers, *Infectious Diseases Now*, vol. 51(5), Pages 484-487, 2021. DOI: 10.1016/j.idnow.2021.04.001

Objective: To characterize healthcare workers' (HCWs) intention to receive the COVID-19 vaccine by the beginning of the vaccine campaign in France. **Methods:** Data were collected on a self-administered questionnaire through the website of a tertiary care center (February 9-18, 2021). **Results:** Among 1,965 respondents, 1,436 (73.1%), 453 (23.1%), and 76 (3.9%) declared themselves in favor, hesitant, or against the COVID-19 vaccine: < 60% of auxiliary nurses and technicians intended to be vaccinated, as compared to 60-79% of nurses and support staff, and > 80% of medical staff. On multivariate analysis, age, occupation, flu vaccine history, and controversy over the AstraZeneca vaccine tolerability were independently associated with COVID-19 vaccine intention. **Conclusions:** Patterns of vaccine hesitancy related to the COVID-19 and influenza vaccines are similar among HCWs. Media communication on vaccine side effects have a dramatic effect on vaccine hesitancy. Efforts are requested to inform HCWs about the risk/benefit balance of COVID-19 vaccines.

Peretti-Watel P., Alleaume C., Constance J., *Traitement médiatique des morts de la Covid-19 : entre avalanche de chiffres et récits de vie*, *Statistique et société*, vol. 10(1), Pages 37-51, 2022. DOI: 10.4000/statsoc.318

This article looks at media coverage of Covid-19 victims in France during the initial confinement period, based on two sources: daily press briefings from the DGS and descriptions of 'notable victims' in the written press. Weekly data from Santé Publique France were also used. These data highlighted the high age and co-morbidity of the victims, but these two characteristics were only partially covered in the media by the other two sources. The figures were used to describe a massive, fatal epidemic from which no one was immune, including young people, to promote and justify the action taken by the authorities, and to enlist the public in the war against the virus. The life stories in the obituaries, like the choice of victims to give a face to the epidemic, painted a very similar picture. Normally, we expect figures to enlighten us, to provide food for thought and debate. But the selective avalanche of numbers at the press briefings seemed more designed to frighten the public, and to impose a certain interpretation of the situation, and the absolute necessity of containment.

Ramblière L., Pisanik J., Prioux M., Cagan B., Rasli S., Giron S., Lamy C., Douay C., Pasquet-Cadre A., *Caractéristiques et parcours vaccinal des personnes en situation de précarité vaccinées contre la Covid-19 sur un lieu de distribution alimentaire à Paris*, *Bulletin épidémiologique hebdomadaire*, vol. 15, Pages 2-10, 2022. Context: In order to facilitate access to Covid-19 vaccination for people in precarious situations,

Samusocial de Paris has set up vaccination campaigns at a food distribution site in the north of Paris. Given that the booster dose is now available to everyone, the aim of this study was to describe the profile of people who use this service rather than a mainstream service, to understand their vaccination history and to identify associated factors. **Method:** The VEDA study is a retrospective cross-sectional study conducted between 1er December 2021 and 17 March 2022 at Porte de la Villette in Paris. After vaccination, people were interviewed face-to-face in one of the survey languages. **Result:** The majority of the 447 people questioned were in a very precarious situation, in terms of administrative status, resources and accommodation. Around 40% of people who had received their first vaccination had been exposed to the virus, mostly asymptotically. More than a third of those surveyed had been vaccinated late (after November 2021). Factors favouring late recourse were being under 40, living in insecure housing, not having health cover and not frequenting this food distribution site. **Conclusion:** This study highlights the value of vaccination campaigns at food distribution sites in reaching people who are particularly far from healthcare. It also highlights the importance of targeting the youngest and most vulnerable people for their future booster dose, in a context of gradual closure of vaccination centres.

Ridde V., André G., Bouchaud O., Bonnet E., *COVID-19 vaccination at a hospital in Paris: spatial analyses and inverse equity hypothesis*, Preprint, 2023. <https://www.medrxiv.org/content/10.1101/2023.05.05.23289561v1>

Background: Vaccination against SARS-CoV-2 has been deployed in France since January 2021. Evidence was beginning to show that the most vulnerable populations were the most affected by COVID-19. Without specific action for different population subgroups, the inverse equity hypothesis postulates that people in the least deprived neighbourhoods will be the first to benefit. **Methods:** We performed a spatial analysis using primary data from the vaccination centre of the Avicenne Hospital in Bobigny (Seine-Saint-Denis, France) from January 8th to September 30th, 2021. We used secondary data to calculate the social deprivation index. We performed flow analysis, k-means aggregation, and mapping. **Results:** During the period, 32,712 people were vaccinated at the study centre. Vaccination flow to the hospital shows that people living in the least disadvantaged areas were the first to be vaccinated. The number of people immunized according to the level of social deprivation then scales out with slightly more access to the vaccination centre for the most advantaged. The furthest have travelled more than 100 kilometres, and more than 1h45 of transport time to get to this vaccination centre. Access times are,

on average, 50 minutes in February to 30 minutes in May 2021. **Conclusion:** The study confirms the inverse equity hypothesis and shows that vaccination preparedness strategies must take equity issues into account. Public health interventions should be implemented according to proportionate universalism and use community health, health mediation, and outreach activities for more equity.

Roederer T., Mollo B., Vincent C., Leduc G., Sayyad-Hilario J., Mosnier M., Vandentorren S., Estimating COVID-19 vaccine uptake and its drivers among migrants, homeless and precariously housed people in France, Communications Medicine, vol. 3, Page 30, 2023. DOI: 10.1038/s43856-023-00257-1

Background: Migrants, people experiencing homelessness (PEH), or precariously housed (PH) are at high risk for COVID-19 infection, hospitalization, and death from COVID-19. However, while data on COVID-19 vaccine uptake in these populations are available in the USA, Canada, and Denmark, we are lacking, to the best of our knowledge, data from France. **Methods:** In late 2021, we carried out a cross-sectional survey to determine COVID-19 vaccine coverage in PEH/PH residing in Ile-de-France and Marseille, France, and to explore its drivers. Participants aged over 18 years were interviewed face-to-face where they slept the previous night, in their preferred language, and then stratified for analysis into three housing groups (Streets, Accommodated, and Precariously Housed). Standardized vaccination rates were computed and compared to the French population. Multilevel univariate and multivariable logistic regression models were built. **Results:** We find that 76.2% (95% confidence interval [CI] 74.3-78.1) of the 3690 participants received at least one COVID-19 vaccine dose while 91.1% of the French population did so. Vaccine uptake varies by stratum, with the highest uptake (85.6%; reference) in PH, followed by Accommodated (75.4%; adjusted odds-ratio = 0.79; 95% CI 0.51-1.09 vs. PH) and lowest in Streets (42.0%; AOR = 0.38; 95%CI 0.25-0.57 vs. PH). Use for vaccine certificate, age, socioeconomic factors, and vaccine hesitancy is associated with vaccination coverage. **Conclusions:** In France, PEH/PH, and especially the most excluded, are less likely than the general population to receive COVID-19 vaccines. While vaccine mandate has proved an effective strategy, targeted outreach, on-site vaccinations, and sensitization activities are strategies enhancing vaccine uptake that can easily be replicated in future campaigns and other settings.

Roederer T., Mollo B., Vincent C., Leduc G., Sayyad J., Vandentorren S., Couverture vaccinale contre la Covid-19 des populations en grande précarité en Ile-de-France et à Marseille : une enquête transversale stratifiée, Médecine et Maladies Infectieuses Formation, vol. 1(2), Page S59, 2022. DOI: 10.1016/j.mmifmc.2022.03.128 **Introduction :** Populations living in very precarious conditions have been overexposed to SARS-CoV2 with a higher morbidity and mortality. Vaccination of these people, a priority issue highlighted by various recommendations, nevertheless comes up against a number of difficulties. A survey was conducted to estimate vaccination coverage and the factors associated with it. **Materials and methods:** We

conducted a stratified cross-sectional survey with two-stage cluster random sampling. Between 15 November and 22 December 2021, 227 sites housing vulnerable groups were surveyed in Ile-de-France (IDF) and Marseille, divided into 6 strata. A total of 3,811 individual interviews were conducted in the participant's own language. **Results:** In IDF, access to primary vaccination was 79.3% [95% CI: 76.0-82.6] in accommodation centres, 70.4% [67.2-73.6] in "115" social hotels, 86.1% [83.3-88.7] in workers' hostels, 41.3% [22.3-60.4] in permanent stopping places for travellers, 44.3% [35.5-53.2] in shanty towns, informal squats and on the streets. This access was 40.4% [30.8-50.0] among the homeless in Marseille. The initial complete vaccination schedule (2 injections or equivalent) was 75.7% [72.2-79.3] and 63.0% [59.5-66.5] respectively, 81.6% [78.7-84.5], 30.5% [14.0-46.9], 38.4% [30.4-46.5] and 32.4% [23.1-41.8]. This vaccination was mainly carried out in vaccination centres for the general population (54.9% in total), while 17.6% of those vaccinated used 'outreach' methods. The reasons for non-vaccination were more related to refusal to have the vaccine than to barriers to access, with a fear of side-effects and a feeling that the vaccine was ineffective. Furthermore, 24.2% stated that the Health Pass was the decisive reason for their vaccination. In univariate analysis, access to primary vaccination was associated with having health cover (OR=2.6; 95%CI: 2.2-3.1), a regular doctor (OR=2.0; CI: 1.7-2.3), a positive personal opinion of vaccination against Covid-19 (OR= 17.2; CI: 14.0-21.1), as well as that of family and friends (OR= 4.3; CI: 3.4-5.4) and the fact of having been made aware of vaccination by accommodation providers (OR= 2.5; CI: 1.6-3.9). There was also a strong association with type of accommodation and social environment, as reflected in the disparity between strata. Multivariate and stratified analyses are underway and will be presented at the JN1. **Conclusion:** Access to vaccination against Covid-19 is poor for a population that is overexposed. Strengthening comprehensive and inclusive social care for these people, relying on trusted mediators who know these people individually, and encouraging "outreach" schemes are all key levers for improving vaccination coverage.

Sauvayre R., L'extension de l'obligation vaccinale. Comment les dilemmes moraux s'expriment-ils entre les prescriptions et les sanctions, Revue française d'éthique appliquée, vol. 9(1), Pages 8-10, 2020. DOI: 10.3917/rfeap.009.0008

Since 1 January 2018, children born on or after this date must receive eleven mandatory vaccinations, compared with three previously. The law provides for two types of penalty for anyone contravening this vaccination requirement: one is criminal and the other is social. The criminal penalty exposes parents to the risk of being convicted of endangering the lives of their children or other members of the community. The social sanction, on the other hand, subjects the parents and their children to exclusion from all communities such as schools, crèches or day-care centres. To this end, any child admitted to or remaining in these institutions is required to show proof of inoculation with the eleven mandatory vaccines. In this system of legal constraints, mandatory vaccination raises the question of whether or not it should be adhered to.

What ethical options are available to parents? What moral dilemmas do they have to consider before making a choice?

Sauvayre R., *Le journaliste, le scientifique et le citoyen: sociologie de la diffusion de la défiance vaccinale*, Hermann, Paris, 192 p, 2023.

Prior to the Covid-19 pandemic, the World Health Organisation (WHO) ranked vaccine refusal as one of the three greatest global public health emergencies. The WHO noted a steady fall in measles vaccination coverage and a resurgence of epidemics around the world. At the same time, anti-vaccine websites have proliferated and gained a large following using misinformation and conspiracy theories. These

All the “anti-vaccine” groups, from parents to activists, are united on one point: fear of the undesirable effects of vaccines. More specifically, they are afraid of seeing their children develop a form of autism following inoculation with the vaccine. This belief, which is now tenacious, has a scientific origin which explains why it has spread so widely throughout the world and has given rise to the current mistrust of a fringe of the population towards vaccines. The aim of this book is to retrace the chain of events that led to this global public health disaster. In order to understand how science was able to fuel a number of false beliefs about vaccination, the points of view of scientists, journalists and citizens are examined in turn.

Sauvayre R., Vernier J., Chauvière C., *An Analysis of French-Language Tweets About COVID-19 Vaccines: Supervised Learning Approach*, JMIR Medical Informatics, vol. 10(5), 2022. DOI: 10.2196/37831

Background: As the COVID-19 pandemic progressed, disinformation, fake news, and conspiracy theories spread through many parts of society. However, the disinformation spreading through social media is, according to the literature, one of the causes of increased COVID-19 vaccine hesitancy. In this context, the analysis of social media posts is particularly important, but the large amount of data exchanged on social media platforms requires specific methods. This is why machine learning and natural language processing models are increasingly applied to social media data. **Objective:** The aim of this study is to examine the capability of the CamemBERT French-language model to faithfully predict the elaborated categories, with the knowledge that tweets about vaccination are often ambiguous, sarcastic, or irrelevant to the studied topic. **Methods:** A total of 901,908 unique French-language tweets related to vaccination published between July 12, 2021, and August 11, 2021, were extracted using Twitter’s application programming interface (version 2; Twitter Inc). Approximately 2000 randomly selected tweets were labeled with 2 types of categorizations: (1) arguments for (pros) or against (cons) vaccination (health measures included) and (2) type of content (scientific, political, social, or vaccination status). The CamemBERT model was fine-tuned and tested for the classification of French-language tweets. The model’s performance was assessed by computing the F1-score, and confusion matrices were obtained. **Results:** The accuracy of the applied machine

learning reached up to 70.6% for the first classification (pro and con tweets) and up to 90% for the second classification (scientific and political tweets). Furthermore, a tweet was 1.86 times more likely to be incorrectly classified by the model if it contained fewer than 170 characters (odds ratio 1.86; 95% CI 1.20-2.86). **Conclusions:** The accuracy of the model is affected by the classification chosen and the topic of the message examined. When the vaccine debate is jostled by contested political decisions, tweet content becomes so heterogeneous that the accuracy of the model drops for less differentiated classes. However, our tests showed that it is possible to improve the accuracy by selecting tweets using a new method based on tweet length.

Schwarzinger M., Watson V., Arwidson P., Alla F., Luchini S., *COVID-19 vaccine hesitancy in a representative working-age population in France: a survey experiment based on vaccine characteristics*, Lancet Public Health, vol. 6(4), Pages E210-E221, 2021. DOI: 10.1016/S2468-2667(21)00012-8

Background: Opinion polls on vaccination intentions suggest that COVID-19 vaccine hesitancy is increasing worldwide; however, the usefulness of opinion polls to prepare mass vaccination campaigns for specific new vaccines and to estimate acceptance in a country’s population is limited. We therefore aimed to assess the effects of vaccine characteristics, information on herd immunity, and general practitioner (GP) recommendation on vaccine hesitancy in a representative working-age population in France. **Methods:** In this survey experiment, adults aged 18-64 years residing in France, with no history of SARS-CoV-2 infection, were randomly selected from an online survey research panel in July, 2020, stratified by gender, age, education, household size, and region and area of residence to be representative of the French population. Participants completed an online questionnaire on their background and vaccination behaviour-related variables (including past vaccine compliance, risk factors for severe COVID-19, and COVID-19 perceptions and experience), and were then randomly assigned according to a full factorial design to one of three groups to receive differing information on herd immunity (>50% of adults aged 18-64 years must be immunised [either by vaccination or infection]; >50% of adults must be immunised [either by vaccination or infection]; or no information on herd immunity) and to one of two groups regarding GP recommendation of vaccination (GP recommends vaccination or expresses no opinion). Participants then completed a series of eight discrete choice tasks designed to assess vaccine acceptance or refusal based on hypothetical vaccine characteristics (efficacy [50%, 80%, 90%, or 100%], risk of serious side-effects [1 in 10000 or 1 in 100000], location of manufacture [EU, USA, or China], and place of administration [GP practice, local pharmacy, or mass vaccination centre]). Responses were analysed with a two-part model to disentangle outright vaccine refusal (irrespective of vaccine characteristics, defined as opting for no vaccination in all eight tasks) from vaccine hesitancy (acceptance depending on vaccine characteristics). **Findings:** Survey responses were collected from 1942 working-age adults, of whom 560 (28-8%) opted for no

vaccination in all eight tasks (outright vaccine refusal) and 1382 (71-2%) did not. In our model, outright vaccine refusal and vaccine hesitancy were both significantly associated with female gender, age (with an inverted U-shaped relationship), lower educational level, poor compliance with recommended vaccinations in the past, and no report of specified chronic conditions (ie, no hypertension [for vaccine hesitancy] or no chronic conditions other than hypertension [for outright vaccine refusal]). Outright vaccine refusal was also associated with a lower perceived severity of COVID-19, whereas vaccine hesitancy was lower when herd immunity benefits were communicated and in working versus non-working individuals, and those with experience of COVID-19 (had symptoms or knew someone with COVID-19). For a mass vaccination campaign involving mass vaccination centres and communication of herd immunity benefits, our model predicted outright vaccine refusal in 29-4% (95% CI 28-6-30-2) of the French working-age population. Predicted hesitancy was highest for vaccines manufactured in China with 50% efficacy and a 1 in 10000 risk of serious side-effects (vaccine acceptance 27-4% [26-8-28-0]), and lowest for a vaccine manufactured in the EU with 90% efficacy and a 1 in 100 000 risk of serious side-effects (vaccine acceptance 61-3% [60-5- 62-1]).

Interpretation: COVID-19 vaccine acceptance depends on the characteristics of new vaccines and the national vaccination strategy, among various other factors, in the working-age population in France.

Singh K., Gabriel Lima G., Chal MY., Chiyong Cha CY., Kulshrestha J., Ahn YY., Varol O., Misinformation, believability, and vaccine acceptance over 40 countries: Takeaways from the initial phase of the COVID-19 infodemic, PLoS One, vol. 17(2), 2022. DOI: 10.1371/journal.pone.0263381

The COVID-19 pandemic has been damaging to the lives of people all around the world. Accompanied by the pandemic is an infodemic, an abundant and uncontrolled spread of potentially harmful misinformation. The infodemic may severely change the pandemic's course by interfering with public health interventions such as wearing masks, social distancing, and vaccination. In particular, the impact of the infodemic on vaccination is critical because it holds the key to reverting to pre-pandemic normalcy. This paper presents findings from a global survey on the extent of worldwide exposure to the COVID-19 infodemic, assesses different populations' susceptibility to false claims, and analyzes its association with vaccine acceptance. Based on responses gathered from over 18,400 individuals from 40 countries, we find a strong association between perceived believability of COVID-19 misinformation and vaccination hesitancy. Our study shows that only half of the online users exposed to rumors might have seen corresponding fact-checked information. Moreover, depending on the country, between 6% and 37% of individuals considered these rumors believable. A key finding of this research is that poorer regions were more susceptible to encountering and believing COVID-19 misinformation; countries with lower gross domestic product (GDP) per capita showed a substantially higher prevalence of misinformation. We discuss implications of our findings to public campaigns that proactively spread accurate information to countries

that are more susceptible to the infodemic. We also defend that fact-checking platforms should prioritize claims that not only have wide exposure but are also perceived to be believable. Our findings give insights into how to successfully handle risk communication during the initial phase of a future pandemic.

Tarantini C., *Le risque infectieux au regard des pratiques d'acteurs : une anthropologie 'par le bas' de la gestion du risque infectieux à l'hôpital*, PhD thesis, EHESP, Paris, 2020.

Based on an ethnographic study, this thesis examines the social construction of infectious risk management practices among healthcare professionals in a hospital infectious diseases and tropical diseases unit. Such units are unique in that they deal exclusively with patients who are contagious or suspected of being contagious, and are on the front line in responding to epidemic health crises: problems relating to nosocomial infections (NI) and the confinement of epidemics are therefore crucial. In order to respond to these threats, these units are equipped with a range of heterogeneous items designed to limit the circulation and transmission of infectious agents: expert knowledge, recommendations, protective equipment, spatial organisation, etc. These many objects, of varying natures but with a common aim, make up what I call isolation systems. In addition, the department we surveyed was at the centre of a project to combat infectious diseases - as part of which this survey was carried out - based on the development of a socio-technical innovation to reinforce its isolation systems: an 'automated' hand hygiene audit. This anthropological work invites us to move away from the notion of risk as understood by public health, and to take an interest in the risk arrangements through which the practices of actors are constructed. This reveals some of the lines that make up these arrangements, and the ways in which they converge, diverge and play off each other. It is along these lines that the social dynamics involved in the construction of preventive practices in the face of infectious risk, and their socially differentiated nature, emerge. These lines can be of at least three kinds: historical, normative and sensitive. The first sheds light both on the long history of infectious and tropical diseases departments and the isolation facilities they house, and on the singularities of local history, each shaping, in its own way, the face of care and relationships to infectious risk. The second are normative, in the sense that they derive directly from the processes by which isolation systems and the associated socio-technical innovations help to shape the practices of those involved. These lines raise the question of the evaluations and judgements that carers make about these systems, and the ways in which they compose and implement them.

negotiate with them to engage in care activities that involve facing up to the invisible dangers embodied by pathogenic infectious agents. The third issue is certainly the one most overlooked by prevention experts, given the tension between emotions and feelings and scientific rationality. Yet feelings of fear and disgust, and the experience of dirt associated with the latter, are at the root of forms of socialisation and professional strategies

that are central to the construction of relationships with infectious risk. At a time when bacterial resistance is emerging as a new challenge in the fight against infectious diseases, and when (re)emerging diseases are at the centre of health authorities' concerns, healthcare professionals, especially those on the 'front line' working in infectious and tropical diseases departments, play a decisive role in the fight against these new infectious risks. Uncovering the social roots of risk through qualitative empirical studies is undoubtedly a key factor in helping to prevent hospital-acquired infections and manage these new epidemics. Many other avenues remain to be explored.

Tarantini C., *Des soignants à l'épreuve des vaccins et de l'obligation. De la persuasion à la contrainte, penser*

l'éthique? in Israel-Jost V., Weil-Dubuc P-L., *Éthique vaccinale*, 167-186 (Érès, 2023).

From an ethic of persuasion to an ethic of constraint?

Obligation, a historic measure Hesitation, a recent concept

From persuasion to constraint, thinking about ethics The survey

Vaccines and associated risks Vaccination policies
Conclusion

Tareau M-A., Vignier N., Mergey-Fabre M., Clerc Renaud A., Mulot S., Odonne G., Epelboin L., *Journée scientifique COVID et société en Guyane et aux Antilles - 25 Mars 2022- Cayenne, Guyane, Médecine tropicale et sante internationale, Revue Médecine Tropicale et Santé Internationale (MTSI), vol. 2(3), 2022. DOI: 10.48327/mtsi.v2i3.2022.270*

The themes covered are

Epidemiology of Covid-19 in French Guiana 2020-2022

Covid-19 at Martinique University Hospital: season 1 to 5

Extent of Covid-19 transmission in the Guyanese population: the ÉPICOVID project

Covid-19 and mortality in Guadeloupe

The adaptation of Guyanese and Haitian Creole medicine to the Covid-19 epidemic.

phytotherapeutic responses and representations

Use of local pharmacopoeia and vaccine hesitancy in French Guiana

The role of aromatic and medicinal plants (AMPs) from the Martinique ethnopharmacopoeia in the prevention and treatment of infection by SARS-CoV-2

Two years of Covid-19: changes in French healthcare workers' perceptions of vaccination during the pandemic

Covid-19 in French Guiana: a virus, a vaccine, a people

The politicisation of the relationship with Covid and its vaccine in Guadeloupe

Attitudes of healthcare workers in French Guyana towards the Covid-19 vaccine

Experience of mandatory vaccination against Covid-19 by healthcare workers in French Guyana

Characterisation and monitoring of vaccine hesitancy in the Guyanese population

Access to water in times of health crisis: public drinking water services put to the test

Covid-19 in French Guiana

Saint-Georges-de-l'Oyapock and the Covid-19 pandemic: living on the French-Brazilian border at a time of closures and crisis management (2021)

Breakers, surf and sheep: what psycho-social indicators of the Covid-19 tide in French Guiana?

Tran Kiem C., Massonnaud C.R., Levy-Bruhl D., Poletto C., Colizza V., Bosetti P., Fontanet A., Gabet A., Olié V., Zanetti L., Boëlle P.Y., Crépey P., Cauchemez S., *A modelling study investigating short and medium-term challenges for COVID-19 vaccination: From prioritisation to the relaxation of measures*, *EClinicalMedicine*, vol. 38, 2021. DOI: 10.1016/j.eclinm.2021.101001

Background: The roll-out of COVID-19 vaccines is a multi-faceted challenge whose performance depends on pace of vaccination, vaccine characteristics and heterogeneities in individual risks. **Methods:** We developed a mathematical model accounting for the risk of severe disease by age and comorbidity, and transmission dynamics. We compared vaccine prioritisation strategies in the early roll-out stage and quantified the extent to which measures could be relaxed as a function of the vaccine coverage achieved in France. **Findings:** Prioritizing at-risk individuals reduces morbi-mortality the most if vaccines only reduce severity, but is of less importance if vaccines also substantially reduce infectivity or susceptibility. Age is the most important factor to consider for prioritization; additionally accounting for comorbidities increases the performance of the campaign in a context of scarce resources. Vaccinating 90% of ≥ 65 y.o. and 70% of 18-64 y.o. before autumn 2021 with a vaccine that reduces severity by 90% and susceptibility by 80%, we find that control measures reducing transmission rates by 15-27% should be maintained to remain below 1000 daily hospital admissions in France with a highly transmissible variant (basic reproduction number $R_0 = 4$). Assuming 90% of ≥ 65 y.o. are vaccinated, full relaxation of control measures might be achieved with a vaccine coverage of 89-100% in 18-64 y.o or 60-69% of 0-64

y.o. **Interpretation:** Age and comorbidity-based vaccine prioritization strategies could reduce the burden of the disease. Very high vaccination coverage may be required to completely relax control measures. Vaccination of children, if possible, could lower coverage targets necessary to achieve this objective.

Tran V-T., Sidorkiewicz S., Péan C., Ravaud P., *Impact of an interactive web tool on patients' intention to receive COVID-19 vaccination: a before-and-after impact study among patients with chronic conditions in France*, *BMC Medical Informatics and Decision*, vol. 21, Pages 228, 2021. DOI: 10.1186/s12911-021-01594-8

Objectives: In France, about 30% of the population refuses COVID-19 vaccination outright, and 9 to 40% are hesitant. We developed and evaluated an interactive web tool providing transparent and reliable information on the benefits and risks of COVID-19 vaccination. **Methods:** The most recent scientific data at the time of the study were implemented into an interactive web tool offering individualized information on the risks of COVID-19 infection-related events versus vaccination-related serious adverse events. The tool was evaluated during a before-and-after impact study nested in ComPaRe, a French e-cohort of adult patients with chronic conditions. Primary outcome was the proportion of patients intending to receive vaccination after using the tool, among those not intending to receive it at baseline. **Results:** Between January 8 and 14, 2021, we enrolled 3152 patients in the study [mean age 55.2 (SD: 16.9), 52.9% women and 63% with ≥ 2 chronic conditions]. Before consulting the tool, 961 (30.5%) refused to be vaccinated until further data on efficacy/safety was obtained and 239 (7.5%) outright refused vaccination. Among these 1200 patients, 96 (8.0%, number needed to treat: 12.5) changed their mind after consulting the tool and would subsequently accept vaccination. **Conclusions:** Our interactive web tool represents a scalable method to help increase the intent to receive COVID-19 vaccination among patients with chronic conditions and address vaccine hesitancy. Since April 2021, our tool has been embedded on the official webPage of the French Government for COVID-19 information.

Vallée A., Fourn E., Majerholm C., Touche P., Zucman D., COVID-19 Vaccine Hesitancy among French People Living with HIV, Vaccines, vol. 9(4), 2021. DOI: 10.3390/vaccines9040302

People living with HIV are a high-risk population concerning the coronavirus 19 (COVID-19) infection, with a poorer prognosis. It is important to achieve high COVID-19 vaccination coverage rates in this group as soon as possible. This project used self-reporting to assess vaccine hesitancy and acceptance among people living with HIV towards the novel COVID-19 vaccine. Sixty-eight (28.7%) participants among the 237 declared their hesitancy to be vaccinated against COVID-19. Participants who expressed concerns about their health ($p < 0.001$), the requirement of mandatory COVID-19 vaccination ($p = 0.017$), and their chronic disease status ($p = 0.026$) were independently associated with the acceptance of vaccination. Conversely, participants presenting general vaccine refusal ($p < 0.001$), concerns about the serious side effects of COVID-19 vaccines ($p < 0.001$), and those already thinking having an immune status to COVID-19 ($p = 0.008$) were independently associated with COVID-19 vaccine hesitancy. Our results suggest that vaccine strategy would be more successful in France with a communication strategy emphasising the collective benefits of herd immunity in the population living with HIV and reassuring patients with chronic diseases about the safety of the proposed vaccines.

Vaux S., Gautier A., Nassany O., Bonmarin I., Vaccination acceptability in the French general population and related determinants, 2000-2021, Vaccine, vol. 41(42), Pages 6281-6290, 2023. DOI: 10.1016/j.vaccine.2023.08.062

Background: This study describes the evolution of vaccination acceptability and associated determinants in the French general population between 2000 and 2021, and vaccinations with the highest vaccine hesitancy between 2010 and 2021. **Methods:** Data were collected from the nine national 'Health Barometer' cross-sectional surveys conducted between 2000 and 2021. These surveys included French-speaking individuals aged 18-75 years old who were selected through randomly generated landline and mobile phone numbers. Participants were asked about their acceptability of vaccination in general and their vaccine hesitancy toward any particular vaccinations. Determinants of vaccination acceptability were studied using univariate and multivariate Poisson regressions. **Results:** The proportion of persons who found vaccination acceptable in general (i.e., answering "very" or "somewhat" favourable in the survey interview) decreased from 91.1% in 2000 to 61.2% in 2010 (the latter year coinciding with the 2009 H1N1 influenza pandemic), increased in 2014 (78.8%), slightly fluctuated until 2019 (74.2%), and increased again in both 2020 (80.0%) and 2021 (82.5%) during the COVID-19 pandemic. Irrespective of the year, acceptability was higher among persons with higher incomes, those with a higher education level, and individuals not living alone. In 2021, for the first time, vaccination acceptability was higher among persons over 44 years old (versus 18-24 year-olds) and among retired persons (versus workers). The highest hesitancy rate for a vaccine was for the 2009 H1N1 influenza virus in 2010 (41% answering "somewhat" or "very" unfavourable). In 2021, the highest rate was for the COVID-19 vaccine (21%). **Discussion:** Unlike the experience of the 2009 AH1N1 influenza pandemic, which led to a collapse in vaccination acceptability among the French general population, acceptability continued to increase during the COVID-19 pandemic. However, the pre-2010 level was not reached. Our results show a tendency towards a widening social and economic gap in terms of vaccine acceptability over time.

Verger P., Botelho-Nevers E., Garrison A., Gagnon D., Gagneur A., Gagneux-Brunon A., Dubé E., Vaccine hesitancy in health-care providers in Western countries: a narrative review, Expert Review of Vaccines, vol. 21(7), Pages 909-927, 2022. DOI: 10.1080/14760584.2022.2056026

Introduction: Vaccine hesitancy (VH) is a leading cause of suboptimal vaccine uptake rates worldwide. The interaction between patients and health-care providers (HCPs) is the keystone in addressing VH. However, significant proportions of HCPs, including those who administer vaccines, are personally and professionally vaccine-hesitant. **Areas covered:** This narrative review sought to characterize the nature, extent, correlates, and consequences of VH among HCPs. We included 39 quantitative and qualitative studies conducted in Western countries, published since 2015, that assessed VH among HCPs in general, for several vaccines. Studies were

reviewed using the WHO 3Cs model - (lack of) confidence, complacency, and (lack of) convenience. **Expert opinion:** Despite the lack of validated tools and substantial heterogeneity in the methods used to measure VH among HCPs, this review confirms its presence in this population, at frequencies that vary by country, profession type, setting, and level of medical education. Lack of knowledge and mistrust in health authorities/pharmaceutical industry/experts were among its principal drivers. Improving the content about vaccination in HCPs' training programs, facilitating access to reliable information for use during consultations, and developing and validating instruments to measure HCPs' VH and its determinants are key to addressing VH among HCPs.

Verger P., Cogordan C., Fressard L., Gosselin V., Donato X., Biferi M., Verlomme V., Sonnier P., Meur H., Malfait P., Berthiaume P., Ramalli L., Gagneur A., *A postpartum intervention for vaccination promotion by midwives using motivational interviews reduces mothers' vaccine hesitancy, south-eastern France, 2021 to 2022: a randomised controlled trial, Eurosurveillance, vol. 28(38), 2023. DOI: 10.2807/1560-7917.ES.2023.28.38.2200819*

Background: Despite childhood vaccine mandates imposed in 2018 in France, parental vaccine hesitancy (VH) remains frequent. Interventions in Quebec, Canada, applying motivational interviewing (MI) techniques have successfully reduced parents' VH for childhood immunisations. **Aim:** To determine whether MI intervention for mothers in maternity wards in the days after birth in France could significantly reduce VH, increase intentions to vaccinate (VI) their child at 2 months and reduce VH social inequalities. **Methods:** We conducted a parallel-arm multicentre randomised controlled trial from November 2021 to April 2022 to compare impacts of MI performed by MI-trained midwives (intervention) vs a vaccination leaflet (control). We included 733 mothers from two maternity hospitals in south-eastern France, randomly assigned either arm. The validated Parents Attitudes about Childhood Vaccines questionnaire was used before and after MI or leaflet to assess mothers' VH (13 items, 0-100 score) and VI (1 item, 1-10 score). Difference-in-difference (D-I-D) models were used to estimate net impact of MI vs leaflet for the entire sample and stratified by VH and education level. **Results:** Motivational interview intervention reduced mothers' VH score by 33% ($p < 0.0001$) and increased VI by 8% ($p < 0.0001$); the effect was largest for the highest initial VH levels. D-I-D analyses estimated net VH decrease at 5.8/100 points ($p = 0.007$) and net VI increase at 0.6/10 points ($p = 0.005$). Net VH decrease was highest for high initial VH levels and low education levels. **Conclusions:** Our results show positive effects of MI intervention, and means of its implementation should be investigated in France.

Verger P., Fressard L., Soveri A., Dauby N., Fasce A., Karlsson L., Lewandowsky S., Schmid P., Dubé E., Gagneur A., *An instrument to measure psychosocial determinants of health care professionals' vaccination behavior: Validation of the Pro-VC-Be questionnaire, Expert Review of Vaccines, vol. 21(5), Pages 693-709, 2022. DOI: 10.1080/14760584.2022.2046467*

Objectives: The lack of validated instruments assessing vaccine hesitancy/confidence among health care professionals (HCPs) for themselves, and their patients led us to develop and validate the Pro-VC-Be instrument to measure vaccine confidence and other psychosocial determinants of HCPs' vaccination behavior among diverse HCPs in different countries. **Methods:** Cross-sectional survey in October-November 2020 among 1,249 GPs in France, 432 GPs in French-speaking parts of Belgium, and 1,055 nurses in Quebec (Canada), all participating in general population immunization. Exploratory and confirmatory factor analyses evaluated the instrument's construct validity. We used HCPs' self-reported vaccine recommendations to patients, general immunization activity, self-vaccination, and future COVID-19 vaccine acceptance to test criterion validity. **Results:** The final results indicated a 6-factor structure with good fit: vaccine confidence (combining complacency, perceived vaccine risks, perceived benefit-risk balance, perceived collective responsibility), trust in authorities, perceived constraints, proactive efficacy (combining commitment to vaccination and self-efficacy), reluctant trust, and openness to patients. The instrument showed good convergent and criterion validity and adequate discriminant validity. **Conclusions:** This study found that the Pro-VC-Be is a valid instrument for measuring psychosocial determinants of HCPs' vaccination behaviors in different settings. Its validation is currently underway in Europe among various HCPs in different languages.

Verger P., Peretti-Watel P., Gagneux-Brunon A., Botelho-Nevers E., Sanchez A., Gauna f., Fressard L., Bonneton M., Launay O., Ward J.K., *Acceptance of childhood and adolescent vaccination against COVID-19 in France: a national cross-sectional study in May 2021, Human Vaccines & Immunotherapeutics, vol. 17(12), Pages 5082-5088, 2021. DOI: 10.1080/21645515.2021.2004838*

The French health authorities extended vaccination against COVID-19 to adolescents in June 2021, during the epidemic resurgence linked to the delta variant and because of insufficient vaccination coverage to ensure collective protection. In May 2021, we conducted a national online cross-sectional survey of 2533 adults in France to study their attitudes toward COVID-19 vaccines and their acceptance of child/ adolescent vaccination according to targeted age groups (<6 years; 6-11; 12-17) and its determinants. We applied a multi-model averaged logistic regression for each of these age groups to study the determinants of favorability to vaccination. Among the respondents, 62.7% (1597) accepted COVID-19 vaccination for adolescents, 48.3% (1223) for children aged 6-11 years, and only 31% (783) for children under 6 years. Acceptance increased with fear of contracting COVID-19 and trust in institutions and decreased as the COVID-19 vaccine risk perception score

increased. People favourable to vaccination in general and those sensitive to social pressure were also more often favourable to vaccinating children/ adolescents than those who were not. Drivers of acceptance were ranked differently for the different age groups. Understanding these differences is essential to anticipating obstacles to vaccination of these age groups and designing appropriate information and motivational strategies to support it.

Verger P., Scronias D., *Changes in general practitioners' attitudes toward COVID-19 vaccination after first interim results: a longitudinal approach in France, Human Vaccines & Immunotherapeutics, vol. 17(10), Pages 3408-3412, 2021. DOI: 10.1080/21645515.2021.1943990*

We assessed whether the a priori acceptance by French general practitioners (GPs) of COVID-19 vaccines changed after the announcements about them in November 2020. In all, between two surveys in October-November and in November-December 2020, acceptance of COVID-19 vaccines increased among 16.9% of GPs and decreased among 23.0%. Among those with high acceptance in October-November (52.5%), 11.6% became hesitant-reluctant in November- December; in those with initial hesitancy-reluctance (24.6%), 15.2% showed high acceptance. Deteriorating acceptance was significantly associated with GPs' distrust in the Ministry of Health and a priori concerns about the safety of vaccines developed during an epidemic; the reverse was found for improving acceptance. In addition, better acceptance was more likely among GPs who perceived the medical severity of COVID-19 to be high and was less common among women. During a severe pandemic, GPs' trust in health institutions and perception of safety issues remain important predictors of their attitudes toward new vaccines. Vigilance is needed regarding health professionals' reactions to events that may cast doubt on the safety or efficacy of certain COVID-19 vaccines. Personalized approaches should be considered and tested to address their concerns as the situation and knowledge evolve.

Verger P., Scronias D., Bergeat M., Chaput H., Dubé E., Gagneur A., Dauby N., *Vaccination contre la Covid-19 : trois médecins sur quatre interrogés en octobre-novembre 2020 y étaient a priori favorables, Études et résultats, vol. 1178, 2021.*

During October and November 2020, participants in the fourth Observation Panel on practices and conditions in general practice were asked about their perceptions and opinions regarding future vaccines against Covid-19. Three out of four GPs would agree a priori to be vaccinated against Covid-19 and recommend the vaccine to their patients. The other doctors are hesitant or reluctant. The latter are more likely to be GPs concerned about the safety of future vaccines, those who do not trust the Ministry of Health to ensure vaccine safety, or those who are normally reluctant to follow vaccination recommendations for their at-risk patients. Other surveys of GPs in French-speaking Belgium and nurses in Quebec show results comparable to those observed in France.

Verger P., Scronias D., Dauby N., Adedzi K.A., Gobert C., Bergeat M., Gagneur A., Dubé E., *Attitudes of healthcare workers towards COVID-19 vaccination: a survey in France and French-speaking parts of Belgium and Canada, Eurosurveillance, vol. 26(3), 2021. DOI: 10.2807/1560-7917.ES.2021.26.3.2002047*

In October and November 2020, we conducted a survey of 2,678 healthcare workers (HCWs) involved in general population immunisation in France, French-speaking Belgium and Quebec, Canada to assess acceptance of future COVID-19 vaccines (i.e. willingness to receive or recommend these) and its determinants. Of the HCWs, 48.6% (n = 1,302) showed high acceptance, 23.0% (n = 616) moderate acceptance and 28.4% (n = 760) hesitancy/reluctance. Hesitancy was mostly driven by vaccine safety concerns. These must be addressed before/during upcoming vaccination campaigns.

Verger P., Scronias D., Fradier Y., Meziani M., Ventelou B., *Online study of health professionals about their vaccination attitudes and behavior in the COVID-19 era: addressing participation bias, Human Vaccines & Immunotherapeutics, vol. 17(9), Pages 2934-2939, 2021. DOI: 10.1080/21645515.2021.1921523*

Online surveys of health professionals have become increasingly popular during the COVID-19 crisis because of their ease, speed of implementation, and low cost. This article leverages an online survey of general practitioners' (GPs') attitudes toward the soon-to-be-available COVID-19 vaccines, implemented in October-November 2020 (before the COVID-19 vaccines were authorized in France), to study the evolution of the distribution of their demographic and

professional characteristics and opinions about these vaccines, as the survey fieldwork progressed, as reminders were sent out to encourage them to participate. Focusing on the analysis of the potential determinants of COVID-19 vaccine acceptance, we also tested if factors related to survey participation biased the association estimates. Our results show that online surveys of health professionals may be subject to significant selection bias that can have a significant impact on estimates of the prevalence of some of these professionals' behavioral, opinion, or attitude variables. Our results also highlight the effectiveness of reminder strategies in reaching hard-to-reach professionals and reducing these biases. Finally, they indicate that weighting for nonparticipation remains indispensable and that methods exist for testing (and correcting) selection biases.

Vignier N., Brureau K., Granier S., Breton J., Michaud C., Gaillet M., Agostini C., Ballet M., Nacher M., Valdes A., Abboud P., Adenis A., Djossou F., Epelboin L., Douine M., *Attitudes towards the COVID-19 Vaccine and Willingness to Get Vaccinated among Healthcare Workers in French Guiana: The Influence of Geographical Origin, Vaccines, vol. 9(6), Page 682, 2021. DOI: 10.3390/vaccines9060682*

Background: In the context of the global COVID-19 pandemic and the expansion of the more transmissible 20J/501Y.V3 (Gamma) variant of concern (VOC), mRNA

vaccines have been made available in French Guiana, an overseas French territory in South America, from mid-January 2021. This study aimed to estimate the willingness to be vaccinated and the socio-demographic and motivational correlates among Health Care Workers (HCWs) in French Guiana. **Methods:** A cross-sectional survey was conducted from January 22 to March 26, 2021 among a sample of HCWs in French Guiana. They were asked about their willingness to get vaccinated against COVID-19 and vaccine hesitancy, vaccine uptake and vaccines attitudes. Factors associated with willingness to get vaccinated have been analysed with ordinal logistic regression, using Stata software. **Results:** A total of 579 HCWs were interviewed, including 220 physicians and 200 nurses most often working in hospital (54%) or in the private sector (22%). Overall, 65.6% of respondents reported that they were willing or had already been vaccinated against COVID-19, while 24.3% of respondents reported that they did not want to get vaccinated against COVID-19 and 11.2% were unsure. HCWs were more willing to get vaccine if they were older, were worried about COVID-19 and were confident in the management of epidemic. Conversely, participants were less likely to have been vaccinated or willing to if they were nurses or of another non medical profession, born in French Guiana, feared adverse effects, or if they did not trust pharmaceutical companies and management of the epidemic by authorities. **Conclusion:** Negative attitudes towards vaccines are a major public health concern among HCWs in French Guiana when considering the current active epidemic with Gamma VOC. General vaccine hesitancy and concerns about future side effects in particular represent important barriers. Low confidence in government and science are significant in COVID-19 vaccine refusal among non-medical staffs. Public health messaging with information on vaccine safety should be tailored to address these concerns. The specific challenges of HCWs from French Guiana must be taken into account.

Walid O., Le Duc Banaszuk A., Bruel S., Mueller J.E., Thilly N., Gagneux-Brunon A., *Un jeu sérieux pour augmenter l'acceptabilité de la vaccination HPV chez les collégiens : satisfaction et intentions de vaccination chez les utilisateurs, Médecine et Maladies Infectieuses Formation*, vol. 2(2), Pages S13, 2023. DOI: 10.1016/j.mmifmc.2023.03.034

Introduction: Vaccination coverage (CV) against HPV remains below 50% in France, partly due to a lack of knowledge on the part of adolescents - the target of vaccination - and their families. The use of digital technologies has become a means of promoting primary prevention, including vaccination. The primary objective is to assess the degree of satisfaction of secondary school pupils and school professionals with a serious game on HPV vaccination. The secondary objective was to measure the vaccination intentions of these adolescents after playing the game. **Materials and methods:** The serious game is one of the tools developed as part of the "Education, Motivation, Mobilisation" component of an interventional research project to increase the acceptability of HPV vaccination among adolescents. It was used in classes of 4ème and 3ème during HPV education sessions. The evaluation of the degree of satisfaction of secondary school

pupils with the serious game and the measurement of their vaccination intentions was based on a quantitative study carried out by means of a questionnaire.

self-administered survey. Three focus groups (6 to 10 participants per focus group) were conducted by videoconference with school nurses, teachers, management and education staff in the relevant groups in the participating collèges. **Results:** Out of a total of 5,784 connections to the serious game, 5,468 (94.5) corresponded to those of male and female students in classes 3ème and 4ème. At the end of the game, n=1422 pupils (i.e. 26%) completed the online satisfaction questionnaire, for which 1048 pupils (74%) gave the game a score of between 4 and 5/5. Although 811 pupils (57%) said they had a good knowledge of HPV before playing the game (61% of girls and 52% of boys), 1273 pupils (89.5%) felt they had learned new things thanks to the game (89% of girls and 90% of boys), and 1197 (84.2%) said they had a better understanding of the need to be vaccinated against HPV. As a result, 880 pupils (61.9%) stated that they intended to be vaccinated, irrespective of their vaccination status. The focus groups revealed that the serious game was well received by the stakeholders, who considered it a practical, fun and entertaining tool. Nevertheless, logistical difficulties in accessing the game in schools were mentioned, namely connection problems and lack of computer equipment. **Conclusion:** The use of a serious game to promote HPV vaccination was very favourably evaluated by schoolchildren and school professionals. The tool seems to have improved schoolchildren's knowledge, and the vaccination intentions observed are close to the target of 60% vaccination coverage set in the 2014-2019 cancer plan. Results on the impact of the "Education, Motivation, Mobilisation" intervention are expected in 2023.

Wang S., Madrisotti F., *Out of step: Preventive measures among people of chinese origin in France during the Covid-19 pandemic*, in Wang S., *Chinese in France amid the Covid-19 pandemic*, 72-101 (Brill, 2023)

This chapter analyses how people of Chinese origin have used protective measures during the pandemic and, unlike the general French population, anticipated the need for them. In particular, the first-generation migrants began to anticipate this need in January 2020, wearing masks on public transportation and in public places well before the French-born Chinese. The vast majority of our respondents had overwhelmingly adopted preventive measures by the beginning of March 2020, just before the general lockdown imposed by the French government. The French government started to recommend protective and social distancing measures on in mid-March 2020. People of Chinese origin said that they felt a large gap with the French population in the adoption of preventive measures. First-generation migrants quickly became deeply concerned about the emergence of the pandemic in China. They began to protect themselves early on, following the instructions and advice of Chinese authorities disseminated on official media and social media, particularly WeChat. Descendants became aware of conditions in China from their parents and relatives living in China. However, they maintained a

certain distance, and, in line with the announcements by French authorities, did not believe that the virus posed a major danger in France. Finally, descendants adopted protective practices in a relatively flexible manner, particularly with the goal of protecting and pacifying their parents. Descendants saw themselves as in between and caught in a contradictory position. As Covid-19 conditions in France deteriorated, the attitudes of descendants about the virus began to resemble those of their parents and differ from those of their French relatives, friends, and colleagues. The last section of this chapter focuses on vaccination practices and respondents' perceptions of vaccines as one way to protect themselves.

Ward J.K., 4 D'une pandémie à l'autre : est-elle la France un pays d'antivaccins, in Pandémies (ed. Claudia Senik) 63-82 (La Découverte, 2022). DOI:10.3917/dec.senik.2022.01.0063.

Is France an anti-vaccine country? On 19 June 2019, a few months before the outbreak of the covid-19 pandemic, Le Figaro published an article entitled "Vaccines: the French are the most sceptical in the world". Like many others published that week, this article echoed a survey comparing attitudes to vaccines in one hundred and forty-four countries and showing that around a third of French people did not believe that vaccines were safe [Gallup, 2019]. The emergence of French mistrust of vaccines in the mainstream media does not date from 2019: three years earlier, the press used the same headlines to comment on a study covering sixty-seven countries this time [Larson et al., 2016]. The issue came to the forefront of the public agenda following the H1N1 influenza epidemic in 2009, which had a major impact on the health of the population.

by the publication of new surveys, the emergence of a number of controversies surrounding the vaccine safety, but also by the resurgence of measles epidemics [Guimier, 2016].

Ward J.K., What do public reservations about Covid-19 vaccines tell us about ordinary relationships to science, Annales des Mines, vol. 108(4), Pages 78-81, 2022. DOI: 10.3917/re1.108.0078

In France, the Covid-19 epidemic occurred after a decade of debate about vaccines. Numerous studies have shown that reluctance to use vaccines is particularly widespread in our country. This reluctance is not only a public health issue, but has also been at the heart of recent debates about the evolution of ordinary relationships with science. In this article, we present the state of knowledge about the reticence towards vaccination against Covid-19. What do they tell us about ordinary relations to science? We will see that they lead us to distance ourselves from certain current commonplaces concerning mistrust of science.

Ward J.K., Politisation et rapports ordinaires aux vaccins. First lessons from the Covid-19 epidemic, L'Année sociologique, vol. 73(2), Pages 267-294, 2023. DOI: 10.3917/anso.232.0267

The influence of political identities and beliefs on attitudes to a wide range of aspects of the Covid-19 epidemic has been highlighted since the outset of this crisis. In this article, we take stock of what the questionnaire surveys conducted during the epidemic tell us about the relationship between vaccination and politicisation. We also take stock of international debates on the influence of political identities on attitudes to health, medicine and science more generally. Approaches rooted in cognitive and social psychology dominate this literature. Using the French case as a starting point, we will show the contributions and also the limitations of these approaches. We will suggest some possible links between this literature and the French sociology of ordinary relations with politics. These avenues will provide a better understanding of the role that ordinary relationships to politics can play in relationships to health.

Ward J.K., Alleaume C., Peretti-Watel P., theCOCONEL Group, The French public's attitudes to a future COVID-19 vaccine: The politicization of a public health issue, Social Science & Medicine, vol. 265, 2020. DOI: 10.1016/j.socscimed.2020.113414

As Covid-19 spreads across the world, governments turn a hopeful eye towards research and development of a vaccine against this new disease. But it is one thing to make a vaccine available, and it is quite another to convince the public to take the shot, as the precedent of the 2009 H1N1 influenza illustrated. In this paper, we present the results of four online surveys conducted in April 2020 in representative samples of the French population 18 years of age and over (N = 5018). These surveys were conducted during a period when the French population was on lockdown and the daily number of deaths attributed to the virus reached its peak. We found that if a vaccine against the new coronavirus became available, almost a quarter of respondents would not use it. We also found that attitudes to this vaccine were correlated significantly with political partisanship and engagement with the political system. Attitudes towards this future vaccine did not follow the traditional mapping of political attitudes along a Left-Right axis. The rift seems to be between people who feel close to governing parties (Centre, Left and Right) on the one hand, and, on the other, people who feel close to Far-Left and Far-Right parties as well as people who do not feel close to any party. We draw on the French sociological literature on ordinary attitudes to politics to discuss our results as well as the cultural pathways via which political beliefs can affect perceptions of vaccines during the COVID-19 pandemic.

Ward J.K., Cafiero F., Peretti-Watel P., Governing by press release, Infectious Diseases Now, vol. 51, Pages 501-502, 2021. DOI: 10.1016/j.idnow.2020.12.009

No Abstract

Ward J.K., Cortaredona S., Gauna F., Peretti-Watel P., *Partisan cues provide a very limited explanation of political differences in intentions to vaccinate against COVID-19 in France*, Preprint, 2023. <https://osf.io/preprints/psyarxiv/aghvc>

In the past ten years, increasing attention has been paid to the influence of political identities on attitudes towards vaccines. To explain partisan differences in attitudes to vaccines, researchers have tended to focus on a “top-down” approach combining partisan cues and motivated reasoning. In this paper, we study the evolution of intentions to vaccinate against COVID-19 over time by drawing on 34 cross-sectional surveys covering a period of approximately a year and a half (March 2020-June 2021, n=38 416). Across the whole period, people who felt closest to parties on the Far Right, the Far Left and those who felt closest to no party at all were more likely not to intend to vaccinate than people who felt closest to parties on the Left, the Right and at the Center. To explain partisan differences in attitudes to vaccines, researchers have focused on a “top-down” approach combining partisan cues and motivated reasoning. We show that this approach can explain only very partly these results and that it does not pay sufficient attention to disengagement with politics. We conclude by advocating for a better articulation between work on cognitive mechanisms and work on the strategies deployed by partisan organisations to gain followers.

Ward J.K., Cortaredona S., Touzet H., Gauna F., Peretti-Watel P., *Explaining political differences in attitudes to vaccines in France: partisan cues, disenchantment with politics and political sophistication*, Preprint, 2023. <https://osf.io/preprints/psyarxiv/5mbnf>

In this article, we contribute to current debates on the role of partisan cues and political sophistication in explaining vaccine hesitancy by drawing on surveys conducted in France. We test whether partisan differences in attitudes to vaccines are best explained by partisan cues or by parties’ differences in propensity to attract people who distrust the actors involved in vaccination policies. We find a small effect of partisan cues and a much stronger effect of trust. But more importantly, we show that the more politically sophisticated are less vaccine hesitant and that the non-partisan are the biggest and most vaccine-hesitant group. To expose the implications of these results, we draw on the sociology of symbolic boundaries and the sociology of disenchantment with politics. We argue that the more politically sophisticated are more likely to be made aware of when politicians cross the lines of acceptable political debate.

Ward J.K., Gauna F., Gagneux-Brunon A., Botelho-Nevers E., Cracowski J-L., Khouri C., Launay O., Verger P., Peretti-Watel P., *The French health pass holds lessons for mandatory COVID-19 vaccination*, *Nature Medicine*, vol. 28(2), Pages 232-235, 2022. DOI: 10.1038/s41591-021-01661-7

The sanitary pass increased levels of vaccination, but to a lower extent among the most vulnerable, and did not reduce vaccine hesitancy itself, showing the importance of

outreach to underserved communities and the potential limits of mandatory vaccination policies.

Public authorities in many countries are considering mandating vaccination against COVID-19 for the whole eligible population¹. Most countries are confronted with the difficulties of reaching the vaccination rates obtained for diseases such as measles, which are often above 95%. During the summer of 2021, French authorities implemented a health pass, or *passé sanitaire*, requiring everyone aged 12 and older to present proof of vaccination or a negative test for SARS-CoV-2 to access a wide array of public spaces, including bars, libraries and hospitals. The introduction of the *passé sanitaire* markedly increased the number of people vaccinated against COVID-19. But, as of November 2021, coverage is plateauing at around 90% of the eligible population and a debate has arisen on whether the next step should be mandating this vaccination².

There are lessons to be learnt from the French experience with the health pass that contribute to the current debate on mandatory COVID-19 vaccination.

Ward J.K., Gauna F., Deml M.J., MacKendrick N., Peretti-Watel P., *Diversity of attitudes towards complementary and alternative medicine (CAM) and vaccines: A representative cross-sectional study in France*, *Social Science & Medicine*, vol. 328, 2023. DOI: 10.1016/j.socscimed.2023.115952

How much does endorsement of complementary and alternative medicine (CAM) correlate with negative attitudes towards vaccines? One of the difficulties of analysing the relationship between attitudes to CAM and attitudes towards vaccines rests in the complexity of both. Which form of CAM endorsement is associated with what type of reticence towards vaccines? While the literature on the relationship between CAM and attitudes towards vaccines is growing, this question has not yet been explored. In this study we present the results of a survey conducted in July 2021 among a representative sample of the French mainland adult population (n = 3087). Using cluster analysis, we identified five profiles of CAM attitudes and found that even among the most pro-CAM group, very few respondents disagreed with the idea that CAM should only be used as a complement to conventional medicine. We then compared these CAM attitudes to vaccine attitudes. Attitudes to CAM had a distinct impact as well as a combined effect on attitudes to different vaccines and vaccines in general. However, we also found a) that attitudes to CAM provide a very limited explanation of vaccine hesitancy and b) that, among the hesitant, pro-CAM attitudes are often combined with other traits associated with vaccine hesitancy such as distrust of health agencies, radical political preferences and low income. Indeed, we found that both CAM endorsement and vaccine hesitancy are more prevalent among the socially disadvantaged. Drawing on these results, we argue that, to better understand the relationship between CAM and vaccine hesitancy, it is necessary to look at how both can reflect lack of access and recourse to mainstream medicine and distrust of public institutions.

Ward J. K., Peretti-Watel P., *Comprendre la méfiance vis-à-vis des vaccins : des biais de perception aux controverses*, *Revue française de sociologie*, vol. 61(2), Pages 243-273, 2020. DOI : 10.3917/rfs.612.0243

In France, as elsewhere, the health authorities are currently faced with an unprecedented lack of public confidence in vaccination. To understand this phenomenon, public health researchers and experts still rely heavily on the traditional Public Understanding of Science (pus) approach. This approach defends a deficit model that highlights the shortcomings of lay people, who are said to be insufficiently educated; it also highlights the multiple cognitive biases that affect their perceptions; and finally, it diagnoses the rise of an anti-science movement. This article takes stock of what is known about attitudes to the vaccines available in France, using this case to put the pus to the test. It shows that the main limitation of this approach lies in its inability to integrate the social and cultural dimension of cognition. Finally, he outlines an alternative model to the pus, which places at its heart the cultural dimension of all cognition and makes it possible to link the attitudes of individuals with the emergence of controversies and social structures.

The journal published an English version of the paper: Ward, J. K. & Peretti-Watel, P, Understanding vaccine mistrust: From perception bias to controversies. *Revue française de sociologie* Vol. 61, 243-273 (2020). Available here : <https://www.cairn-int.info/revue-revue-francaise-de-sociologie-2020-2-page-243.htm>

In France, like in other countries, healthcare authorities are today confronted with unprecedented levels of mistrust among populations regarding vaccination. To understand this phenomenon, public health researchers and experts have generally resorted to the traditional Public Understanding of Science (PUS) approach. This is based on an information deficit model that emphasizes the lack of knowledge among laypeople, who are seen as insufficiently educated. It also underscores the many cognitive biases that are seen as affecting perception, and it identifies the rise of an anti-science movement. This article provides an overview of the current state of knowledge regarding attitudes toward the vaccines available in France, using this case to test the PUS approach. It shows that the main limitation of this approach lies in its inability to incorporate the social and cultural dimensions of cognition. Finally, this article provides an outline for an alternative model to PUS that considers the cultural dimension of all forms of cognition as central and connects individuals' attitudes to the emergence of controversies and social structures.

Weil-Dubuc P.L., *Prioriser : la question de la justice au cœur de la stratégie vaccinale?* in Israel-Jost V, Weil-Dubuc P-L, . *Éthique vaccinale*, 91-103 (Érès, 2023).

- The question of objectives

Objective A versus objective B: taking age into account?

Objective B + objective C: take socio-economic determinants into account?

Objectives A, B or C vs objective D

The question of implementing the criteria

Conclusion

Wiegand M., Eagan R.L., Karimov R., Lin L., Larson H.J., de Figueiredo A., *Global Declines in Vaccine Confidence from 2015 to 2022: A Large-Scale Retrospective Analysis*, Preprint, 2023. <https://doi.org/10.2139/ssrn.4438003>

The latest WHO/UNICEF estimates of national childhood immunisation coverage have revealed the largest declines in routine immunisation uptake globally in three decades. Although the COVID-19 pandemic has contributed to these falls via supply-side disruptions impacting vaccine availability, the extent to which the COVID-19 pandemic has impacted demand-side barriers, such as vaccine confidence, is not yet well understood. Through a large-scale retrospective modelling study, we investigate the extent to which vaccine confidence has changed globally using pre- and post-pandemic data. A total of 165,729 individual interviews across 55 countries as part of nationally representative surveys were conducted between 2015 and 2022. Vaccine confidence is measured using three items that probe perceptions towards the importance, safety, and effectiveness of vaccines. Changes in national-level confidence are evaluated for the sampled populations and within age and sex subgroups via nonparametric tests and a Bonferroni correction is used to adjust study-wide p-values to account for multiple hypotheses. Since the pandemic, perceptions towards the importance of vaccines for children have seen significant decreases in 46 of 55 countries studied, with significant increases found only in China, India, and Mexico. Vaccines are perceived to be less safe in 24 countries, less effective in 28, with only four countries reporting increases in confidence around vaccine safety and five for effectiveness. Among demographic subgroups, a widening gap between older and younger groups is found, with younger groups becoming less confident over time. Declining global confidence in vaccines, particularly among younger age groups, may be contributing to the backslide in routine childhood immunisation uptake. Growing hesitancy among younger age groups should be investigated as a public health priority to better understand confidence among parents.

Wise J., *Covid-19: How AstraZeneca lost the vaccine PR war*, *BMJ*, 2021. DOI: 10.1136/bmj.n921

No Abstract

Zielinska A.C., *L'hésitation vaccinale en France dans le contexte de la Covid-19. Une perspective comparatiste, Revue française d'éthique appliquée*, vol. 11(1), Pages 141-155, 2021. DOI: 10.3917/rfeap.011.0141

In 2020, the dialogue between science, politics, and the media served as a backdrop to the public's preparation for the future vaccine. This paper explores the ways in which the discourse on the future vaccine generated by the public authorities and the media constructed the phenomenon of vaccine hesitancy, which was subsequently presented as an almost insurmountable obstacle and a fault attributable to the irrationality of the public. While France is the main focus of this paper, it also draws on examples from other countries. After a short presentation of the context that enabled the exceptionally rapid development of vaccines against SARS-CoV-2, the text discusses the media coverage, by both journalists and experts, of vaccine research and development. It analyses the variety of factors likely to lead to vaccine hesitancy, in order to show the contextual and political character of the latter, which should be understood as by no means definitive. Yet, if the public authorities wish to counter this tendency, not only do they urgently need to propose a better framing of vaccines in general, but they should also consider the political and social dimensions of vaccine research and production, in order to target growing mistrust toward the institutions involved in the process.

Zylberman P., *La Guerre des vaccins*, Odile Jacob, Paris, 352 p, 2020.

If smallpox has disappeared, if we no longer die of chickenpox or whooping cough, it's thanks to the vaccine, the major weapon against infectious diseases. If you forget, they come back: measles kills as soon as you let your guard down. But when epidemics are far away, it's as if, by standing between us and the threat it renders harmless, the vaccine itself becomes a threat and a focus of fear. Dangerous and liberticidal, the vaccine? Covid-19 reminds us above all to what extent, without we are helpless. This book analyses the reasons for vaccine scepticism. It studies the anti-vaccine movements, their history, their arguments, their influence on public opinion and the reactions of the state during health crises. - smallpox measles SARS H1N1, Covid-19. His diagnosis is a wake-up call: "The scientific governance of participatory democracies appears less and less capable of dominating the conflicts between [...] democratic legitimacy and scientific legitimacy".

Zylberman P., *La loi morale et la santé publique*, Cahiers de la sécurité et de la justice, vol. 117(1), Pages 28- 31, 2022.

No Abstract

Zylberman P., Épidémie et santé publique : fin de « l'État dans l'homme privé », Cahiers de la sécurité et de la justice, vol. 54(1), Pages 42-49, 2022.

No Abstract



Appendix 2:

Reports and notes

Reports and notes, listed in order of publication.

2020

COCONEL, Note de synthèse numéro 2 : Impact sur la santé mentale : Acceptabilité d'un futur vaccin, ORS-PACA 6 pages, Avril 2020. <http://www.orspaca.org/notes-strategiques/coconel-note-de-synth%C3%A8se-n%C2%B0-2-impact-sur-la-sant%C3%A9-mentale-acceptabil%C3%A9-dun-futur>

This note details the main results of the second wave (1,005 respondents interviewed between 31 March and 2 April), which was carried out after two weeks of confinement, and looks at certain aspects of wave 1 that had not yet been explored: sleep problems, signs of psychological distress, personal proximity to COVID-19, acceptability of a vaccine against COVID-19, and finally the prognosis for the duration of the epidemic. After two weeks of confinement, 74% of adults reported sleep problems, half of them believing that they had started with the confinement. Six times out of ten, these problems had an impact on daily life. This impact is socially differentiated, but is also particularly acute among young adults. The confinement and the context in which it was introduced seem to have led to both a deterioration in sleep and an anxious reaction within the population, underlining the probably traumatic dimension of this context and of the confinement. Moreover, 37% of those surveyed showed signs of psychological distress. This distress appears to be particularly high among young men, and is much more common among people from disadvantaged backgrounds. In addition, 1% of respondents said that they had a COVID-19 infection confirmed by a biological test or a doctor, 9% thought that they had already been infected without this having been confirmed, and people who reported having been infected were more likely to show signs of psychological distress. If a vaccine against COVID-19 were available, 26% of French adults would refuse it, a refusal more common among women, 26-35 year olds and people from working-class backgrounds. Although older people are less likely to refuse the vaccine, the fact that 22% of the over-75s would refuse could nevertheless encourage the public authorities to target this population when launching a prevention campaign. Finally, in these early days of April, half of French people still believe that the epidemic will not be over by August.

COCONEL, Note de synthèse numéro 3 : Confinement, masques, chloroquine, vaccin : ce qu'en pensent les Français, ORS-PACA, 7 pages, Avril 2020. <http://www.orspaca.org/notes-strategiques/coconel-note-de-synth%C3%A8se-n%C2%B0-3-confinement-masques-chloroquine-vaccin-ce-qu%E2%80%99en>

This note details the main results of the third wave (1006 respondents, interviewed between 7 and 9 April), carried out after three weeks of confinement. It looks at French people's opinions on containment, masks, chloroquine,

a possible vaccine against COVID-19, and finally their prognosis for the duration of the epidemic. After three weeks of confinement, a very large majority of French people continue to support it, even though the proportion who feel that it should be relaxed to be tolerated has increased since the end of March. In addition, almost three out of four French people think that this measure is beginning to show its effectiveness. However, men and young people are more critical of the measure, and the consensus is also more fragile among the less well-off. As far as masks are concerned, 70% of the French think that it was legitimate to advise people not to wear masks in order to preserve stocks for use by healthcare professionals. What's more, for 83% of them, masks must be worn by the general population if they are to leave their homes. As for hydroxychloroquine-based treatment, almost everyone has heard of it, but less than one French person in two has a firm opinion about it. However, the opinions expressed are mostly positive, and almost one in two French people would like to have it if they were infected with COVID-19. In addition, one in four French people would still refuse to be vaccinated against COVID-19. This refusal, which continues to be socially differentiated, has however fallen sharply among older people. The most common reason for this refusal is that a vaccine developed in a hurry would be too dangerous. Lastly, after three weeks of confinement, French people's forecasts for the duration of the outbreak are much lower.

of the current epidemic is worsening: for half of them, this epidemic is no longer a cause for concern.

will still not be completed by next September.

COCONEL, Note de synthèse numéro 8 : Risques perçus, opinions sur le confinement et sur un vaccin contre le COVID-19 : évolutions depuis un mois, ORS-PACA, 6 pages, Avril 2020. <http://www.orspaca.org/notes-strategiques/coconel-note-de-synth%C3%A8se-n%C2%B08-risques-per%C3%A7us-opinions-sur-le-confinement-et-sur-un>

This note details the main results of the fifth wave (1004 respondents, interviewed between 24 and 26 April), on the following aspects: proximity to COVID-19; perception of risk; opinions on containment; attitudes to a possible vaccine against the coronavirus; prognosis on the duration of the epidemic. Nearly three quarters of respondents reported no cases of COVID-19, either in their household or among family and friends. Serious cases among close contacts remain rare (7%), but have increased slightly compared to the previous week (4%). In terms of perceived risk, the perceived risk of being infected has increased: at the end of April, the average probability of respondents being infected themselves by the end of the epidemic was estimated at 46%, compared with 35% a month earlier. The lethality of the virus remains highly overestimated: on average, the French think that 16% of infected people will die, which is much higher than the epidemiological data available. However, more than a quarter of respondents prefer not to answer these two questions. These perceptions vary according to age, gender and level of education. In particular, women, young people, those with fewer qualifications and those on lower incomes are more likely to overestimate the lethality of the virus. Support

for confinement has not waned since the previous week (15-17 April), but critical opinions have risen: 28% of those surveyed now think it is an excessive measure (20% a month ago). Finally, 62% believe that the current confinement should be maintained beyond 11 May. If a vaccine against the coronavirus were available, 23% of respondents would refuse to be vaccinated. This proportion, measured for the fourth time since the survey began, remains remarkably stable, as do the reasons for refusal, the main one being that a vaccine developed in a hurry would be considered too dangerous. Lastly, on average, the French expect the epidemic to be truly over by the end of January 2021, and this prognosis continues to grow as the weeks go by.

COCONEL, Note de synthèse numéro 9 : Opinions sur le (dé)confinement et sur un vaccin contre le COVID-19, renoncement aux soins, ORS-PACA, 6 pages, May 2020. <http://orspaca.org/notes-strategiques/coconel-note-de-synth%C3%A8se-n%C2%B09-opinions-sur-le-d%C3%A9confinement-et-sur-un-vaccin>

The COCONEL survey is conducted over the internet. Once a week, a sample of a thousand people, representative of the adult population living in France, is questioned with a questionnaire covering various aspects of the current crisis. This note details the main results of the sixth wave (2003 respondents, interviewed between 30 April and 4 May), on the following aspects: opinions on the (de)confinement; attitudes to a possible vaccine against the coronavirus; and the renunciation of healthcare since the start of the confinement. After more than six weeks of confinement, 80% of French people still consider that confinement is the only effective way of combating the COVID-19 epidemic. At the same time, the critical attitudes towards confinement observed since the end of March are no longer increasing. Conversely, 56% of those questioned just over a week before the lifting of confinement were in favour of maintaining confinement beyond 11 May, particularly women, the 18-45 age group, the least educated and the least affluent. Despite the announced lifting of confinement, 77% of respondents even said that they would continue to apply strict confinement measures after 11 May, particularly the over 75s (86%). These opinions are closely correlated with the expectation of a second wave of the epidemic after 11 May, a second wave considered very likely by 85% of respondents. When it comes to deconfinement procedures, 80% of respondents believe that adapting deconfinement measures to the situation in each département is a good thing. Opinions were more divided on the possibility of selective containment, targeting at-risk populations such as the elderly: only 43% of respondents were in favour. If a vaccine against the coronavirus were available, three quarters of respondents said they would be vaccinated, but a quarter would refuse the vaccine. These responses, collected for the fifth time since the end of March, are remarkably stable. The same applies to the reasons for refusal, the main one being that a vaccine developed in a hurry would be too dangerous. Lastly, a third of French people have refused medical treatment since the start of the lockdown. This corresponds to 40% of those who would have needed a medical examination. This is more often the case for women, the 35-65 age group and people living in towns with fewer than 2,000 inhabitants.

Santé Publique France, Covid-19: Weekly epidemiological update of 30 July 2020, Santé Publique France, 35 pages, July 2020. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/bulletin-national/covid-19-point-epidemiologique-du-30-juillet-2020>

No summary. Selection of extracts relating to vaccination:

If a vaccine were now available against the Coronavirus (COVID-19), 28.9% of respondents said they would definitely be vaccinated, 33.3% probably, 22.1% said they would probably not be vaccinated and 15.6% definitely not. These statements remained stable between waves 12 and 13.

34.2% said they would definitely recommend the vaccine to friends or family considered vulnerable (because of their age or a health problem), 36.0% said they would probably recommend it, 18.8% said they would probably not recommend their loved ones to be vaccinated and 11.0% said they would definitely not recommend it. These statements also remained stable between waves 12 and 13.

Bristielle A., Vaccin : La piqre de défiance, Fondation Jean Jaurès, 17 pages, November 2020. <https://www.jean-jaures.org/publication/vaccins-la-piqre-defiance/>

No summary. The themes covered are :

the influence of age

Women more concerned about the risks of a future vaccine

The influence of partisan proximity, populism and rejection of vaccination

Vaccine refusal: a problem of trust

Ways of promoting acceptance of the Covid-19 vaccine

Santé Publique France, Covid-19: Weekly epidemiological update of 03 December 2020, Santé Publique France, 60 pages, December 2020. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/bulletin-national/covid-19-point-epidemiologique-du-3-decembre-2020>

No summary. Selection of extracts relating to vaccination:

The data come from the Santé publique France CoviPrev survey: repeated surveys of independent samples of 2,000 adults living in mainland France. Data from wave 17 (4 to 6 November 2020) and wave 13 (20 to 22 July 2020). In November 2020, only half of respondents (53%) said they would definitely or probably be vaccinated against COVID-19. This result is down on July, when 64% said they intended to do so. Men, people from higher socio-professional groups and older people are the most likely to be vaccinated. In July 2020, among the 728 people (36%) who did not wish to be vaccinated, the reasons most often given for not doing so were: “the new vaccines are not safe” (67%); “I prefer other means of prevention such as barrier measures” (33%); “I am against vaccination in general” (18%). Conversely, in this same group, the reasons for doing so were: “information proving the efficacy and

safety of vaccines” (39%), “protecting my family and friends” (21%) and 34% said: “no reason would make me change my mind”. **Healthcare professionals:** The data comes from the “Healthcare professionals, prevention and COVID-19” survey, conducted by Santé publique France from 13 October to 5 November 2020 among 1,509 representative independent healthcare professionals living in mainland France. On average, 68% of self-employed healthcare professionals surveyed said they wanted to be vaccinated against this virus, with significant differences between professions: 8 out of 10 general practitioners and pharmacists wanted to be vaccinated, compared with 55% of nurses surveyed (Figure 48). A greater number, 88%, would advise their patients to be vaccinated against COVID-19.

De Figueiredo A., Karafillakis E., Larson H. J., State of Vaccine Confidence in the EU+UK, European Commission, 54 pages, December 2020. https://health.ec.europa.eu/system/files/2022-11/2020_confidence_rep_en.pdf

No summary. The themes covered are :

European public confidence in vaccines

Country-specific confidence

Change in confidence 2018 to 2020

Determinants of confidence in the vaccine

Vaccination confidence of healthcare professionals

2021

Matthew Smith, International study: How many people will take the COVID vaccine, YouGov, 10 pages, January 2021.

<https://yougov.co.uk/topics/health/articles-reports/2021/01/15/international-study-how-many-people-will-take-covi>

Thais, Brits and Danes are the most willing to be vaccinated. While vaccines against COVID-19 are now being deployed worldwide, COVID- trackers are also being deployed in the United States.

19 from YouGov show that people in Thailand and the UK are the most likely to say they will take the coronavirus vaccine when it becomes available, at 80% and 83% respectively. Other countries where willingness to take the vaccine is high are Denmark (70%), Mexico (68%), India (67%) and Spain (66%).

EHESP, GERES, PREVACCI, Santé Publique France, CAPP-VaCov survey - Knowledge, attitudes, practices and preferences regarding vaccination against COVID-19 among healthcare workers in France - First results, GERES, 7 pages, February 2021. https://www.geres.org/wp-content/uploads/2021/02/Re%CC%81sultats_CAPP_VaCov_global_210212SITE_GERESV3DA.pdf

No summary. Selection of extracts relating to vaccination:

Analysis of vaccination intentions according to three modalities (yes, no, don't know) reveals different levels of acceptability depending on the occupational category: nurses' aides and hospital staff reported the lowest willingness to be vaccinated (between 20% and 44% depending on the period) and medical professionals the highest (between 72% and 89% depending on the period). A clear increase in acceptability was observed across the three periods, whatever the professional category (see figure below). The same trends can be observed for the three types of practice considered (see figure below), although the vaccination intentions of staff working in social and medico-social establishments, including EHPADs, remain lower than those of staff working in general practice and in healthcare establishments, or in mixed practices. Across the three phases, the proportion of healthcare professionals (HPs) in healthcare institutions intending to be vaccinated against COVID 19, adjusted for influenza vaccination in 2019-20, was 82.4% among doctors, 47.1% among nurses, 30.5% among healthcare assistants and 67.4% among midwives; it was lower among these professionals when they worked in EHPADs (see additional data).

Mueller J.E., Chyderiotis S., Sicsic J., Langot F., Blondel S., *A vicious circle between lack of confidence in crisis management, vaccine refusal and failure to control the epidemic*, HAL, 12 pages, February 2021. <https://pasteur.hal.science/hal-03137259/>

As the COVID-19 epidemic enters its second year, confidence in the national authorities' ability to manage the COVID-19 health and economic crisis could have an impact on acceptance of the COVID-19 vaccine. To assess the relationship between confidence in national authorities, socio-economic status and willingness to vaccinate, we conducted an online survey of French adults in November 2020. Our results suggest that trust, education level and subjective deprivation are independent determinants of vaccine intention and indecision. including among participants aged ≥ 65 years. We suggest that providing all citizens with equal opportunities and incentives for a health-focused vaccination decision is essential to achieve high and equal vaccination coverage against COVID-19.

Tournay V., *Note de recherche Le Baromètre de la confiance politique / Vague 12 - Refuser la vaccination : analyse d'une passion française*, SciencePo Cevipof, 16 pages, February 2021, https://www.sciencespo.fr/cevipof/sites/sciencespo.fr.cevipof/files/NoteBaroV12_VT_vaccination_fevrier2021_version_finale-1.pdf

Getting vaccinated against the coronavirus is far from being an attitude that is firmly established and universally shared. The population resistant to vaccination is characterised by a high level of interpersonal and institutional mistrust. Their relationship with politics is marked by a weakening of representative democracy and a populist temptation. This attitude is associated with a loss of a sense of belonging to the national community, without revealing any attachment to other community values. So there is no counter-belonging or social counter-model to justify vaccine refusal, but rather individual attitudes superimposed on one another without any connection to a shared past or collective. We are closer here to a nation experienced as an exquisite corpse than to the model of a France-archipelago: analysis of a French passion.

The themes covered are

Socio-demographic composition of vaccine refusers

Distrust in relationships: impaired sociability

Distrust of institutions: a civic retreat

Rejection of vaccination or the search for another model of society

Imperial College London, *Covid-19 Global attitudes towards a Covid-19 vaccine*, Institute of global health innovation, 14 pages, February 2021. https://www.imperial.ac.uk/media/imperial-college/institute-of-global-health-innovation/EMBARGOED-0502.-Feb-21-GlobalVaccineInsights_ICL-YouGov-Covid-19-Behaviour-Tracker_20210301.pdf

This report examines attitudes towards a COVID-19 vaccine in 15 countries between November 2020 and February 2021.

The countries included are Australia, Canada, Denmark, France, Germany, Italy, Israel (added in January), Japan, the Netherlands, Norway, Singapore, South Korea, Spain, Sweden and the UK. For each country, with the exception of Israel, there are at least 5 waves of responses. The exact sample sizes for each country and wave are included at the end of the report.

The themes covered are

How willing are people to be vaccinated against COVID-19 if it is available the week of the survey?

To what extent do people think they will regret not receiving the COVID-19 vaccine when it becomes available?

How concerned are people about the possible side effects of a COVID-19 vaccine?

To what extent are people afraid of contracting COVID-19?

How confident are people in the ability of government health authorities to provide an effective vaccine against COVID-19?

How much confidence do people have in vaccines against COVID-19?

Is it easy for people to be vaccinated against COVID-19?

Tarantini C., *Réflexions sur la vaccination des soignants et son obligation*, AOC, 7 pages, April 2021. <https://aoc.media/analyse/2021/04/08/reflexions-sur-la-vaccination-des-soignants-et-son-obligation/>

Hospital-acquired infections - contracted during a stay in hospital - have not always been perceived as a public problem. While the Covid-19 epidemic raised the issue afresh, it was the tools of New Public Management that made their prevention the spearhead of a new ethic of care. Before settling the issue of mandatory vaccination, we should probably first try to understand the tensions and difficulties involved in this debate, and to make its terms more complex by considering the responsibility of healthcare providers in the social, institutional and historical context in which it is embedded.

Flamand C., Ramiz L., Alves Sarmiento A., Bailly S., *Principaux résultats de la première vague d'enquête CAP-COVID-Guyane, 8 au 21 mars 2021*, Institut Pasteur de la Guyane, Avril 2021. <https://www.pasteur-cayenne.fr/principaux-resultats-de-la-premiere-vague-denquete-cap-covid-guyane-realisee-du-8-au-21-mars-2021/>

No summary. Selection of extracts relating to vaccination:

Overall, 45.5% [37.1%-54.1%] of the population were in favour of vaccination against COVID-19. More specifically, 29.8% of Guyanese definitely intend to be vaccinated, and 15.7% probably intend to do so. In the reluctant group, 24.6% probably do not plan to and 29.9% are certain not to.

Hauray B., Santé publique et capitalisme pharmaceutique, AOC, 20 pages, May 2021. <https://aoc.media/analyse/2021/05/03/sante-publique-et-capitalisme-pharmaceutique/>

The Covid-19 pandemic was a historic moment, not only because the virus affected the whole world almost simultaneously, but also because its consequences, while strongly marked by social inequalities, spared no one. This universalism has put back at the heart of public debate the idea that health is a primary good and, as such, should be neither subject to economic interests nor colonised by financial ambitions.

Santé Publique France, COVID-19 Weekly Epidemiological Update No. 62 of 06 May 2021, Santé Publique France, 67 pages, May 2021. <https://www.santepubliquefrance.fr/maladies-et-traumas/diseases-and-respiratory-infections/infection-a-coronavirus/documents/bulletin-national/covid-19-point-epidemiologique-du-6-mai-2021>

No summary. Selection of extracts relating to vaccination:

In wave 23 (21-23 April 2021), more than half (56%) of respondents who had not been vaccinated (n=1,416) said they would definitely or probably like to be vaccinated against Covid-19 as soon as possible. This result is similar to wave 22 (15-17 March 2021). Since wave 20 (18-20 January 2021), men, the over-65s and people from higher socio-professional backgrounds have responded most favourably to the idea of being vaccinated. In addition, the greatest increase in willingness to vaccinate was found among 18-24 year-olds, with 36% in wave 22 and 55% in wave 23. Among the 623 people (44%) who said they did not wish to be vaccinated in wave 23, the most common reasons given for their choice were: “the new vaccines are not safe” (69%); “they are not effective in preventing the spread of the epidemic (26%) or the disease” (25%); “I prefer other means of prevention such as barrier measures” (23%) and “you can’t choose your vaccine” (20%). In addition, these people indicate that they would be prepared to change their mind if there were: “information proving the efficacy and safety of the vaccine” (32%); “a return to a more normal life” (22%) and “protection for my loved ones” (16%). In wave 23, the proportion of people claiming to have been vaccinated with at least one dose reached 29% (n=584). Since wave 22, men, the over-65s and people living in urban areas have achieved the highest levels of vaccination coverage. In addition, as in the case of willingness to vaccinate, the percentage of people vaccinated is higher among people from higher socio-professional backgrounds (41%), as well as among people declaring a good financial situation (38%). This percentage is also higher among people who say they have never had a Covid-19 infection (34%), and among those who perceive it as ‘serious’ (39%).

Flamand C., Ramiz L., Alves Sarmiento C., Bailly S., Forsans G., Principaux résultats de la seconde vague d'enquête CAP-COVID-Guyane réalisée du 26 avril au 9 mai 2021, Institut Pasteur de la Guyane, Mai 2021. <https://www.pasteur-cayenne.fr/principaux-resultats-de-la-seconde-vague-denquete-cap-covid-guyane-realisee-du-26-avril-au-9-mai-2021/>

No summary. Selection of extracts relating to vaccination:

Overall, vaccination intentions have changed very little over the last two months. Nearly one in two Guyanese are currently in favour of vaccination against COVID-19 (49.3% [42.1%-56.0%] vs 45.5% [37.1%-54.1%] in March); more specifically, 33.3% of Guyanese definitely intend to be vaccinated or have already been, and 16% probably intend to do so; among those who are reluctant, 21.7% probably do not intend to do so and 29% are certain not to do so. This proportion has remained stable over the last two months.

Imperial College London, Covid-19: Global attitudes towards a Covid-19 vaccine, Institute of global health innovation, Institute of global health innovation, 22 pages, May 2021. https://www.imperial.ac.uk/media/imperial-college/institute-of-global-health-innovation/GlobalVaccineInsights_ICL-YouGov-Covid-19-Behaviour-Tracker_20210520_v2.pdf

This report examines attitudes towards a COVID-19 vaccine in 15 countries between March and May 2021. The countries included are Australia, Canada, Denmark, France, Germany, Israel, Italy, Japan, Norway, Singapore, South Korea, Spain, Sweden, the UK and the USA. The exact sample sizes for each country are included at the end of the report.

Jaffré J., Note de recherche Le Baromètre de la confiance politique / Vague 12 bis- Participation aux régionales, adhésion vaccinale : même orientation, SciencePo Cevipof, 9 pages, June 2021. https://www.sciencespo.fr/cevipof/sites/sciencespo.fr.cevipof/files/Note_Je%cc%81ro%cc%82me_Jaffre%cc%81_Barov_12bis_juin-2021_VF.pdf

As we all know, voter turnout has been falling sharply over the last twenty years. Only the presidential election has been an exception, at least until now. This year, the regional and departmental elections are likely to confirm this decline. Already, in the previous regional council elections in 2015, which took place shortly after the terrible attacks in November, only one in two voters turned out for the first round (49.9% to be exact). In 2021, the Covid-19 crisis is still very much present in the concerns of the French and in public debate. And deconfinement will not be completed until 30 June, after the two rounds of voting. What’s more, in the absence of any real public meetings, the election campaign is keeping a low profile, even though it is an essential element in mobilising voters.

Ward, J.K., Bonneton, M., Botelho-Nevers, E., Gagneux-Brunon, A., Grison, D., Peretti-Watel, P., Verger, P., Launay, O., *Enquête COVIREIVAC : les français et la vaccination*, ORS-Paca, 8 pages, June 2021. <http://www.orspaca.org/sites/default/files/enquete-COVIREIVAC-rapport.pdf>

This note describes the results of the survey carried out between 10 May and 23 May, involving a sample of 1,514 people, representative of the adult population residing in France (quota method according to age, gender, socio-professional category, size of town and region of residence) and a sample of 1,544 people aged 65 and over (quotas according to age and gender), who were questioned over the internet about various aspects of vaccination against COVID-19. **This report shows that:** 77% of respondents intend to be vaccinated against COVID-19 or have already been, confirming the gradual decline in reluctance to be vaccinated since the start of the campaign and the persistence of a significant proportion of refusals. The percentage of respondents intending to be vaccinated against COVID-19 is lowest in the 25-34 age group (60% intend to be vaccinated or have already been vaccinated, compared with over 90% of those aged 65 and over). The messenger RNA vaccines are the most popular, while AstraZeneca's vaccine suffers from a lack of confidence. However, the Pfizer vaccine is preferred to the Moderna vaccine. Vaccination at the GP's and at vaccination centres that existed prior to COVID-19 is preferred to vaccination in dedicated centres, at the workplace and at pharmacies. People who do not intend to be vaccinated but do not absolutely reject the idea would prefer to be vaccinated at their doctor's surgery, far ahead of all other options, particularly vaccination at a pharmacy. Vaccinating 12-18 year olds does not seem to give rise to any particular reservations compared to vaccinating adults, but reservations increase as the age of children decreases (24.3% of respondents against vaccinating children aged 12-18, 35.6% for 6-11 year olds and 48% for under 6 year olds). However, people of parental age are the most reluctant to have minors vaccinated. 43% of respondents are in favour of mandatory vaccination for the whole population, while 34% are opposed to the principle of a vaccination passport. Opposition to these provisions is strongest among young people under 35.

Santé Publique France, *COVID-19 Weekly Epidemiological Update No. 68 of 17 June 2021*, Santé Publique France, 41 pages, June 2021. <https://www.santepubliquefrance.fr/maladies-et-traumas/diseases-and-respiratory-infections/infection-a-coronavirus/documents/bulletin-national/covid-19-point-epidemiologique-du-17-juin-2021>

No summary. Selection of extracts relating to vaccination:

Vaccination coverage is highest among the elderly, due to the fact that they are targeted as a priority in the vaccination campaign, as recommended by the French National Authority for Health (HAS). For people aged 75 and over, vaccination coverage for at least one dose is 81.8% (full vaccination: 71.9%). For people aged 75 to 79, vaccination coverage for at least one dose is 88.5% (full vaccination: 78.3%). For people aged 80 and over, coverage stands at 78.2% (full vaccination: 68.5%), little changed from

previous weeks. This low rate of increase among the very elderly suggests that we should step up our efforts to reach out to them, particularly through vaccination at home. It is worth noting the increase in vaccination coverage among young adults, despite the fact that vaccination is now offered to all people aged 18 and over. More than a third of people aged between 18 and 24 have received a first dose of the vaccine.

Gagneux-Brunon, Amandine, Bonneton, M., Botelho-Nevers, E., Gagneux-Brunon, A., Grison, D., Launay, O., Peretti-Watel, P., Verger, P., Ward, J.K., *COVIREIVAC Survey: Attitudes of the French towards mandatory vaccination COVID-19*, ORS-Paca, 4 pages, July 2021. <http://www.orspaca.org/notes-strategiques/enqu%C3%AAtte-covireivac-note-de-synth%C3%A8se-n%C2%B02-attitudes-des-fran%C3%A7ais-face-l%E2%80%99obligation>

No summary. The themes covered are :

Opponents of mandatory vaccination for the general population, mandatory vaccination COVID 19

for healthcare professionals.

Santé Publique France *Coviprev, How is the uptake of vaccination and barrier vaccination evolving? Covid-19 ?*, wave 25, Santé Publique France, 4 pages, July 2021. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquiries-and-studies/how-hostility-to-vaccination-and-to-barrier-gestures-against-covid-is-evolving-19-results-of-the-wave-25-of-the-coviprev-survey>

No summary. Selection of extracts relating to vaccination:

In wave 25 (21-28 June), 77% of people surveyed said they were either vaccinated (64%) or would definitely or probably like to be vaccinated against Covid-19 as soon as possible (a stable proportion compared to May). Vaccination uptake has stabilised since wave 24 (May) across all age groups, with a slight downward trend in the 25-34 and 65+ age groups. 63% of people with a child aged between 12 and 18 are in favour of having their child vaccinated. The profiles of people most in favour of vaccination are : 81% of men; 91% of people aged 65 and over; 84% of people from higher socio-professional backgrounds; 89% of people who perceive Covid-19 as serious.

Ward, J.K., Bonneton, M., Botelho-Nevers, E., Gagneux-Brunon, A., Gauna, F., Grison, D., Launay, O., MacKendrick, N., Peretti-Watel, P., Verger, P., *Premiers résultats de l'enquête SLAVACO Vague 1 et approfondissement de l'analyse de l'enquête COVIREIVAC - les français et la vaccination*, ORS-Paca, 16 pages, July 2021. <http://www.orspaca.org/notes-strategiques/enqu%C3%AAtte-slavaco-vague-1-more-in-depth-analysis-of-covireivac-survey-l%E2%80%99and-analysis-of-covireivac-survey-l%E2%80%99>

The SLAVACO Wave 1 survey was conducted between 13th and 22nd July 2021, among a sample of 3087 people, representative of the adult population resident in France (quota method according to age, gender, socio-professional category, size of town and region of residence). The COVIREIVAC survey - the French and vaccination was conducted between 10 May and 23 May, with a sample of 1,514 people, representative of the adult population residing in France (quota method according to age, sex, socio-professional category, size of town and region of residence) and a sample of 1,544 people aged 65 and over (quotas according to age and sex), who were questioned over the internet about various aspects of vaccination against COVID-19.

Santé Publique France Coviprev, Comment évolue l'adhésion à la vaccination et aux gestes-barrières contre la COVID-19? wave 26, Santé Publique France, 4 pages, July 2021. [https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/comment-evolue-l-adhesion-a-la-vaccination-et-aux-gestes-barrieres-contre-la-covid-19-resultats-de-](https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/comment-evolue-l-adhesion-a-la-vaccination-et-aux-gestes-barrieres-contre-la-covid-19-resultats-de)

the-wave-26-of-the-coviprev-survey

No summary. Selection of extracts relating to vaccination:

In wave 26 (15-21 July), 84% of those questioned said they had at least started vaccination (73%), or that they would certainly or probably like to be vaccinated against Covid-19 as soon as possible: this proportion is up on June.

1. Of the 216 (11%) people who intend to be vaccinated, 35% said they had an appointment to be vaccinated in the near future, 25% said they were having difficulty getting one, and 40% said they had not tried to get one. There has been a significant increase in vaccination uptake (having started or wanting to start vaccination) since wave 25 (21-28 June) for all age groups under 65, with a more marked increase in the 25-34 age group Figure 2. 74% of people with a child aged between 12 and 18 were in favour of having their child vaccinated. The profiles of people most in favour of vaccination are those aged 65 and over (92%), people from higher socio-professional backgrounds (89%), and people who perceive Covid-19 as serious (92%). For the first time since Covid-19 vaccination was introduced, there is no longer any significant difference in vaccination uptake between men (85%) and women (83%). The most frequently cited reasons for not vaccinating among people who said they did not intend to be vaccinated were: "The new vaccines are not safe" (77%); "It's not effective in preventing the spread of the epidemic" (40%); "I prefer other means of prevention, such as barrier measures" (38%). People who said they had no intention of being vaccinated were prepared to change their minds if there was: "Information proving the effectiveness and safety of the vaccine (28%)"; "A health pass making it easier to travel and access certain places or events (10%)"; "A return to a more normal life (8%)"; "No reason likely to change my mind (50%)".

Fourquet J., Manternach S., Pourquoi la défiance vaccinale est-elle plus forte dans le sud de la France, Fondation Jean Jaurès, 14 pages, August 2021, <https://www.jean-jaures.org/publication/pourquoi-la-defiance-vaccinale-est-elle-plus-forte-dans-le-sud-de-la-france/#:~:text=Le%20pourcentage%20de%20la%20surface,plus%20r%C3%A9fractaires%20%C3%A0%20la%20vaccination>

Using data from the French National Health Insurance, Emmanuel Vigneron, a health geographer at the University of Montpellier, has drawn up an unprecedented map of vaccination coverage on a very detailed scale. The researcher has calculated a comparative vaccination index for each region, statistically neutralising the effect of the age of the local population to highlight other parameters that influence vaccination rates.

Santé Publique France, Le point sur Couverture vaccinale contre la COVID-19 chez les professionnels exerçant en établissements de santé, Santé Publique France, 5 pages, Août 2021. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/couverture-vaccinale-contre-la-covid-19-chez-les-professionnels-exerçant-en-etablissements-de-sante#>

No summary. Selection of extracts relating to vaccination:

Vaccination coverage in healthcare establishments varies greatly according to professional category. The highest coverage was reported among doctors (at least one dose of the vaccine).

= 76.2%, full vaccination = 70.6%) or other paramedics (at least one dose = 66.9%, full vaccination = 59.9%), with the lowest coverage among interns (at least one dose = 55.1%, full vaccination = 42.4%) or students (student nurses, for example) (at least one dose = 41.9%, full vaccination = 32.2%). This latter professional category is also the youngest, and this low vaccination coverage no doubt mirrors the lower vaccination coverage in the under-30 age group in the general population. This situation may have been exacerbated by the holidays and the announcement on 12 July 2021 of mandatory vaccination for healthcare professionals, with professionals being vaccinated at their holiday destination.

Tournay V., Cautrès B., Research note Le Baromètre de la confiance politique / Wave 12bis September 2021- Political determinants of vaccine rationality: analysis of a French passion (II), SciencePo Cevipof, 12 pages, September 2021. https://www.sciencespo.fr/cevipof/sites/sciencespo.fr/cevipof/files/NoteBaroV12bis_VTetBC_determinantpolitiques_septembre2021_VF.pdf

Despite the significant reduction in the proportion of French people who are reluctant to be vaccinated since February 2021, a hard core of opponents remains. The panel survey shows that this "Vaccination conversion" is not the same for all categories of respondent. There appears to be a "cognitive barrier", particularly among those who are hesitant and the most resistant. In addition,

the refusal to vaccinate is strongly associated with a feeling of distrust towards justice, both in institutional terms and in terms of the social values conveyed by this ideal. Refusal to vaccinate is accompanied by the feeling that society treats individuals with contempt and injustice. It appears unequal. The health crisis is therefore first and foremost a political crisis. Opposition to vaccination cannot be understood without taking into account the feeling of a social divide, a dividing line between two "France's": that of the integrated population and that of the excluded.

Santé Publique France, *How is the French public reacting to preventive measures against Covid-19 ? wave 27, Santé Publique France, 5 pages, September 2021.* <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/comment-evolue-la-sante-mentale-des-francais-pendant-l-epidemie-de-covid-19-resultats-de-la-vague-27-de-l-enquete-coviprev>

No summary. Selection of extracts relating to vaccination:

In wave 27 (31 August - 7 September), 87% of people surveyed said they had at least started the vaccination (84%), or that they would certainly or probably like to be vaccinated against Covid-19: this proportion is up on July. Vaccination uptake (having started the vaccination or wanting to do so) continues to rise. Vaccination uptake has stagnated among people aged 65 and over since May, but has continued to rise significantly among young people aged 18 to 24. The difference in uptake by age group is narrowing (86% to 91% uptake), with the exception of the 25-34 age group (79% uptake). 77% of people with a child aged between 12 and 18 were in favour of vaccination. Of these, 27% said they had already started vaccination for their child. The profiles of people most in favour of vaccination were those aged 65 and over (91%), people from higher socio-professional backgrounds (91%), and people who perceived Covid-19 as serious (94%). The reasons for non-vaccination most frequently cited by people who said they did not intend to be vaccinated were : New vaccines are not safe (73%); Information in the media about the safety and efficacy of vaccines is contradictory (51%); It is not effective in preventing the spread of the epidemic (44%). People who said they did not intend to be vaccinated were prepared to change their minds if there was: Information proving the effectiveness and safety of the vaccine for 22%; A return to a more normal life for 8

No reason likely to change their mind for 60%. In addition, of the 87% of people who had already been vaccinated or who intended to be, 26% said that they had been persuaded to do so by the introduction of the health pass. Among the 13% of people who had not been vaccinated, 70% said that they would not go or would no longer go to places where the health pass would be compulsory, 20% said that they would pay for tests whenever they needed them (including 8% who would not limit their outings), and 9% said that they would be vaccinated against Covid-19.

Mesnil M., *La vaccination contre le covid-19 au prisme des libertés, Journal de droit de la santé et de l'assurance*

maladie, 7 pages, September 2021. <https://hal.science/hal-03358897>

The author examines the interaction between vaccination against Covid-19 and individual freedoms undermined by the state of health emergency. She looks at the issue of access to vaccination due to the low availability of the vaccine. Mandatory vaccination would have been legally possible if vaccines had been sufficiently available. The limited stock of vaccines has led public authorities to develop a policy of prioritising targeted populations in order to manage access to the vaccine. The author discusses the effects that vaccination could have if a vaccine passport were introduced. Individual freedoms could be made conditional on the production of a vaccination certificate. Such a health passport raises issues of fundamental rights, particularly the right to privacy.

Algan Y., Cohen D., *Les Français au temps du Covid-19 : économie et société face au risque sanitaire, Conseil d'analyse économique, 12 pages, October 2021.* <https://www.cae-eco.fr/les-francais-au-temps-du-covid-19-economie-et-societe-face-au-risque-sanitaire>

The Covid-19 pandemic was more than just a health crisis: it put the cooperation between citizens, governments and scientists to the test. In this sense, it heralds the future crises of the 21st century, which will be very different in nature from those of the 20th century, which were managed essentially on a technical basis. Managing the crises of the 21st century, from pandemics to the climate crisis, depends above all on cooperation and trust between all the actors in society. This is the main message of this Note, which provides an initial review of the main features of the Covid-19 crisis. Confidence at the start of the crisis appears to be a key factor in explaining the economic and health results of the various countries affected by the epidemic. This initial confidence represents a synthetic barometer of the capacity of the State and society to co-produce an appropriate response to the crisis. In this respect, France is facing the crisis with a lower potential level of confidence than its neighbours. Our analysis also shows, from an international perspective, that the well-being of individuals seems to have been more affected in France than in certain neighbouring countries, appearing as a new constraint to be taken into account in the choice of measures to combat the epidemic.

Ward, J.K., Bonneton, M., Botelho-Nevers, E., Cracowski, J.-L., Gagneux-Brunon, A., Gauna, F., Grison, D., Jung, Y.-J., Khouri, C., Launay, O., LeGris, S., Peretti-Watel, P., Verger, P., *Enquête SLAVACO Vague 2 : passe sanitaire, obligation vaccinale et rappel, ORS-Paca, 6 pages, October 2021.* <http://www.orspaca.org/notes-strategiques/enqu%C3%AAtes-slavaco-vague-2-passe-sanitaire-obligation-vaccinale-et-rappels>

The SLAVACO Wave 2 survey was conducted between 22 September and 1 October 2021, among a sample of 2015 people, representative of the adult population residing in France according to age, gender, socio-professional category, size of conurbation and region of residence (quota method). **The main results were as follows** Parents

are very concerned about their child contracting Covid at school. The proportion of the population not intending to be vaccinated has fallen very slightly since July, to 14%, two-thirds of whom say they are certain not to be vaccinated. For 16% of those vaccinated, the health pass or the requirement to be vaccinated in the workplace was the main reason for being vaccinated. At the time of their vaccination, 13% of those vaccinated still had many doubts or reservations and 29% still had some. This proportion rose sharply from July onwards, when the health pass was introduced. 7% of those vaccinated regretted having been vaccinated, 12% were angry at having had to do so, while 62% said they were relieved. 58% of respondents were in favour of the health pass, while those against were mainly very unfavourable (13% “rather unfavourable”, 24% “very unfavourable”). Mandatory vaccination for adults seems to be more widely accepted today than in May. 61% of respondents are now in favour, while 31% are against.

Santé Publique France, Comment évolue l'adhésion des français aux mesures de prévention contre la Covid-19, wave 28, Santé Publique France, 5 pages, October 2021. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/comment-evolue-l-adhesion-des-francais-aux-mesures-de-prevention-contre-la-covid-19-resultats-de-la-vague-28-de-l-enquete-coviprev>

No summary. Selection of extracts relating to vaccination:

In wave 28 (28 September - 5 October), 87% of people surveyed said they had at least started the vaccination (84%), or would definitely or probably like to be vaccinated against Covid-19: this proportion is stable for the first time since July. Vaccination uptake (having started the vaccination or wanting to do so) has stabilised in most age groups. The increase is still significant in the 25-34 age group, but uptake has stabilised in all other age groups. The difference in uptake by age group continues to narrow (87% to 93% uptake), with the exception of the 25-34 age group (85% uptake). 69% of parents with a child aged between 12 and 18 were in favour of their child being vaccinated. Of these, 28% said they had already started the vaccination process for their child. The profiles of people most in favour of vaccination were those aged 65 and over (93%), people from higher socio-professional backgrounds (92%), and people who perceived Covid-19 as serious (97%). The most frequently cited reasons for not vaccinating among people who said they did not intend to be vaccinated were: “The new vaccines are not safe” (64%), “The information in the media on the safety and efficacy of vaccines is contradictory” (48%), “The new vaccines are not safe enough” (41%), “The new vaccines are not safe enough” (41%) and “The information in the media on the safety and efficacy of vaccines is contradictory” (48%).

Preference for means of prevention other than vaccination for 43%. Visit people who said they did not intend to be vaccinated were prepared to change their minds if there was: information proving the efficacy and safety of the vaccine for 23%, protection for family and friends and not risking infecting them for 8%, no reason likely to change their minds for 55%. What's more, of the 87% of people who

have already been vaccinated or intend to do so, 30% said they had been persuaded to do so by the introduction of the health pass. Among the 13% of people who had not been vaccinated, 68% said they would not go or would no longer go to places where the health pass would be compulsory, 22% said they would pay for tests whenever they needed them (11% of whom would not limit their outings), and 8% said they would be vaccinated against Covid-19.

Bauer M.W., Dubois M., Hervois P., Les français et la science 2021 - Représentations sociales de la science 1972-2020, GEMASS, 70 pages, November 2021. <http://www.science-and-you.com/fr/sondage2021>

No summary. Selection of extracts relating to vaccination:

The relationship with vaccination is a very good illustration of confidence in science, in scientists and in what they do. As a reminder, this was assessed between the end of October and the beginning of November 2020 (see Box 1), when the prospect of developing a vaccine was still uncertain. To the question, asked when the vaccination campaign had not yet begun in France, “If a vaccine against Covid-19 were available to you, would you be willing to be vaccinated?”

“Strong opinions accounted for a third of the responses obtained: 14% “absolutely yes” 22% said ‘no’. Between these two poles lies the distribution of the bulk of the sample (64%).

%) with positive probabilities (“yes probably”, 23%), indecision (“I’m not sure”, 29%) and negative probabilities (“probably not”, 12%). All these forms of hesitation represent different states in a deliberative process whose outcome in terms of the vaccination decision remained uncertain for a very long time. This fluidity of attitudes, perceptible from the end of 2020, has since been confirmed by a gradual shift, between January and June 2021, from hesitants to those who have been vaccinated or those declaring certain or probable intentions to be vaccinated. At the time of the survey, confidence was higher among men (45% of whom said they were ready to be vaccinated, compared with 29% of women (33% hesitant, 39% sceptical)) (Figure 7). Vaccination against Covid-19 is also a matter of age, rather than generation (Table 10). Rejection of a potential vaccine was highest among 25-34 year olds (48%) and 35-49 year olds (39%). The majority of French people in the older age groups (those most likely to develop severe forms of the disease) were in favour: 1 in 2 in the 65-74 age group and almost 2 in 3 in the 75+ age group. The 50-64 age group was the most ambivalent, with 1/3 hesitant, 1/3 sceptical and 1/3 in favour. More surprisingly, a higher proportion of the 18-24 age group were willing to be vaccinated (42%) than were unwilling (31%) or hesitant (27%). What's more, as has already been shown in previous studies, level of education is closely linked to confidence in science¹⁰, and the example of vaccination confirms this. This survey also shows that the higher the level of education, the more people say they are prepared to be vaccinated (over 50% of those with a Bachelor's degree), while the lower the level of education, the more distrust there is (38% of people without a Bachelor's degree did not want to be vaccinated).

Mulot S., *Sur le refus de la vaccination contre le Covid-19 en Guadeloupe*, AOC, 19 pages, November 2021. <https://aoc.media/analyse/2021/11/02/sur-le-refus-de-la-vaccination-contre-le-covid-19-en-guadeloupe/>

Analysis of the refusal to vaccinate against Covid-19 in Guadeloupe cannot be reduced to the traumatic experience of chlordecone. Resistance to the vaccine, where hospital mortality linked to the pandemic broke records, expresses a posture of 'identity nationalism', is rooted in neoliberal ideologies and specific decolonial aspirations, and ultimately reveals a limited health democracy.

Santé Publique France, *How is the French public reacting to preventive measures against Covid-19? wave 29*, Santé Publique France, 5 pages, November 2021. <https://www.santepubliquefrance.fr/diseases-and-traumas/diseases-and-respiratory-infections/infection-a-coronavirus/documents/investigations-studies/how-has-the-french-adherence-to-prevention-measures-against-covid-19-results-of-wave-29-of-the-coviprev-survey-evolved?>

No summary. Selection of extracts relating to vaccination:

In wave 29 (28 October - 5 November), 88% of people surveyed said they had at least started vaccination (85%), or that they would definitely or probably like to be vaccinated against Covid-19: this proportion has remained stable since August. Vaccination adherence (having started the vaccination or wanting to do so) has stabilised across all age groups. It ranges from 85% to 93%, and the difference in uptake by age group has been similar since September. 74% of parents with a child aged between 12 and 18 were in favour of their child being vaccinated. Of these, 33% said that their child had already been vaccinated. The proportion of children vaccinated has risen since September (28%), while intentions to have them vaccinated remain stable (41%).

Of those who had completed the primary vaccination (n=1,611), 8% said they had received a booster dose, and 71% would be prepared to accept one if recommended. In September, the figures were 4% and 75% respectively: the proportion of participants who had received or were ready to receive a booster dose therefore remains constant. The proportion of people declaring that they had no intention of being vaccinated has remained stable since August (12%). Of these (n=243), 72% said they were certain they did not want to be vaccinated. The majority of these people were women (64%), living in rural areas (65%), reporting a lower socio-occupational category (46%), a perception of the seriousness of Covid-19 below the median (72%) and a low level of support for vaccination in general (79%). They were also more likely to say they had no confidence in the public authorities to control the epidemic (89%). Finally, 20% of these people said they would not follow the recommendations for isolation in the event of symptoms or a positive test (compared with 6% of those vaccinated). The proportion of people who have no reason to change their mind has remained constant since August (58%), rising to 84% among people who said they were certain they did not want to be vaccinated against Covid-19.

Santé Publique France, *How are French people reacting to preventive measures against Covid-19? wave 30*, Santé Publique France, 6 pages, December 2021. <https://www.santepubliquefrance.fr/diseases-and-traumas/diseases-and-respiratory-infections/infection-a-coronavirus/documents/investigations-studies/how-has-the-french-adherence-to-prevention-measures-against-covid-19-results-of-wave-30-of-the-coviprev-survey-evolved?>

No summary. Selection relating to vaccination :

In wave 30 (30 November - 7 December 2021), 90% of people surveyed said they had at least started the vaccination (89%), or would definitely or probably like to be vaccinated against Covid-19: this proportion increased again in November, after remaining stable since August. Vaccination adherence (having started the vaccination or wanting to do so) has stabilised in all age groups. It ranges from 86% to 94%, and the difference in uptake by age group has been similar since September. Among parents with a child aged between 12 and 18 who had not been vaccinated at the time of the survey (n=468), 66% intended to have their child vaccinated (compared with 61% in the previous wave, in October). This proportion was higher among fathers (70%), parents aged 40 and over (73%), those from higher socio-professional backgrounds (72%), parents who had already been vaccinated with at least one dose (76%), and those who perceived Covid-19 as serious (81%). Among all parents of children aged 12 to 18 (n=666), 30% said their child had already received a dose of vaccine (compared with 33% in October). Among parents of children aged between 5 and 11 who had not been vaccinated at the time of the survey (n=429), 43% intended to vaccinate their children. This proportion was higher among parents aged 40 and over (51%), those from higher socio-professional backgrounds (53%), parents who had already been vaccinated with at least one dose (49%), and those who perceived Covid-19 as serious (58%). Among all parents of children aged 5 to 11 (n=454), 6% said that their child had already received a dose of vaccine. In wave 30, 78% of respondents were in favour of the booster dose, and said they had either already received it (22%) or were certain or likely to receive it (56%). This proportion is higher than in October, when 64% said they were in favour of the booster: 7% had already received it and 57% intended to do so. In November 2021, adherence to the booster dose has increased in all age groups, but differs depending on the age considered: it is 66% in the 25-34 age group and 90% in the 65 and over age group. In October, adherence to the booster dose ranged from 47% among 18-24 year olds to 80% among those aged 65 and over. Among those with a complete vaccination schedule but who had not yet received the booster dose (n=1,256), 89% said they intended to receive it (65% definitely and 24% probably). This intention was higher among people aged 40 and over more (92%), people from higher socio-professional categories (91%), people declaring a good financial situation (92%), people perceiving Covid-19 as serious (96%), and people at risk of a severe form (93%). In addition, 64% of respondents vaccinated with at least one dose (n=1,334) said that conditioning the health pass on the booster dose would encourage them to receive it. This proportion was higher among young people, reaching 75% and 71% respectively in the 18-24 and 25-34 age groups.

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Santé Publique France, *Le point sur Quelle est la couverture vaccinale contre la COVID-19 des professionnels exerçant dans le domaine de la santé et des résidents en ESMS*, Santé Publique France, 15 pages, December 2021. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/quelle-est-la-couverture-vaccinale-contre-la-covid-19-chez-des-professionnels-exercant-dans-le-domaine-de-la-sante-et-des-residents-en-esms.-point>

No summary. Selection of extracts relating to vaccination:

Vaccination coverage against COVID-19 for ESMS residents is very high, particularly in Ehpad. It is also high in Ehpa (excluding Ehpad), but slightly lower in other types of ESMS. Establishments catering for the elderly have probably been made more aware of the need to vaccinate their residents, as they are among the populations targeted earliest by vaccination strategies. This may explain the higher vaccination coverage in this type of facility than in homes for people with disabilities and other reception, accommodation, rehabilitation and service establishments, particularly as regards the booster dose. There are also regional disparities.

Ward, J.K., Schultz, E., Mancini, J., Bouhnik, A.-D., Casanova, C., Dembélé, E., Gauna, F., Lotto, M., Peretti-Watel, P., Rouquette, A., Touzani, R., Verger, P., *Enquête SLAVACO Vague 3 - SESSTIM : Vaccination des enfants, intentions de vaccination contre le Covid et usage de l'application TousAntiCovid*, ORS-Paca, 6 pages, Janvier 2022. <http://www.orspaca.org/notes-strategiques/enqu%C3%AAtes-slavaco-vague-3-vaccination-des-enfants-intentions-de-vaccination-contre>

The SLAVACO Wave 3 - SESSTIM survey was conducted between 2 and 17 December 2021, among a sample of 2022 people, representative of the adult population residing in mainland France according to age, gender, socio-professional category, size of conurbation and region of residence (quota method). **The main results are as follows:** Only 55% of respondents use the TousAntiCovid application. Only a quarter of respondents use this application to take part in contact tracing, while 32% use it only for the health pass. 67% of parents of children aged between 5 and 11 are against vaccinating this age group. Among all people with children in their care, 58% were against vaccinating children aged 5 to 11. Attitudes towards child vaccination are more negative among parents with financial difficulties.

Santé Publique France, *Comment évolue l'adhésion des français aux mesures de prévention contre la Covid-19, wave 31*, Santé Publique France, 6 pages, February 2022. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/comment-evolue-l-adhesion-des-francais-aux-mesures-de-prevention-contre-la-covid-19-resultats-de-la-vague-31-de-l-enquete-coviprev>

No summary. Selection of extracts relating to vaccination:

In wave 31 (11-18 January 2022), 10% of participants did not intend to be vaccinated against Covid-19, a stable proportion compared with the last wave. 85% of respondents said they had received a full primary vaccination, and 61% had received the booster dose. As a reminder, vaccination coverage was 90% and 62% respectively for adults in mainland France on 18 January 2022. Vaccination uptake (having started or wanting to start vaccination) has stabilised across all age groups. It ranges from 82% (25-34 year olds) to 95% (65+ year olds), and the difference in uptake by age group has been similar since September. Among parents with a child aged between 12 and 17 (n=331), 79% were in favour of their child taking part in the scheme vaccination. This proportion was higher among parents aged 40 and over (83%), living in rural or semi-rural areas (83%), parents who had already been vaccinated with at least one dose (89%), and those who perceived Covid-19 as serious (85%). Among all parents of children aged 12 to 17, 57% said their child had already received a dose of vaccine. Among parents of children aged 5 to 11 (n=354), 33% were in favour of vaccination. This proportion was higher among those from

higher socio-professional backgrounds (40%), parents who had already been vaccinated with at least one dose (39%), and those who perceived Covid-19 as serious (46%). Among all parents of children aged 5 to 11, 5% said that their child had already received a dose of vaccine. In wave 31, 81% of respondents were in favour of the booster dose, and either said they had already received it (61%) or intended to (20%). This proportion is higher than in previous waves, where support for the booster dose was 64% at the beginning of November and 78% at the beginning of December. In January 2022, adherence to the recall is higher among men (83%), people aged 65 and over (92%), people from higher socio-professional groups (86%), and people who perceive Covid-19 as serious (91%). In January 2022, adherence to the booster dose increased significantly in all age groups compared to the beginning of November 2021, but differed according to age, ranging from 66% in the 25-34 age group to 92% in the 65+ age group. The differences by age group are comparable between December 2021 and January 2022. In addition, 43% of respondents who had received a booster dose (n=1220) said they had been encouraged to do so in order to maintain their health pass. This proportion was higher among women (48%), the under-40s (64%), people from lower socio-professional categories (51%), people reporting a fair financial situation (49%), and people perceiving Covid-19 as not very serious (48%). 63% of respondents who had been vaccinated but had not yet received their booster dose (n=538) said that making the health pass conditional on the booster dose would encourage them to receive it. This proportion was higher among young people aged 18 to 24 (74%) and those reporting a good financial situation (68%), but down from 71% in December.

Santé Publique France, *Comment évolue la santé mentale des Français pendant l'épidémie de Covid-19?* wave 31, Santé Publique France, 4 pages, February 2022. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/comment-evolue-la-sante-mentale-des-francais-pendant-l-epidemie-de-covid-19-resultats-de-la-vague-31-de-l-enquete-coviprev>

No summary. Selection of extracts relating to vaccination:

The mental health of respondents continues to deteriorate (CoviPrev survey from 11 to 18 January 2022). Although stable compared with the last two survey waves, the level of the various indicators remains high. In January, a third of respondents were feeling anxious or depressed. Regardless of the indicator considered, the population profiles with the most difficulties are the economically inactive, those reporting a difficult financial situation and living in overcrowded accommodation, those reporting a history of psychological disorder, and those who have already experienced symptoms of COVID-19.

Santé Publique France, *Comment évolue l'adhésion des français aux mesures de prévention contre la Covid-19,* wave 32, Santé Publique France, 5 pages, March 2022.

<https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/comment-evolue-l-adhesion-des-francais-aux-mesures-de-prevention-contre-la-covid-19-result-de-la-vague-32-de-l-enquete-coviprev>

No summary. Selection of extracts relating to vaccination:

In wave 32 (7-14 February 2022), the proportion of participants with no intention of being vaccinated against Covid-19 has remained stable since November 2021 (11%), as has the proportion of those reporting a complete primary vaccination (85%). On the other hand, the proportion of people who have received a booster dose continues to rise (68%), although this increase is slowing sharply. The increase affects all age groups. Vaccination uptake (having started or wanting to start vaccination) has stabilised across all age groups. It varies from 82% (25-34 year olds) to 93% (65+ year olds), and this difference in adherence according to age group has been similar since September. In wave 32, adherence to the booster vaccination was stable compared to the previous wave: 68% said they had already received it (+7%) and 10% said they intended to receive it (-7%). In February 2022, uptake of the booster vaccination was higher among men (81%), women (81%) and men's groups (81%).

65 years and over (89%), people from higher socio-professional groups (85%), and people who perceive Covid-19 as serious (88%). In February 2022, adherence to the booster dose varies from 62% in the 25-34 age group to 89% in the 65+ age group. Differences by age group were comparable between January and February 2022. Eighty per cent of parents with a child aged between 12 and 17 (n=331) were in favour of their child being vaccinated, a proportion stable compared with January (79%). This proportion was higher among parents who had already been vaccinated with at least one dose (89%), and among those living in rural areas (88%). Among all parents of children aged 12 to 17, 60% said their child had already received a dose of vaccine (compared with 57% in January). Among parents of children aged 5 to 11 (n=354), 30% were in favour of their child being vaccinated, a proportion also stable compared to January (33%). This proportion was higher among fathers (37%), those from higher socio-professional backgrounds (38%), parents who had already been vaccinated with at least one dose (35%), parents at risk of severe disease (40%), and those who perceived Covid-19 as serious (38%). Among all parents of children aged 5 to 11, 6% said their child had already received a dose of vaccine (5% in January).

Santé Publique France, Comment évolue l'adhésion des français aux mesures de prévention contre la Covid-19, wave 33, Santé Publique France, 5 pages, April 2022. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/comment-evolue-l-adhesion-des-francais-aux-mesures-de-prevention-contre-la-covid-19-resultats-de-la-vague-33-de-l-enquete-coviprev>

No summary. Selection of extracts relating to vaccination:

In wave 33 (8-15 April 2022), the proportion of participants with no intention of being vaccinated against Covid-19 has remained stable since November 2021 (12%), as has the proportion of those reporting having received at least one dose of vaccine (85%). Furthermore, the proportion of people who have received a booster dose or had an infection at least 3 months after the last injection continues to rise (73%), although this increase is slowing sharply. The increase is particularly marked in the 25-49 age group. Vaccination uptake (having started or wanting to start vaccination) has stabilised across all age groups. It ranges from 80% (25-34 year olds) to 94% (65+ year olds), and this difference in adherence by age group has been stable since September 2021. In wave 33, 71% said they had already received a booster (+5%), 6% said they intended to receive one (-4%) and 2% said they did not need one because they had had the Covid-19 at least 3 months after their last injection: this proportion, 79%, has remained stable since September 2021.

This figure is stable compared to the previous wave. In wave 33, 59% of respondents who had already had a first booster (n=1,427) were in favour of the second booster dose, and 9% had already received it or had had the Covid-19 at least 3 months after their first booster. Adherence to the second booster dose (68%) was higher among men (74%), people reporting a good financial situation (73%), and people perceiving themselves to be at risk of severe disease (72%). 77% of people aged 60 and over (eligible for the second booster) were in favour of a second booster dose, compared with 62% of people under 60. Among parents of children aged between 5 and 11 (n=344), 28% were in favour of vaccination, a proportion stable compared with February 2022 (30%). Among parents who had vaccinated their child aged 5 to 11, or who intended to do so (n=95), the main reasons were to prevent a severe form of Covid-19 (53%), to prevent the virus from spreading (45%), and to protect a close relative and avoid the risk of infecting them (42%). The most common reasons given by parents who said they did not intend to have their child aged 5 to 11 vaccinated (n=249) were: "The vaccine is not safe, we don't really know all its side effects" (41%); "My child is too young to have this vaccine" (34%); "My child has already had Covid-19" (30%).

Santé Publique France, Comment évolue l'adhésion des Français aux mesures de prévention contre la Covid-19, wave 34, Santé Publique France, 6 pages, June 2022. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/comment-evolue-l-adhesion-des-francais-aux-mesures-de-prevention-contre-la-covid-19-resultats-de-la-vague-34-de-l-enquete-coviprev>

No summary. Selection of extracts relating to vaccination:

In wave 34 (May 9-16, 2022), the proportion of participants not intending to be vaccinated against Covid-19 has remained stable since November 2021 (11%), as has the proportion of participants intending to be vaccinated against Covid-19.

Respondents with a complete primary vaccination (86%). The proportion of people who have received a booster dose (or had an infection at least 3 months after the last injection) has also stabilised (71% versus 73% in April 2022). Vaccination adherence (having started or wanting to start vaccination) has stabilised across all age groups. It varies from 85% (18-25 year olds) to 91% (65+ year olds), and this difference in adherence according to age group has been stable since September 2021. In wave 34, 62% of respondents who had already had a first booster (n=1,381) were in favour of the second booster dose if offered (including 9% who had already received it). This support (62%) for the second booster dose was higher among men (66%), and among people who perceived Covid-19 as serious (73%). 71% of people aged 60 and over (eligible for the second booster) were in favour of a second booster dose, compared with 56% of people under 60. Of all respondents intending to have a second booster dose if recommended (n=742), 53% were not concerned (immunocompetent under-60s). The most common reasons given by respondents who were concerned and in favour of the second booster dose but had not yet received it (n=338) were: "I had the Covid-19 or a first booster dose too recently" (26%); "I didn't take the time to make an appointment" (28%) or "the appointment is coming up soon" (12%). These 3 reasons were also found among people aged 60 and over who had not yet received their second booster dose. In both cases, only 2% of respondents cited the difficulty of "finding a professional willing to vaccinate me". Among parents of children aged between 5 and 11 (n=356), 31% were in favour of their child being vaccinated, a proportion stable compared to April 2022 (28%), of whom 7% had already had their child vaccinated. Among parents who had vaccinated their child aged 5 to 11 or intended to do so (n=113), the main reasons were: to protect their child against Covid-19 (47%), to prevent the virus from spreading (30%), and because their doctor or pharmacist had recommended vaccination (26%). The most common reasons given by parents who said they did not intend to have their child aged 5 to 11 vaccinated (n=247) were: "The vaccine is not safe, we don't really know all its side effects" (46%, compared with 41% in April); "My child is too young to have this vaccine" (31%, compared with 34% in April); "My child has already had Covid-19" (32%, compared with 30% in April).

Ward, J.K., Gauna, F., Botelho-Nevers, E., Gagneux-Brunon, A., Grison, D., Launay, O., Peretti-Watel, P., Verger, P., *Enquête COVIREIVAC Vague 2 - SLAVACO Vague 4 : Rappels et vaccination des enfants en période de décrite de l'épidémie*, ORS-Paca, 11 pages, June 2022. <http://www.orspaca.org/notes-strategiques/enqu%C3%AAte-covireivac-vague-2-slavaco-vague-4-rappels-et-vaccination-des-enfants-en>

The survey: Between 25 April and 9 May 2022, a sample of 2,053 people, representative of the adult population residing in mainland France (quota method applied to age, gender, socio-professional category, size of town and region of residence) and a sample of 1,004 people with at least one dependent child aged between 2 and 11, were questioned over the internet about a variety of aspects of the COVID- vaccination.

19. **The main results are :** There is still considerable reluctance to vaccinate children under the age of 12. It is perceived as not being unanimously supported by experts. Parents are particularly worried or uncertain about the safety of the COVID-19 vaccines recommended for children. A majority of French people (62.8%) say that in future they would have an extra booster dose if it were recommended. One in three French people (33.7%) felt they had not been properly informed about the COVID-19 vaccine. A significant minority of French people believe that messenger RNA vaccines are unsafe or do not know whether they are safe (>40%) or still have doubts or reservations about the vaccine they have had (47.6%). Nine out of ten French people believe they have received the number of doses officially recommended for them. The average level of concern among French people about COVID-19 and the emergence of new variants is moderate (4.7 on a scale of 1 to 10).

Santé Publique France, COVID-19 Epidemiological Update No. 73 Situation at 22 July 2021, Santé Publique France, 6 pages, July 2022. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/bulletin-national/covid-19-point-epidemiologique-du-22-juillet-2021>

In week 28, a very sharp increase in the transmission of SARS-CoV-2 was observed across the country, with the number of new cases more than doubling compared with week previous. The increase in the incidence rate is marked in all regions and across all age groups. For the first time in 15 weeks, this increase has been accompanied by a net rise in the rate of hospitalisations (+55%) and in the number of patients admitted to critical care units (+35%), following 3 weeks of rapid growth in the incidence rate. Contact follow-up data confirmed a sharp rise in the number of cases who had frequented places of assembly, particularly bars, where barrier measures are more difficult to maintain. By 20 July 2021, almost 57% of the population had received at least one dose of vaccine, and almost 47% had been fully vaccinated. Given the significant increase in viral circulation, the widespread distribution of the Delta variant and the summer holidays, vaccination of all eligible individuals must be strongly encouraged and made easier for the oldest and most vulnerable members of the

population, with the aim of achieving a sufficient level of herd immunity as quickly as possible and avoiding new strains on hospitals and the healthcare system. Vaccination must be combined with a high level of adherence to other preventive measures, in particular compliance with barrier measures, limiting high-risk contacts and compliance with isolation in the event of symptoms, confirmed infection or contact with a confirmed case.

Knetsch J., Colloque 'Covid-19 et droit de l'indemnisation' : les responsabilités liées à la vaccination contre la Covid-19 - droit français, Cahiers Louis Josserand, 22 pages, July 2022. <https://www.lexbase.fr/article-juridique/86756081-actesdecolloquescolloquecovid19etdroitdelindemnisationlesresponsabiliteslieesalavac>

As the Covid-19 vaccination campaign continues to roll out around the world, questions are being asked about the legal consequences of any serious adverse reactions. Although the medical literature attests to the efficacy and safety of vaccines on the market [1], the fact remains that these are pharmaceutical products which, like all medicines, carry the risk of side-effects, some of which may be serious [2]. It is therefore essential to identify the potential legal liabilities associated with vaccination against Covid-19 in order to anticipate future litigation and to provide the public authorities with better support in devising their strategy for combating the epidemic.

Santé Publique France, Comment évolue l'adhésion des français aux mesures de prévention contre la Covid-19, wave 35, Santé Publique France, 5 pages, October 2022. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/comment-evolue-l-adhesion-des-francais-aux-mesures-de-prevention-contre-la-covid-19-resultats-de-la-vague-35-de-l-enquete-coviprev>

No summary. Selection of extracts relating to vaccination:

In wave 35 (12-19 September 2022), the decline in systematic adherence to barrier measures that began in the spring continued, and for the first time, all barrier measures were affected: wearing a mask fell sharply (-18% between the May and September waves), followed by greeting without shaking hands (-14%), washing hands regularly (-10%), and avoiding face-to-face meetings (-7%). After an increase in May, the practice of systematically airing the room every hour for a few minutes fell again to 40% in September (-3%). Since it is no longer mandatory to wear a mask in enclosed public places, respondents say they no longer wear masks or wear them less often: outdoors for 83% (vs. 77% in May), at work for 70

(vs. 57% in May), in enclosed public places (76%) (vs. 58% in May), in the presence of elderly, frail or vulnerable people (58%) (vs. 44% in May) and on public transport (61%) (vs. 23% in May). In September, 63% of respondents said they were less compliant with barrier measures than at the start of the epidemic (vs. 49% in May). The main reasons given were that: "Certain measures are no longer compulsory, such as wearing a mask in certain places" (56%); "Most

people have been vaccinated” (43%); “Barrier measures are too restrictive on a daily basis” (23%). These same reasons were cited in similar proportions in May 2022. CoviPrev participants were asked about their intentions to adopt the barrier measures next winter. The main reasons for complying with most of the barrier measures would be the appearance of symptoms at home or in a relative, or in the event of an epidemic (winter illness or new wave of Covid-19). The main reasons for non-compliance with barrier measures next winter in the event of symptoms would be: “”.

By forgetfulness, we don’t necessarily think about it” for 52%; “By weariness, we don’t want to continue to apply these gestures” for 28%; “Barrier gestures are too restrictive on a daily basis” for 21%. There has been no change in these responses since May. It should be noted, however, that 14.9% of respondents cite the fact that those around them do not comply with the barrier gestures as a reason for not doing so either: this figure was 12.5% in May.

Ward, J.K., Gauna, F., Giry, B., Peretti-Watel, P., Touzet, H., Verger, P., *Enquête SLAVACO Vague 5 : Qui a (encore) peur de la COVID-19 et jugements sur l’action des pouvoirs publics durant l’épidémie, ORS-Paca, 8 pages, November 2022.* <http://www.orspaca.org/sites/default/files/note-slavaco-n5.pdf>

The SLAVACO Wave 5 survey was carried out between 12 July 2022 and 9 August 2022, among a sample of 4,004 people, representative of the adult population residing in mainland France according to age, gender, socio-professional category, size of town and region of residence (quota method). **The main results are as follows** Half of French people think they have never had COVID-19 (48.7%), and French people seem more worried about the emergence of new variants than in May 2022. 54.3% of French people agree with the statement “from now on, COVID-19 will not be more serious than influenza”. Of those who put the health risk as one of the main reasons for getting vaccinated, the majority were not legally obliged to get vaccinated. As far as they were concerned,

“72% of respondents said they would have a booster if it was recommended for them. 60.5% of respondents felt that the authorities had deliberately withheld certain information from the public. 56.1% believe that certain scientific information on vaccines has been concealed (and 20.9% do not know if this is the case). Only 42.5% of respondents thought that, on the whole, the experts seemed to agree on the issue of vaccines against COVID-19. 33.1% of respondents felt that there was no need to vaccinate healthy adults.

de Figueiredo A., Eagan R.L., Hendrickx G., Karafillakis E., Van Damme P., Larson H.J., *State of Vaccine Confidence in the European Union 2022, European Commission, 46 pages, November 2022.* https://health.ec.europa.eu/publications/state-vaccine-confidence-eu-2022_en

Public and healthcare professional confidence in vaccines is high in most populations, with some exceptions and caveats. Between 2018 and 2020, public perception of vaccines increased significantly across the EU, particularly with regard to the seasonal flu vaccine. Many of the gains made in 2020 have since been reversed. Perceptions of the importance, safety and effectiveness of vaccines declined in the EU between 2020 and 2022. In the EU as a whole, the opinion that vaccines are safe remains higher than in 2018. However, EU-wide trends in public perceptions of the importance and safety of vaccines show that there is strong vaccine dependence and variability in vaccine confidence across countries and socio-demographic characteristics. An assessment of the differences in public confidence between people aged over 65 and those aged 18-34 reveals essential information about a growing “vaccine confidence gap” that needs to be addressed. The difference in vaccine confidence between 65 year olds and 18-34 year olds appears to be widening over time in many EU Member States, with 18-34 year olds becoming less confident between 2018 and 2022.

Santé Publique France, *How French people’s support for prevention measures against winter viruses is evolving, wave 36, Santé Publique France, 4 pages, December 2022.* <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/enquetes-etudes/comment-evolue-l-adhesion-des-francais-aux-mesures-de-prevention-contre-les-virus-de-l-hiver-resultats-de-la-vague-36-de-l-enquete-coviprev>

No summary. Selection of extracts relating to vaccination:

In wave 36 (5-12 December 2022), 13% of participants say they have not been vaccinated against Covid-19, a proportion that has remained stable since November 2021. Of these, 96% said they did not intend to be vaccinated, a proportion that has been gradually increasing since December 2021 (86%). In wave 36, 42% of respondents said they were eligible for the autumn booster dose (n=684). Of these, 75% were in favour of this new booster. Adherence (75%) was higher among men (82%), people aged 65 and over (81%), people from higher socio-professional backgrounds (80%), overweight or obese people (79%), and people living in urban areas (83%). The 75% of respondents who were eligible and in favour were distributed as follows 30% had received their autumn booster, 14% had had their last dose of vaccine less than six months ago, 11% had had Covid-19 less than three months ago and 20% had not taken the time to make an appointment or had one coming up. In addition, 25% of eligible respondents said they did not intend to have the autumn booster (n=169) and their main reasons were: “I don’t want to have any more Covid-19 vaccine because of the side effects” for 34%; “I don’t think a booster dose is necessary” for 33%; “I don’t think the current vaccine is effective” for 33%.

2023

Chavalarías D., Bouchaud P., Chomel V., Panahi M., *Les nouveaux fronts du dénielisme et du climatol-scepticisme - Deux années d'échanges Twitter passées aux macroscopes*, CAMS, ISC-PIF, CNRS, 37 pages, March 2023. <https://hal.science/hal-03986798>

As early as 1912, some warned of the effects of massive CO2 emissions into the atmosphere by the new industrial era. By the end of the 1970s, internal studies by the fossil fuel industries had produced precise projections linking global warming to CO2 emissions, at the same time predicting “dramatic environmental effects before the year 2050”. Meanwhile, these same companies, and in particular ExxonMobil, tried to convince the public that it was impossible to establish a causal link between the use of fossil fuels and global warming because the models used to model climate response were too uncertain. Since the 1970s, advances in climate science have provided an increasingly clear picture of the reality of global warming (see IPCC Group I report, Chapter 1), while the 2021 IPCC report states that “there is unequivocal evidence that human influence has warmed the atmosphere, ocean and land”. At a time when global warming is intensifying in every region of the world (2022 being an emblematic year) and its impacts are worsening, this decade is critical for resolutely reducing greenhouse gas emissions. Despite this, we are witnessing an increase in the activity of online denialist and climate sceptic groups, and an upward revision of the emissions targets of most of the oil majors, which have just announced record annual profits (e.g. BP). In France, the intensification of denialist activism has been particularly marked since July 2022, when a series of extreme weather events, the holding of COP27 and the strong influence of the fossil fuel industries, and finally the convergence of the issues of global warming with those of the security of oil and gas supplies as a result of the war in Ukraine. This study describes some of the strategies implemented by climate sceptic and denialist activists on Twitter, quantifies their effects and highlights potential geopolitical motivations alongside the political and economic dimensions already present. It is based on methodologies developed at the CNRS's CAMS and the Institut des Systèmes Complexes in Paris. In addition to fact-checking, this study aims to provide a better understanding of the circulation of different narratives linked to climate change, particularly those involving disinformation.

UNICEF, *The state of the world's children 2023- For Every Child, Vaccination*, UNICEF, 226 pages, April 2023. <https://www.unicef.org/media/108161/file/SOWC-2023-full-report-English.pdf>

No summary. The themes covered are :

- How the COVID-19 pandemic delayed vaccination
- Children without a dose count
- Vaccination and primary healthcare
- How can we boost confidence in vaccines?
- Financing and innovation for the future
- Vaccination for every child: an equity programme

Gautier A., Fontenau L., Nassany O., Hanguéhard R., Randriamampianina S., Vaux S., *Vaccination, Santé Publique France*, 21 pages, April 2023, <https://www.santepubliquefrance.fr/determinants-de-sante/vaccination/documents/bulletin-national/bulletin-de-sante-publique-vaccination.-avril-2023>

In 2023, the latest vaccination news in France is marked by the announcement of a free vaccination campaign against the human papillomavirus (HPV) to be rolled out across the board in 5th grade from the start of the school year in September 2023. Vaccination coverage against human papillomavirus infections is largely inadequate in France, whereas in countries such as Australia, Sweden and the United Kingdom, where vaccination programmes have been rolled out in schools, high vaccination coverage has led to a reduction in the incidence of precancerous lesions and/or invasive cervical cancers. The inclusion of this vaccination in the vaccination schedule for boys should help to speed up the interruption of the virus' circulation. The challenge is initially to get teenagers and their parents to sign up to this vaccination campaign in order to increase vaccination coverage and, ultimately, prevent cancers not only of the cervix, but also of the vulva, vagina, anus, penis and probably certain cancers of the oropharynx. In addition, one year after the introduction of vaccination against invasive meningococcal serogroup B infections (IMI B) into the vaccination schedule, this bulletin contains the first estimates of vaccination coverage against this disease in infants. As a reminder, invasive meningococcal infections are potentially devastating infections that require very rapid treatment. Widespread vaccination against serogroup C meningococcal disease has led to a significant reduction in the incidence of this disease in infants and young children. Meningococcal B disease continues to result in hospitalisations with potentially disabling after-effects, particularly neurological, and potentially avoidable deaths in young people. A major benefit is therefore expected from the introduction of this vaccination in infants. Flu vaccination coverage remains inadequate in at-risk populations. Five years after the entry into force of the law extending mandatory vaccination to children born from 2018 onwards, and three years after the emergence of COVID-19, there has been an overall continued increase in vaccination coverage for children, whether or not they are covered by mandatory vaccination. There has also been an increase in vaccination uptake among the general population in mainland France.

Peretti-Watel P., Verger P., Ward J.K., Enquête ICOVAC Vague 1 : retour sur la crise sanitaire et la vaccination contre la Covid-19, CNRS-INSERM-ORS-PACA, 9 pages, September 2023. http://www.orspaca.org/sites/default/files/note-icovac-092023-vague_1.pdf

The ICOVAC Wave 1 survey was carried out between 19 July and 14 August 2023, among a sample of 4,303 people, representative of the adult population living in mainland France according to age, gender, socio-professional category, size of town and region of residence (quota method). **The main results are :** The French remain very divided on the management of the health crisis and, in 2023, as time goes by, they seem to be downplaying its seriousness. For 40%, the initial confinement was excessive (36% in 2022) and for 39%, there was no need to vaccinate healthy adults (33% in 2022). Conversely, this year fewer felt that the health pass was necessary (54%, compared with 59% in 2022) and that we removed the masks too early in the spring of 2022 (39%, compared with 52%). When it comes to carers who refused to be vaccinated against Covid-19, here again opinions are divided, but overall the French support these recalcitrant carers more often than they criticise them. In particular, 69% consider that they simply exercised their free will, like any other citizen. Among adults who have been vaccinated against Covid-19, almost half (46%) still have doubts about the vaccine they received. This is more often the case for women and the under-50s. Covid-19 is becoming increasingly commonplace. In the summer of 2022, 54% of French people considered that Covid-19 was no more serious than influenza. One year later, 68% shared this opinion. Only half of French people are in favour of a bivalent influenza-Covid-19 vaccine offered every winter: 48% are in favour, 37% are against, and 15% have no opinion. The French are very uncertain about messenger RNA vaccines, and many have no opinion on them. They also give rise to ambivalent reactions: 62% of those surveyed stressed that a great deal is still unknown about the long-term adverse effects of these vaccines, but for 51% believe that messenger RNA is a promising technology for tomorrow's medicine. A relative majority also believe that in the event of a new epidemic, messenger RNA vaccines will be very useful. Finally, one French person in five believes that these vaccines modify our DNA.



Appendix 3:

Polling institute surveys

Listed in order of publication.

2020

Kantar; G7 countries perception of COVID-19, Kantar, London, 101 pages, June 2020. <https://www.kantarpublic.com/download/documents/100/G7+Citizen+Impact+COVID-19+Charts+and+Methodology+June+2020.pdf>

Conducted between 28 May and 1 June 2020, this online survey of 7012 participants aged 16 and over from Canada, France, Germany, Italy, Japan, the UK and the US used a quota method based on age, gender and level of education. The survey reveals that France is the country least likely to be vaccinated if a vaccine were available (58% in favour, compared with 78% in the UK) and the country least likely to have their child vaccinated (56%, compared with 74% in the UK). In addition, France places less importance on the allocation of research funds to develop a vaccine among the European Union's priorities in its response to the coronavirus pandemic (34%, compared with 50% in the UK).

YouGov, HuffPost; Protection against Covid-19, YouGov, Paris, 2 pages, July 2020. <https://docs.cdn.yougov.com/nufkj6fqzs/Results%2024.7.2020%20Q1.pdf>

Conducted between 23 and 24 July 2020, this online survey uses a sample of 1,023 participants representative of the French population aged 18 and over. The survey reveals that, compared with women, men are more willing to be vaccinated if a vaccine were available. Respondents aged between 25 and 34 were less likely to be vaccinated, as were those living in the South-West region. Retired people show the greatest willingness to be vaccinated, as do respondents categorised as having a 'higher' socio-professional category. Respondents in couples are also more likely to be vaccinated. Facebook users show the lowest level of willingness to be vaccinated, while LinkedIn users show greater willingness. Similarly, respondents with the highest level of education and those living in medium-sized towns are more inclined to be vaccinated.

Ipsos/Sopra Steria, Le Monde, Fondation Jean Jaurès and Institut Montaigne By Brice Teinturier, SciencesPo Cevipof; Fractures Françaises 2020 : Wave 8, Ipsos, 132 pages, September 2020. https://www.ipsos.com/sites/default/files/ct/news/documents/2020-09/fractures_francaises_2020.pdf

Conducted from 1 to 3 September 2020, this online survey of a sample of 1,030 participants representative of the French population aged 18 and over uses a quota method for the variables of gender, age, profession, conurbation category and region. The survey reveals that almost half of respondents would not be prepared to be vaccinated against Covid-19 if a vaccine were available (43%).

Respondents affiliated to the La République en Marche! party are the most inclined to be vaccinated (77%), unlike those affiliated to the Rassemblement National party (44%). In addition, respondents who are retired or aged 65 and over are the most willing to be vaccinated. Furthermore, among the reasons why respondents choose not to receive the vaccine, doubts about its effectiveness and fear of side-effects emerge as the most important factors.

ELABE, BFMTV; Les Français et le port du masque, ELABE, Levallois-Perret, 27 pages, September 2020. <https://elabe.fr/port-du-masque/>

Conducted from 4 to 6 September 2020, this online survey is based on a sample of 1,000 participants representative of the French population aged 18 and over. The quota method was used for the variables of the respondent's gender, age and profession, after stratification by region and urban area category. The majority of respondents expressed a desire to receive a Covid-19 vaccine approved by the French scientific authorities (46% vs. 37% against). Men were more inclined to be vaccinated.

Respondents aged over 65 were also more likely to be vaccinated than women. Retired people stand out as the group most keen to receive the vaccine, as do public sector employees, residents of large cities, those in the North-East region and the Paris region. Respondents affiliated with Emmanuel Macron's political party, La République en Marche!, show the greatest willingness to be vaccinated (71%), unlike those aligned with the Rassemblement National party (34%).

Ipsos, The World Economic Forum; Global attitudes on a Covid-19 vaccine, Ipsos, Paris, 9 pages, October 2020. <https://www.ipsos.com/sites/default/files/ct/news/documents/2020-11/global-attitudes-on-a-covid-19-vaccine-oct-2020.pdf>

This online survey was conducted from 8 to 13 October 2020 among a total of 18,526 participants aged 18 to 74 in the United States, Canada and South Africa, and aged 16 to 74 in Australia, Brazil, China (mainland), France, Germany, India, Italy, Japan, Mexico, South Korea, Spain and the United Kingdom. Among these countries, France showed the lowest willingness to receive a vaccine against Covid, with only 54% of respondents agreeing (in contrast to India with a rate of 87%). France is also the country least willing to receive the vaccine once it becomes available, with only 38% agreeing (in contrast to Brazil with a rate of 68%).

Ipsos, Institut Sapiens; Baromètre « Science et Société « Vague 1, Ipsos, Paris, 69 pages, October 2020. https://www.ipsos.com/sites/default/files/ct/news/documents/2020-12/rapport_sapiens_science_et_societe_octobre_2020_def.pdf

Conducted between 26 and 29 October 2020, this online survey involved a sample of 1,000 participants representative of the French population aged 18 and over, using a quota method based on the gender, age, region, category of conurbation and profession of the

household reference person. The survey shows that respondents place the highest level of trust in scientists when it comes to subjects such as renewable energies, vaccines, global warming and genetics (vaccines being the second most trusted subject). Men, respondents aged 60 or over and those with a high level of education are particularly likely to place a high level of trust in scientists when it comes to vaccine-related topics. Nearly 8 out of 10 respondents believe it is important to continue research into vaccines and viruses. Only 1 in 5 respondents would 'definitely' choose vaccination for themselves or their at-risk family members if a vaccine were available. In terms of willingness to be vaccinated, respondents are more likely to recommend that friends and family receive the vaccine than to do so themselves or have it administered to their children. What's more, the majority of French people would get vaccinated in a year or less, while a quarter would wait more than a year. In general, men and older people are much more likely to be vaccinated than women and respondents under 35, noting that men are also more likely to encourage their loved ones to be vaccinated.

Kantar; *Willingness to be vaccinated against Covid-19*, Kantar, London, 22 pages, November 2020.

Conducted from 10 to 12 November 2020, this online survey brought together a total of 5,000 participants aged 16 and over from the United States, the United Kingdom, France, Germany and Italy. The survey used a quota method based on gender, age and education. Compared with these countries, France has the highest level of disagreement about vaccine safety, with 26% disagreeing (compared with 10% in the UK), and about the effectiveness of vaccines in general, with 16% disagreeing (compared with 8% in the UK). France is also the country least likely to receive the Covid vaccine if it were available, with 33% disagreeing (compared with 16% in Italy). However, the French are also among those who believe it is unlikely that they will contract Covid in the coming year. Furthermore, France is the country that expresses the strongest belief that its health would not be greatly affected in the event of a Covid contraction, with 29% disagreeing (compared to 17% in Italy). France is also the country that expresses the highest level of concern about the safety of vaccines due to the speed of their development (with 69% of respondents agreeing, compared to 41% in Germany). When it comes to the best way to return to a normal life, France also has the lowest level of agreement with the idea of being vaccinated against Covid (with 57% agreeing, compared with 41% in Germany).

% agreement, compared with 77% in Italy). Similarly, France is the country with the lowest level of agreement with the idea that taking fewer precautions when testing and distributing a vaccine is acceptable in order to save time (56% disagree, compared with 41% in Italy). The United States believes it can protect itself from Covid without a vaccine, with 42% agreeing (France follows in second place with 41% agreeing). Furthermore, France has the highest level of reticence about the safety of a vaccine if it were offered by the country's public authorities, with 37% disagreeing (compared with 14% in Italy). When it comes to concerns about contamination and the spread

of the virus in relation to the administration of the vaccine, France expresses the least concern (35% of respondents concerned, compared with 46% in the UK). However, France is second only to the United States in terms of concerns about the administration of the vaccine in relation to contamination with Covid.

Odoxa, Dentsu Consulting, le Figaro, Franceinfo; *Regard des Français sur le vaccin contre le Covid-19*, Odoxa, Paris, 23 pages, November 2020. <https://www.odoxa.fr/sondage/8551-2/>

Conducted between 10 and 11 November 2020, this online survey of a sample of 1,005 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age, level of education and profession, after stratification by region and conurbation category. Following the announcements by Pfizer and BioNTech laboratories, only 1 in 2 French people would be prepared to be vaccinated against Covid-19, and 60% are opposed to mandatory vaccination. What's more, 15% systematically refuse all types of vaccine (1 French person in 6 is "anti-vaccine").

Ifop, IRD; *Le regard des Français sur la pandémie de Covid-19 et le conseil scientifique*, Ifop, Paris, 459 pages, November 2020.

Conducted between 13 and 16 November 2020, this online survey of a sample of 1,014 participants representative of the French population aged 18 and over used a quota method on the respondent's gender, age and profession after stratification by region and conurbation category. 46% of respondents would be prepared to be vaccinated against Covid-19 if the vaccine were available. Men, pensioners, people with a higher level of education, public sector employees, people aged 65 and over, people on higher incomes, those affiliated to centrist parties, Emmanuel Macron and François Fillon voters and those interested in politics are the categories of respondents showing the greatest willingness to receive the Covid-19 vaccine.

68% of those questioned believe that vaccination against Covid-19 would be a good way of protecting the most vulnerable people. However, 64% of those questioned agreed that a vaccine against COVID-19 developed in haste would be dangerous to health. In addition, 72% of those questioned were in favour of vaccines in general. Once again, men, pensioners, people with a higher level of education, public sector employees, people aged 65 and over, people on higher incomes, those affiliated to centrist parties, Emmanuel Macron and François Fillon voters, and those interested in politics are the categories of respondents demonstrating the greatest willingness to be vaccinated in general.

ELABE, BFMTV; *Les Français et le vaccin contre la Covid-19*, ELABE, Levallois-Perret, 37 pages, November 2020. <https://elabe.fr/vaccin-covid-19/>

Carried out from 17 to 18 November 2020, this online survey of a sample of 1,003 participants representative of the

French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and urban area category.

The survey shows that 64% of respondents have confidence in vaccines in general, while 36% express a lack of confidence. Those who have the most confidence in vaccines are executives (with 77% expressing confidence), people with the highest level of education (master's or doctorate level, at 76%), respondents aged 18 to 24 (69%), aged 65 and over. (68%), residents of the Paris region (at 70%), as well as supporters of François Fillon (at 82%) and Emmanuel Macron (at 81%). Conversely, the least qualified respondents (54% expressing confidence), those from working-class backgrounds (53%), the most affluent (53%) and the most conservative (53%) were the most confident.

Marine Le Pen voters (54%) and participants identifying themselves as "gilets jaunes" (43%) are more cautious.

BVA Opinion, Europe 1; *Les Français et la vaccination contre le Covid-19*, BVA Opinion, Paris, 10 pages, November 2020. <https://www.bva.fr/sondages/francais-vaccination-contre-covid-19-sondage-bva-europe-1/>

Conducted between 18 and 19 November 2020, this online survey of a sample of 1,002 participants representative of the French population aged 18 and over used a quota method based on gender, age, occupation of the reference person in the household and of the respondent, region and conurbation category. It shows that 60% of those questioned are prepared to be vaccinated if a vaccine were available, even if it is not immediately. Among these 60%, men, retired people, executives, respondents aged 65, respondents used to getting vaccinated against flu and affiliated to the Socialist Party, the République en marche! Party and the Republican Party are the most willing to get vaccinated. However, the speed with which the vaccine will be available still worries most respondents (72%). What's more, among those surveyed who do not wish to be vaccinated, the main reason remains fear of side effects (73%) and the fact that the vaccine has been developed too quickly (62%). The country of origin of the laboratory responsible for developing the vaccine is of little importance to most respondents (61%). However, if the vaccine were produced by a French laboratory, the willingness to be vaccinated would rise from 60% to 72%.

ELABE, BFMTV; *Les Français et l'allocution télévisée d'Emmanuel Macron*, ELABE, Levallois-Perret, 37 pages, November 2020. <https://elabe.fr/allocution-macron-241120/>

Conducted between 24 and 25 November 2020, this online survey of a sample of 1,010 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. The survey revealed that 48% of respondents had no intention of being vaccinated (with a higher refusal rate among women, the 25-64 age group, the middle and working classes and voters for J-L. Mélenchon and M. Le Pen), compared with 37% who are thinking about it and

15% who don't know yet. Moreover, 63% of French people are opposed to mandatory vaccination.

Ifop, *Le journal du Dimanche; Les Français et le COVID-19 : confiance dans le gouvernement et intention de se faire vacciner*, Ifop, Paris, 16 pages, November 2020. <https://www.ifop.com/publication/les-francais-et-le-covid-19-confiance-dans-le-gouvernement-et-intention-de-se-faire-vacciner/>

Conducted between 24 and 25 November 2020, this online survey of a sample of 1,013 participants representative of the French population aged 18 and over used a quota method on the respondent's gender, age and profession after stratification by region and conurbation category. More than half of those questioned do not trust the government to help businesses in difficulty as a result of the coronavirus; fight effectively against the coronavirus, and distrust is even stronger if respondents are affiliated to France Insoumise and Rassemblement National (as opposed to those affiliated to the République en marche! party). 59% of those surveyed are not willing to be vaccinated against Covid-19, even if it were available. Again, respondents affiliated to the France Insoumise and Rassemblement National parties are the least willing to be vaccinated (unlike those affiliated to the République en Marche! party). In addition, men are more willing to be vaccinated, as are pensioners, people aged 65 and over, respondents with a higher level of education and those living in urban areas. Furthermore, 59% of those surveyed who were prepared to be vaccinated preferred a French vaccine, and 40% were indifferent regardless of the country of origin of the vaccine. Women, respondents aged between 25 and 34, the working class, people with only a baccalauréat, people living in rural areas and people affiliated with right-wing and left-wing parties prefer a French vaccine.

Ifop, Fiducial, Cnews, Sud Radio; *Balises d'opinion #119 Questions d'actualité : regards sur la police / Intention de se faire vacciner contre la Covid-19*, Ifop, Paris, 18 pages, December 2020. <https://www.ifop.com/wp-content/uploads/2020/12/117000-Rapport-CN-SR-N119.pdf>

Conducted from 1 to 2 December 2020, this online survey of a sample of 1,003 participants representative of the French population aged 18 and over, used a quota method on the respondent's gender, age and profession after stratification by region and conurbation category. 61% of respondents would not be prepared to be vaccinated against Covid-19 if the vaccine were available. Among the respondents least likely to be vaccinated were those affiliated to the France insoumise and Rassemblement national parties, women, young people (under 35), and people with lower incomes and lower levels of education.

Harris Interactive, LCI; *Les attentes des Français en amont de l'intervention de Jean Castex*, Harris Interactive, Vincennes, 18 pages, December 2020. https://harris-interactive.fr/opinion_polls/les-attentes-des-francais-en-amont-de-lintervention-de-jean-castex/

Carried out on 9 December 2020, this online survey of a sample of 1,026 participants representative of the French population aged 18 and over used a quota method based on gender, age, socio-professional category and region. The survey shows that 45% of those questioned would be prepared to be vaccinated if the vaccine were available.

ELABE, BFMTV ; *Les Français et les fêtes de fin d'année*, ELABE, Levallois-Perret, 34 pages, December 2020. <https://elabe.fr/fetes-de-fin-dannee/>

Conducted between 8 and 9 December 2020, this online survey of a sample of 1,001 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 52% of respondents would not be prepared to be vaccinated against Covid-19 if the vaccine were available and approved by the French scientific authorities in the coming months, while 34% would be prepared to do so. Among those least willing to be vaccinated, the working classes (62% not willing), parents (60%), women (56%) and 35-49 year olds (60%) stand out, as do voters for Marine Le Pen (68%) and Jean-Luc Mélenchon (57%).

ELABE, BFMTV; *Les Français et le vaccin contre la Covid-19*, ELABE, Levallois-Perret, 38 pages, December 2020. <https://elabe.fr/vaccin-covid-19-2/>

Conducted between 15 and 16 December 2020, this online survey of a sample of 1,005 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 49% of respondents would not be prepared to be vaccinated if the vaccine were available. Refusal remains very high among 25-34 year olds (66%) and among working-class people (62%). In terms of political party, the proportion of refusals is high among voters for Marine Le Pen (68%), and Jean-Luc Mélenchon (59%), unlike voters for François Fillon (31%) and Emmanuel Macron (30%). Among people who do not intend to be vaccinated, the main reason given is lack of experience of the disease and the vaccine (63%), followed by fear of side effects (51%). Among those considering vaccination, the feeling that it is the only way to return to a normal life (47%) and to protect against the disease (46%) are the main reasons. In addition, there is greater acceptability of being vaccinated with a vaccine produced by French laboratories.

Ipsos, The World Economic Forum; *Global attitudes on a Covid-19 vaccine*, ELABE, Paris, 6 pages, December 2020. <https://www.ipsos.com/sites/default/files/ct/news/documents/2020-12/global-attitudes-on-a-covid-19-vaccine-december-2020-report.pdf>

This online survey is being conducted from 17 to 20 December 2020 among a total of 13,542 participants aged 18 to 74 in the United States, Canada and South Africa, and aged 16 to 74 in Australia, Brazil, China (Mainland), France, Germany, India, Italy, Japan, Mexico, South Korea, Spain and the United Kingdom. Since the survey conducted in August 2020, the proportion of individuals in France who have agreed to receive the vaccine against Covid-19, if available, has fallen. It fell from 59% in August to 54% in October and 40% in October.

in December. This makes France the country least prepared to receive the Covid vaccine.

19. Since August, this proportion has only increased in the United States and Mexico. South Korea, Japan and France are the three countries where concerns about the vaccine's side effects are greatest. Of these three countries, France is the most opposed to vaccines in general and has the most doubts about the effectiveness of the Covid vaccine.

19. Compared to October, there has been an increase in concerns about side effects (from 35% to 72%) and in the proportion of people who have doubts about the effectiveness of the vaccine (from 12% to 27%) (n=4,654).

2021

Odoxa, Backbone Consulting, le Figaro, FranceInfo; Regard des Français sur le vaccin contre la Covid-19, Odoxa, Paris, 26 pages, January 2021. <https://odoxa.com/wp-content/uploads/2021/01/117825-Rapport-CN-SR-N121.pdf>

Conducted between 22 and 23 December 2020, this online survey of a sample of 1,004 participants representative of the French population aged 18 and over used a quota method on the respondent's gender, age, level of education and profession after stratification by region and conurbation category. 58% of those questioned would not want to be vaccinated against Covid-19 if the vaccine were available. The main reasons for this are that "not being vaccinated is a reasonable decision in the face of a new disease and a new vaccine", and because it is seen as a clearly individual and personal choice, rather than a collective one. However, 53% of respondents felt that the vaccine was a decisive first step in the fight against the virus.

ELABE, BFMTV; Les Français et le vaccin contre la Covid-19, ELABE, Levallois-Perret, 35 pages, January 2021. <https://elabe.fr/wp-content/uploads/2021/01/vaccin.pdf>

Conducted between 5 and 6 January 2021, this online survey of a sample of 1,002 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. Only 38% of respondents would be prepared to be vaccinated if the vaccine were available. The proportion of refusals is particularly high among 25-34 year olds (63%), 18-24 year olds (56%), the working classes (55%), intermediate professions (53%), women (46%), parent respondents (53%), and among voters for Marine Le Pen (58%) and Jean-Luc Mélenchon (48%).

Harris Interactive, LCI ; Réactions des Français à la conférence de presse de Jean Castex, Harris Interactive, Vincennes, 13 pages, January 2021. https://harris-interactive.fr/opinion_polls/reactions-des-francais-a-la-conference-de-presse-de-jean-castex-2/

Carried out on 7 January 2021, this online survey of a sample of 1,439 participants representative of the French population aged 18 and over used a quota method based on gender, age, socio-professional category and region. 56% of those questioned would be prepared to be vaccinated against Covid-19 when given the opportunity.

Ifop, Fiducial, Cnews, Radio Sud; Balises d'opinion #121 Les Français, le Covid-19 et l'intention de se faire vacciner, Ifop, Paris, 20 pages, January 2021. <https://www.ifop.com/wp-content/uploads/2021/01/117825-Rapport-CN-SR-N121.pdf>

Conducted between 5 and 6 January 2021, this online survey of a sample of 1,004 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 51% of those questioned were prepared to be vaccinated against covid-19 if the vaccine was available. The willingness to be vaccinated is higher among men (61%), those aged 65 and over (73%), retired people (71%), respondents working in the public sector (48%), those with a higher level of education (59%) and those affiliated to the République en Marche! (84%).

Ifop, Lemon, Le Parisien; Observatoire du rapport des français à la science et aux nouvelles technologies, Ifop, Paris, 13 pages, January 2021. <https://lemon.fr/wp-content/uploads/2021/01/Enque%CC%82te-Ifop-x-Lemon.pdf>

Conducted between 11 and 12 January 2021, this online survey of a sample of 1,028 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 54% of respondents were prepared to be vaccinated against Covid-19 if the vaccine were available. Among respondents willing to be vaccinated, men (63% are willing to be vaccinated), people aged 65 and over (73%), retired people (74%), people affiliated to République en marche! (75%) and those with a higher level of education (68%) stand out. In addition, 62% of those questioned agree that the vaccine should be mandatory for people travelling by plane, 60% agree that it should be mandatory for people wishing to visit a vulnerable person.

Ifop, Fiducial, Cnews, Radio Sud; Balises d'opinion #122 Les Français et le Covid-19 : intention de se faire vacciner et pronostic sur le durcissement des mesures sanitaires, Ifop, Paris, 18 pages, January 2021. <https://www.ifop.com/wp-content/uploads/2021/01/117825-Rapport-CN-SR-N122.pdf>

Carried out between 12 and 13 January 2021, this online survey of a sample of 1,013 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 54% of respondents were prepared to be vaccinated against covid-19 if the vaccine were available. The willingness to be vaccinated is higher among men (63%), respondents aged 65 and over (72%), retired people (71%), public sector workers (56%), respondents with a higher level of education (63%), living in the Paris region (62%), respondents affiliated to the République en Marche! party (78%) and the République en Marche! party (78%). party (78%) and the Républicains party (78%).

ELABE, BFMTV; *The French and the Covid-19 epidemic*, ELABE, Levallois-Perret, 42 pages, January 2021. <https://elabe.fr/epidemie-de-covid-19/>

Conducted between 12 and 13 January 2021, this online survey of a sample of 1,003 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 47% of French people intend to be vaccinated against covid-19 if the vaccine were available. The willingness to be vaccinated is strong among higher social categories (66% among managers, 52% among intermediate professions), men (53%), those aged 65 and over (68%), respondents who are not parents, François Fillon voters (69%), and Emmanuel Macron voters (67%). What's more, 73% of respondents who have confidence in the government's efforts to combat the epidemic intend to get vaccinated, compared with 32% among those who have no confidence.

Odoxa, Backbone Consulting, Le Figaro, France Info; *Regard des Français sur le vaccin contre la Covid-19*, Odoxa, Paris, 26 pages, January 2021. <http://www.odoxa.fr/sondage/retournement-vaccination-56-francais-y-desormais-favorables/>

Conducted between 13 and 14 January 2021, this online survey of a sample of 1,003 French people aged 18 and over used a quota method based on the respondent's gender, age, profession and level of education, after stratification by region and conurbation category. 56% of respondents were prepared to receive the Covid-19 vaccine if it were available. Among respondents willing to be vaccinated, men (66% are willing to be vaccinated), those aged 65 and over (77%), those living in urban areas (60%), individuals affiliated to the République en marche ! (80%), the Socialist Party (74%), the Republican Party (68%) and managers (66%) stand out. Furthermore, 65% of those wishing to be vaccinated are in favour of the idea of a health passport allowing access to restaurants, cafés and cultural venues.

OpinionWay, Afaq, Esomar, Square, Les Echos, Radio Classique ; *Les Français et la campagne de vaccination contre la Covid*, OpinionWay, Paris, 30 pages, January 2021. <https://www.opinion-way.com/fr/sondage-d-opinion/sondages-publies/opinionway-et-square-pour-les-echos-et-radio-classique-ecoscope-les-francais-et-la-campagne-de-vaccination-contre-le-covid-janvier-2021/viewdocument/2498.html>

Conducted between 13 and 14 January 2021, this online survey of a sample of 1001 participants representative of the French population aged 18 and over, used a quota method on gender, age, socio-professional category, conurbation category and region of residence. 49% of respondents were prepared to be vaccinated against covid-19 if the vaccine were available. Among those surveyed who are prepared to be vaccinated, men (60% are prepared to be vaccinated), people aged 65 and over (72%), the economically inactive (60%), individuals affiliated to the République en marche! party (80%) stand out. party (80%) stand out. What's more, 53% of those questioned are against the introduction of a

health passport. However, 71% of those questioned who are prepared to be vaccinated agree with the introduction of the health passport.

Ifop, Fiducial, Cnews, Radio Sud; *Balises d'opinion #123 Les Français et le Covid-19 : inquiétude, confiance et intention de se faire vacciner*, Ifop, Paris, 28 pages, Janvier 2021. <https://www.ifop.com/wp-content/uploads/2021/01/117825-Rapport-CN-SR-N123.pdf>

Carried out between 20 and 21 January 2021, this online survey of a sample of 1,019 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 58% of respondents were prepared to be vaccinated against covid-19 if the vaccine were available. Among respondents willing to be vaccinated, men (65% willing to be vaccinated), people aged 65 and over (79%), retired people (79%), people affiliated to the République en marche ! party (90%) and those with a higher level of education (69%) stand out.

Kantar; *International public opinion: Research on the vaccination campaign against COVID-19*, Kantar, London, 19 pages, January 2021. <https://kantarpublic.com/fr/inspiration/centre-kantar-public-sur-l-europe/ckfe-vaccination-study-research>

Conducted between 13 January and 26 January 2021, this online survey of a representative sample of a total of 7133 participants aged 18 and over in the United States, Great Britain, France, Germany, India, the Netherlands and Italy, used a quota method based on the respondent's gender, age and profession, after stratification by region and urban area category. France remains the country where willingness to receive the Covid vaccine if it were available is the lowest compared with other countries, with 37% of French respondents unlikely to receive it. Among individuals who expressed a reluctance to be vaccinated (n=1142), whatever the country, the main reason for their hesitation was concern about the safety of the vaccine and the desire to find out more beforehand. What's more, France is the country with the highest level of dissatisfaction with the organisation of the vaccination campaign by the government and health authorities (60% compared with 13% in India).

Ifop, Fiducial, Cnews, Radio Sud ; *Balises d'opinion #124 Les Français et le Covid-19 : intention de se faire vacciner et souhaits concernant un reconfinement*, Ifop, Paris, 15 pages, January 2021. <https://www.ifop.com/wp-content/uploads/2021/01/117825-Rapport-CN-SR-N124.pdf>

Carried out between 26 and 27 January 2021, this online survey of a sample of 1,015 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 55% of respondents were prepared to be vaccinated against covid-19 if the vaccine was available.

Among respondents prepared to be vaccinated, men (59% are prepared to be vaccinated), people aged 65 and over (75%), retired people (73%), people affiliated to the République en marche ! party (73%) and those with a higher level of education (63%) stand out.

Ipsos, The World Economic Forum; *Global attitudes on a Covid-19 vaccine*, Ipsos, Paris, 7 pages, January 2021. <https://www.ipsos.com/sites/default/files/Global-attitudes-on-a-COVID-19-Vaccine-January-2021-report%20.pdf>

This online survey is being conducted from January 28 to January 31, 2021 among 5,932 to 14,101 participants aged 18 to 74 in the United States, Canada and South Africa, and 16 to 74 in the United States, Canada and South Africa.

in Australia, Brazil, China (mainland), France, Germany, India, Italy, Japan, Mexico, South Korea, Spain and the UK. Since December, among those who say they have not received the vaccine, France remains one of the countries least willing to be vaccinated if the vaccine becomes available (57% agree, compared with 89% in the UK). The proportion of respondents who agree to receive the vaccine has risen from 40% to 57% (total n=12,777). Similarly, the percentage of respondents who would receive the vaccine as soon as it became available rose from 12% to 44% (total n=9,943). The proportion of French people concerned about side effects as a reason for not taking the vaccine has fallen from 72% in December to 35% today. However, more French people are expressing concern about the speed at which the vaccine is progressing through clinical trials (total n=5,932).

Opinion Way, SciencePo CEVPOF, Institut Montaigne, Conseil Economique Sociale et Environnemental, Fondation Jean Jaurès, Fondation pour l'Innovation Politique; *Baromètre de la confiance politique : En quoi les Français ont-ils confiance aujourd'hui?* wave 12, OpinionWay, Paris, 134 pages, February 2021. [https://www.sciencespo.fr/cevipof/sites/sciencespo.fr/cevipof/files/OpinionWay%20pour%20le%20CEVPOF-Barome%CC%80tre%20de%20la%20confiance%20en%20politique%20-%20vague12%20-%20Report%20international%20\(1\).pdf](https://www.sciencespo.fr/cevipof/sites/sciencespo.fr/cevipof/files/OpinionWay%20pour%20le%20CEVPOF-Barome%CC%80tre%20de%20la%20confiance%20en%20politique%20-%20vague12%20-%20Report%20international%20(1).pdf)

Conducted between 20 January and 11 February 2021, this online survey of a representative sample of 7558 participants aged 18 and over in the UK, Germany, France and Italy used a quota method on gender, age, socio-professional category, region of residence and conurbation size. France is the country least prone to conspiracy theories about the relationship between the government and the vaccine. Compared to other countries and among respondents intending to be vaccinated, France has the highest rate of individuals expressing a desire to be vaccinated because they are systematically vaccinated against various diseases (25%) and is behind Germany in the argument that because it's the only way to get rid of the contagion and get back to a normal life" (77%) (total n=5172). Among these countries, France expresses the least fear of the vaccine's side effects (53%) (total n=1,401) and is the most convinced that we still lack experience of

the disease and the vaccine (70%). In addition, France has the lowest level of confidence in public authorities to monitor the occurrence of vaccine-related side effects and take appropriate action in such cases, with 40% expressing distrust compared to 24% in the UK.

Odoxa, Backbone Consulting, the Figaro, Franceinfo ; *Vaccines against the covid-19 actions from government and passport vaccination passport*, Odoxa, Paris, 21 pages, February 2021. <https://www.odoxa.com/fr/actualites/odoxa-sondage-lintention-de-vaccination-progresse-bien-politique-vaccinale-gouvernement-ninspire-toujours-confiance-aux-francais/>

Carried out between 17 and 18 February 2021, this online survey of a sample of 1,005 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 61% of those questioned were prepared to be vaccinated. As for the vaccination passport, 60% of those questioned supported its use for access to the country, but an equal number rejected its use for access to restaurants, cafés and cultural venues.

Ifop, Fiducial, Cnews, Radio Sud; *Balises d'opinion #128 Le regard des Français sur la crise sanitaire et le passeport-vaccinal*, Ifop, Paris, 28 pages, February 2021. <https://www.ifop.com/publication/balises-dopinion-128-le-regard-des-francais-sur-la-crise-sanitaire-et-le-passeport-vaccinal/>

Conducted between 23 and 24 February 2021, this online survey of a sample of 1,011 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession after stratification by region and conurbation category. 61% of respondents were in favour of a vaccination passport restricting airport access to vaccinated people once the vaccine was available. With regard to access to bars, restaurants and cultural venues, 49% of respondents were in favour of a vaccination passport. Older people were most in favour in each case.

Kekst CNC ; research report: Covid-19 Opinion Tracker, Kekst CNC, New York, 34 pages, March 2021. https://www.kekstcnc.com/media/3144/kekst-cnc_research-report_covid19_opinion-tracker_wave-7_march2021.pdf

Conducted between 11 and 21 February 2021 among a representative sample of 6,000 adults in France, the United States, Sweden, Germany, Japan and the United Kingdom, this online survey used a quota method according to gender, age and region. France is the country least likely to want to be vaccinated as vaccination campaigns begin, but the proportion of French people willing to be vaccinated is higher than it was in December.

YouGov ; International vaccine safety perceptions, YouGov, Paris, 5 pages, March 2021. <https://docs.cdn.yougov.com/ei0ckvi45y/YouGov%20%20international%20vaccine%20safety%20perceptions.pdf>

This online survey is being conducted between 23 February and 2 March 2021 among a total of 8463 adults in Great Britain, Germany, France, Italy, Spain and the United States. Of these countries, France has the strongest belief that Covid vaccines (Pfizer/BioNTech vaccine, Oxford-AstraZeneca coronavirus vaccine, Moderna coronavirus vaccine) are unsafe, and the least confidence in their manufacturers/developers. However, confidence in the manufacturers and the safety of the vaccine has increased since December 2020. Overall, among respondents, vaccinated or not, France shows the lowest willingness to receive one of these vaccines, but shows a preference for the Pfizer/BioNTech vaccine.

Harris Interactive, Français et la vaccination contre la Premier Ministre; Les Covid-19, Harris Interactive, Vincennes, 17 pages, March 2021.

Conducted between 2 and 4 March 2021, this online survey of a sample of 1,020 participants representative of the French population aged 18 and over used a quota method based on gender, age, socio-professional category, region of residence and size of conurbation. 71% of those questioned would be prepared to be vaccinated if the vaccine were available (especially if they were aged 50 or over). 58% of respondents give priority to being able to choose their vaccine, even if this means waiting several months, and 56% are more inclined to be vaccinated because of concerns about the different variants of the virus, seeing them as potentially dangerous. Among respondents who would like to be vaccinated but are not yet vaccinated, 26% have a preference for messenger RNA vaccines, while 10% favour viral vector vaccines. Meanwhile, 40% are indifferent to the type of vaccine.

Harris Interactive, LCI; Regard des Français sur les vaccins contre la Covid-19, Harris Interactive, Vincennes, 10 pages, March 2021. https://harris-interactive.fr/opinion_polls/regard-des-francais-sur-les-vaccins-contre-la-covid-19/

Conducted between 11 and 12 March 2021, this online survey of a sample of 1,478 participants is representative of the French population aged 18 and over, using a quota method based on gender, age, socio-professional category and region. Among the French population, 64% intend to be vaccinated as soon as the opportunity arises, while 36% intend to be vaccinated as soon as the opportunity arises.

% said they did not. In terms of general confidence in Covid-19 vaccines, 55% of respondents express confidence, with the exception of the AstraZeneca vaccine (43% confidence). In terms of potential side effects, 73% believe that Covid-19 vaccines can cause side effects, and 77% attribute this possibility specifically to the AstraZeneca vaccine.

Ifop, MNH; 8 out of 10 hospital professionals feel responsible for recommending vaccination to their relatives, Ifop, Paris, 7 pages, March 2021. <https://www.ifop.com/wp-content/uploads/2021/04/117704-Presentation-2eme-publi-1.pdf>

Carried out from 16 to 18 March 2021, this online survey of a sample of 1,035 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and urban area category. The survey was also conducted between 8 and 17 March 2021 among 5,250 healthcare professionals. This survey shows that 65% of people respondents are either willing to receive the Covid-19 vaccine or have already received it, the main reason being "the only way out of the epidemic" (72%).

ELABE, BFMTV ; Un an après, les Français et l'épidémie de Covid-19, ELABE, Levallois-Perret, 34 pages, March 2021. <https://elabe.fr/covid-19-un-an-apres/>

Conducted between 15 and 16 March 2021, this online survey of a sample of 1,000 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. The Pfizer-BioNTech vaccine received the highest level of confidence from respondents (52%), followed by the Moderna vaccine (43%). The level of confidence is more divided for the Johnson & Johnson vaccine at 32%, and the AstraZeneca vaccine is approved by only 20% of respondents.

ELABE, Pandemia; Les Français face à la Covid-19, ELABE, Levallois-Perret, 24 pages, March 2021. <https://elabe.fr/francais-covid-19/>

Conducted between 15 and 16 March 2021, this online survey of a sample of 1,008 participants representative of the French population aged 18 and over used a quota method on the respondent's gender, age and profession after stratification by region and conurbation category. 55% of those surveyed are ready to receive or have already received the Covid-19 vaccine; of these, 62% believe that this is the only way to return to a 'normal life'. Of the 34% who do not wish to be vaccinated, 61% feel that we do not have enough experience of the disease and the vaccine.

OpinionWay, Afaq, Esomar ; Une année de Covid Direct, Les Français face à l'épidémie, OpinionWay, Paris, 10 pages, March 2021. <https://www.opinion-way.com/fr/sondage-d-opinion/sondages-publies/opinionway-un-an-de-covidirect-les-francais-face-a-la-pandemie-19-mars-2021/download.html>

Conducted between 17 and 18 March 2021, this online survey of a representative sample of 1,011 participants aged 18 and over in the UK, Germany, France and Italy used a quota method on gender, age, socio-professional category, conurbation category and region of residence. The survey revealed that 53% of those questioned were prepared to be vaccinated or had already been vaccinated.

Ifop, Fiducial, Cnews, Sud Radio; Balises d'opinion #131 Les réactions des Français après les annonces du gouvernement, Ifop, Paris, 26 pages, March 2021. <https://www.ifop.com/wp-content/uploads/2021/03/117825-Rapport-CN-SR-N131.pdf>

Conducted between 18 and 19 March 2021, this online survey of a sample of 1,035 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 53% of respondents would be prepared to be vaccinated if it were possible. Among those willing to be vaccinated, men (59%), people aged 65 and over (58%), managers (68%), those with a higher level of education (62%), respondents living in the Paris region (67%) and individuals affiliated to the République en marche! party (69%) and the Républicains party (69%) stand out.

Harris Interactive, LCI ; Réactions des Français à la conférence de presse de Jean Castex du 18 mars 2021, Harris Interactive, Vincennes, 12 pages, March 2021. https://harris-interactive.fr/opinion_polls/reactions-des-francais-a-la-conference-de-presse-de-jean-castex-du-18-mars-2021/

Carried out on 18 March 2021, this online survey of a sample of 1,376 participants, representative of the French population aged 18 and over, used a quota method based on gender, age, socio-professional category and region. The survey shows that 66% of those questioned are prepared to be vaccinated against covid-19 whenever possible. 57% have confidence in the covid-19 vaccine in general, but only 46% have confidence in the AstraZeneca vaccine.

Odoxa, Backbone Consulting, le Figaro, FranceInfo; Press conference by Jean Castex - Announcement of confinement measures, Odoxa, Paris, 25 pages, March 2021. [Odoxasondage/le-confinement-de-trop/](https://www.odoxa.com/fr/sondage/le-confinement-de-trop/)

Carried out between 18 and 19 March 2021, this online survey of a sample of 1,005 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age, level of education and profession, after stratification by region and conurbation category. The suspension of the AstraZeneca vaccine had a significant effect, leading 56% of the French population not to want or no longer to want to receive this vaccine, while 51% considered it less effective or less safe than other vaccines. Women are more reluctant than men (62% versus 49%), and the refusal is particularly pronounced among 25-34 year-olds (71%).

ELABE, BFMTV; The French and the Covid-19 epidemic - Wave 35, ELABE, Levallois-Perret, 45 pages, March 2021. <https://elabe.fr/wp-content/uploads/2021/03/vague-35.pdf>

Conducted between 23 and 24 March 2021, this online survey of a sample of 1,002 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and

profession after stratification by region and conurbation category. 55% of those questioned were ready to be vaccinated against Covid-19 or had already been. The populations most likely to be vaccinated are those aged 65 and over (78%), 50-64 year olds, intermediate professions (65%), executives (59%), François Fillon voters (78%) and Emmanuel Macron voters (76%). The Pfizer-BioNTech and Moderna vaccines inspire confidence in the majority of individuals, with 56% expressing confidence in the Pfizer-BioNTech vaccine and 50% expressing confidence in the Moderna vaccine. In addition, 40% of people have confidence in the Janssen Johnson & Johnson vaccine.

OpinionWay, Afaq, Esomar; The French, Emmanuel Macron's speech and the pandemic, OpinionWay, Paris, 15 pages, March 2021. <https://www.opinion-way.com/fr/sondage-d-opinion/sondages-publies/opinionway-les-francais-l-allocation-d-emmanuel-macron-et-la-pandemie-mars-2021/download.html>

Conducted between 31 March and 1 April 2021, this online survey of a sample of 1,015 participants representative of the French population aged 18 and over used a quota method based on gender, age, socio-professional category, conurbation category and region of residence. 59% of those questioned wanted or had already received the Covid-19 vaccine.

Ifop, MNH; les Français sont de plus en plus enclins à la vaccination contre le Covid-19, les professionnels-hospitaliers aussi, Ifop, Paris, 10 pages, March 2021. <https://www.ifop.com/publication/vaccination-covid-19-les-francais-sont-de-plus-en-plus-enclins-a-la-vaccination-les-professionnels-hospitaliers-le-sont-aussi/>

Conducted from 16 to 18 March 2021, this online survey of a sample of 1,035 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and urban area category. The survey was also conducted between 8 and 17 March 2021 among 5,250 healthcare professionals. At the end of November 2020, 41% of the French population had been vaccinated. In March, 65% had been vaccinated or would like to be (82% among hospital professionals). However, the willingness to vaccinate among students was slightly lower, at 60%, reflecting their relatively lower risk due to their age. This trend is mirrored in the population as a whole: 50% of under-35s have been vaccinated or intend to be vaccinated, compared with 71% of those aged 35 and over.

Ifop, Le Journal du Dimanche; La confiance dans l'exécutif face au Covid, Ifop, Paris, 21 pages, April 2021. <https://www.ifop.com/wp-content/uploads/2021/04/118034-Rapport-Confiance.pdf>

Carried out on 1 April 2021, this online survey of a sample of 1,021 participants, representative of the French population aged 18 and over, used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 51% of respondents

were prepared to be vaccinated if it were possible. Among respondents who were prepared to be vaccinated, men (54%), people aged 35 to 49 (58%), managers and professionals (66%), people living in the Paris metropolitan area (56%), people affiliated to the République en Marche ! party (65%) and those with a higher level of education (56%) stand out.

Odoxa, Backbone Consulting, le Figaro, FranceInfo ; Vaccines against covid-19 and self-tests, Odoxa, Paris, 26 pages, April 2021. Odoxasondage/oui-a-vaccination-astrazeneca/

Carried out between 7 and 8 April 2021, this online survey of a sample of 1,004 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age, profession and level of education, after stratification by region and conurbation category. 70% of those questioned were prepared to be vaccinated or had already been. The level of confidence in the different vaccines varies from respondent to respondent: 70% have confidence in the Pfizer-BioNTech vaccine, 65% in the Moderna vaccine and 59% in the Johnson & Johnson vaccine. However, confidence in the AstraZeneca vaccine is much lower, with only 28% expressing confidence. What's more, 24% of respondents had no confidence in any vaccine.

Odoxa, Groupama, FranceInfo, Francebleu ; La Voix des Territoires Wave 6 - Confinement experience: tests, vaccines, morale, compliance with measures... Odoxa, Paris, 27 pages, April 2021. Odoxasondage/lecons-de-crise-sanitaire-francais-veulent-continuer-a-disposer-librement-de-temps/

Carried out between 13 April and 19 April 2021, this online survey of a sample of 3,005 participants, representative of the French population aged 18 and over, used a quota method based on the respondent's gender, age, profession and level of education, after stratification by region and conurbation category. 69% of those questioned were prepared to be vaccinated or had already been.

Among those surveyed, the groups with the highest propensity to vaccinate were people aged 65 and over (90%), residents of the Paris metropolitan area (79%), respondents from "higher" socio-professional classes (74%), managers (77%) and men (76%).

Ipsos, The World Economic Forum; COVID-19 vaccination intent, Ipsos, Paris, 6 pages, April 2021. <https://www.ipsos.com/sites/default/files/ct/news/documents/2021-05/COVID-19-Vaccination%20Intent%20-April-2021-report.pdf>

This online survey is being conducted from 22 to 25 April 2021 among a total of 9,890 covid vaccine-naive participants aged 18 to 74 in the United States, Canada and South Africa, and aged 16 to 74 in Australia, Brazil, China (mainland), France, Germany, India, Italy, Japan, Mexico, South Korea, Spain and the United Kingdom. Since January, France remains one of the countries least

willing to be vaccinated (58% agree), behind the United States (46% agree) and Russia (41%). The country where willingness is highest is Brazil, with 93% expressing a desire to be vaccinated. Since February 2021, only Spain, Mexico and Brazil have shown an increase in willingness to receive the vaccine, while other countries have seen a decrease in willingness.

Ifop, Voyage Avec Nous; Will the French go on holiday this summer?, Ifop, Paris, 19 pages, May 2021. https://www.ifop.com/wp-content/uploads/2021/05/PPT_Ifop_Voyage_avec_nous.pdf

Carried out between 27 and 28 April 2021, this online survey of a sample of 1,010 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age, profession, region and the size of the urban unit of the commune of residence. Of the people surveyed who were planning to go on holiday, 56% were prepared to be vaccinated or had already been vaccinated, compared with 49% who did not wish to be vaccinated. 58% of people surveyed who feared that this health crisis would cancel their holiday were either vaccinated or prepared to be vaccinated (compared with 49% who did not wish to be vaccinated).

SciencePo CEVIPOF, ANR, Institut Montaigne, Conseil Economique Sociale et Environnemental, Fondation Jean Jaurès, Fondation pour l'Innovation Politique, Interiale, Luiss, Afaq Esomar ; Baromètre de la confiance politique : En qu(o)i les Français ont-ils confiance aujourd'hui ? - Le baromètre de la confiance politique vague 12b, SciencePo, Paris, 72 pages, May 2021. [https://www.sciencespo.fr/cevipoef/sites/sciencespo.fr/cevipoef/files/Barome%CC%80tre%20Vague%2012%20bis%20-%20VERSION%20FINALE%20\(pour%20mise%20sur%20le%20site%20CEVIPOF\).pdf](https://www.sciencespo.fr/cevipoef/sites/sciencespo.fr/cevipoef/files/Barome%CC%80tre%20Vague%2012%20bis%20-%20VERSION%20FINALE%20(pour%20mise%20sur%20le%20site%20CEVIPOF).pdf)

Conducted between 3 and 11 May 2021, this online survey of a sample of 1,832 participants representative of the French population aged 18 and over used a quota method based on gender, age, socio-professional category, region of residence and size of conurbation. 65% of those questioned are ready to be vaccinated or have already been vaccinated. Of these, 45% believe that it is the only way to return to a normal life, which contrasts with the 12% who are systematically vaccinated against various diseases. Among those who do not wish to be vaccinated (20%, mainly because they agree that we don't know enough about the disease and the vaccine). In addition, 51% of those questioned believe that vaccination should be mandatory for residents of France. In addition, 43% of those surveyed are prepared to be vaccinated with any vaccine offered by the French government and 73% of those surveyed agree that the collective benefits of vaccination make it worthwhile to be vaccinated against Covid-19.

Odoxa, Backbone Consulting, Le Figaro, Franceinfo; Les Français et la vaccination, Odoxa, Paris, 25 pages, July 2021. <https://www.odoxa.fr/sondage/les-francais-sont-desormais-favorables-a-la-vaccination-obligatoire>

Conducted between 30 June and 1 July 2021, this online survey of a sample of 1,005 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age, profession and level of education after stratification by region and conurbation category. 81% of respondents were prepared to be vaccinated or had already been vaccinated. Among carers, 72% are in favour of mandatory vaccination, compared with 58% of all respondents. In particular, respondents affiliated to La République En Marche showed strong support (78%), while those affiliated to La France Insoumise were less so (49%).

ELABE, BFMTV; The French and the Covid-19 epidemic - Wave 41, ELABE, Levallois-Perret, 32 pages, July 2021. <https://elabe.fr/wp-content/uploads/2021/07/vague-41.pdf>

Carried out between 6 and 7 July 2021, this online survey of a sample of 1,002 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 74% of those surveyed would like to be vaccinated in the next few weeks or have already been vaccinated. Among those willing to be vaccinated, people aged 65 and over (90%), retired people (87%), people living in the Paris region (80%), people affiliated to the République en marche ! party (92%) and the Républicains party (90%) stand out. For those respondents who do not wish to be vaccinated (21%), the main reasons are that "We don't have enough experience of the disease and the vaccine" and fear of side effects. Furthermore, 71% of healthcare professionals agree that vaccination should be compulsory, and 61% of the general public agree with this statement.

ELABE, BFMTV; The French and the Covid-19 epidemic - Wave 42, ELABE, Levallois-Perret, 39 pages, July 2021. <https://elabe.fr/wp-content/uploads/2021/07/vague-42.pdf>

Carried out between 12 and 13 July 2021, this online survey of a sample of 1,006 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 79% of those surveyed would like to be vaccinated in the next few weeks or have already been vaccinated. Among respondents willing to be vaccinated, people aged 65 and over (92%), executives and higher intellectual professions (93%), working in the public sector (86%), living in the Paris region (80%), people affiliated with the République en Marche! (96%) stand out.

Ipsos/Sopra Steria, Franceinfo, Le Parisien, Aujourd'hui en France; How the French view Emmanuel's televised speech by Emmanuel Macron's television appearance, Ipsos, Paris, 18 pages, July 2021. <https://www.ipsos.com/sites/default/files/ct/news/documents/2021-07/Ipsos%20-%20Intervention%20E.%20Macron%20-%20France%20Info-Le%20Parisien-Aujourd%27hui%20en%20France%20.pdf>

Conducted online on 13 and 14 July 2021 on a sample of 1,000 people representative of the French population aged 18 and over, this survey uses the quota method on the variables of gender, age, occupation of the respondent, category of conurbation and region.

69% are in favour of mandatory vaccination from 15 September for people working in contact with the elderly or frail, 69% in favour of vaccination campaigns for secondary school pupils and students at the start of the new school year, 63% in favour of PCR tests becoming chargeable in September and 62% in favour of the introduction of a "health pass". However, between 16% and 24% of French people say they are "completely opposed" to these various measures, particularly among the under-35s, people who refuse to be vaccinated and supporters of the France Insoumise and Rassemblement National parties. More broadly, 63% of French people approve of the fact that the constraints will primarily affect people who have not been vaccinated (including 82% of French people who have already been fully or partially vaccinated, compared with 8% of those who refuse to be vaccinated). It should also be noted that six out of ten French people are in favour of mandatory vaccination; however, hostility to this option is greatest among RN sympathisers (55%), the under-35s (57%), people who have not yet been vaccinated but will be in the near future (64%) and above all among people who refuse to be vaccinated (97%).

Ifop, Fiducial, Sud Radio; Balises d'opinion #147 Le regard des Français sur la situation et les mesures sanitaires, Ifop, Paris, 21 pages, July 2021. <https://www.ifop.com/publication/balises-dopinion-147-le-regard-des-francais-sur-la-situation-et-les-mesures-sanitaires/>

Conducted online from 13 to 15 July 2021 on a sample of 1,005 people representative of the French population aged 18 and over, this survey uses the quota method on the variables of sex, age and profession of the respondent after stratification by region and urban area category. The survey shows that 54% of French people have confidence in the government to carry out the coronavirus vaccination campaign. With regard to the health pass, 2/3 of respondents consider that it is a good thing to encourage French people to be vaccinated against the coronavirus (66%), but 3/4 also think that it will create inequalities between French people who have been vaccinated and those who have not (75%). This latter perception is mainly present among supporters of opposition parties such as France Insoumise (87%) or Rassemblement National (82%).

OpinionWay, Afaq, Esomar, Square, Les Echos, Radio Classique ; *Les Français et la perception de la crise*, OpinionWay, Paris, 33 pages, July 2021. <https://www.opinion-way.com/fr/sondage-d-opinion/sondages-publies/economie/ecoscope.html>

Conducted between 13 and 15 July 2021, this online survey of a sample of 1,002 participants representative of the French population aged 18 and over used a quota method based on gender, age, socio-professional category, region of residence and conurbation category. Currently, 66% of French people aged 18 and over say they have received at least one dose of vaccine. In a sign that vaccination could yet become widespread, 10% of French people say they have not been vaccinated but intend to do so. The mandatory use of the health passport in shopping centres and catering areas is the main reason for getting vaccinated, according to those questioned. However, the majority of respondents who do not wish to be vaccinated are working-class people (24% not willing), and people affiliated to the Rassemblement National party (29%) or affiliated to no political party (20%).

Ipsos; *Enquête auprès des 18-25 ans sur la vaccination contre la Covid-19*, Ipsos, Paris, 7 pages, July 2021. <https://www.ipsos.com/sites/default/files/ct/news/documents/2021-07/Jeunes%20vaccination%20pass%20sanitaire%20.pdf>

Conducted from 15 to 22 July 2021, this online survey of a sample of 1,000 participants representative of the French population aged 18 to 25, used a quota method on gender, age, respondent status and region. 62% of those questioned were ready to be vaccinated, had already been vaccinated or had an appointment to be vaccinated. The main reason for not wanting to be vaccinated is that they think “we don’t know enough about vaccines, we don’t know all the risks” and feel that “the vaccination campaign is not designed to protect us from disease but to take away some of our freedoms”. Furthermore, 33% of people of those questioned decided to be vaccinated after President Macron announced the introduction of the health pass.

Ifop, *Le Journal du Dimanche; Le regard des Français sur le mouvement de protestation contre le pass sanitaire*, Ifop, Paris, 15 pages, July 2021. <https://www.ifop.com/publication/le-regard-des-francais-sur-le-mouvement-de-protestation-contre-le-pass-sanitaire/>

Conducted online on 20 and 21 July 2021 on a sample of 1,002 people representative of the French population aged 18 and over, this survey uses the quota method on the variables gender, age, profession of the respondent after stratification by region and category of conurbation. The survey reveals that 49% of respondents are opposed to this protest movement against the health pass, while 35% support it. It should be noted that 79% of people who do not intend to be vaccinated and who are not vaccinated support this movement.

Harris Interactive, LCI; *French people’s view of the demonstrations against the introduction of a health pass in France*, Harris Interactive, Vincennes, 8 pages, July 2021. <https://harris-interactive.fr/wp-content/uploads/sites/6/2021/07/Report-Harris-Interactive-Regard-des-Francais-sur-les-manifestations-contre-linstauration-dun-pass-sanitaire-en-France-LCI.pdf>

Conducted online from 27 to 29 July 2021 on a sample of 1,044 people representative of the French population aged 18 and over, this survey uses the quota method on the variables of gender, age, socio-professional category and region of the interviewee. The survey shows that 4 out of 10 French people say they support the demonstrations against the introduction of a health pass, with an even higher proportion among people who are not yet fully vaccinated. What’s more, support comes mainly from people “who have not been vaccinated and have no intention of doing so” (92%), while only 19% of fully vaccinated people support the idea. Among the reasons given by those who support the movement, the main one (65%) is the refusal to have measures imposed on them, far ahead of concern at the idea of being vaccinated (33%).

ELABE, LesEchos, Institut Montaigne, Radio Classique ; *Les Français et le pass sanitaire*, ELABE, Levallois-Perret, 19 pages, August 2021. https://elabe.fr/wp-content/uploads/2021/08/20210804_les-echos-institut-montaigne-les-francais-et-le-pass-sanitaire.pdf

Conducted online on 2 and 3 August 2021 on a sample of 1,000 people representative of the French population aged 18 and over, this survey uses the quota method on the variables gender, age and profession of the interviewee after stratification by region and urban area category. The survey shows that 6 out of 10 French people are in favour of mandatory vaccination. In fact, 61% of French people are in favour of mandatory vaccination for the general public (adults and adolescents), including 27% who are very much in favour and 34% who are fairly much in favour. Conversely, 39% are opposed, with 21% very opposed and 18% somewhat opposed. Compared to the survey conducted a month ago, overall opinion on this subject is perfectly stable. Emmanuel Macron (82%, +6) and François Fillon (70%, -6) voters are overwhelmingly in favour of mandatory vaccination for these two populations. Those for Jean-Luc Mélenchon (55%, +10) and Marine Le Pen (55, +4%) are more divided. The over-50s (70%) and managers (70%) are the most likely to be in favour of mandatory vaccination, while the 25-34s (59%) and working-class people (49%) are the most opposed.

Ifop, *Le Journal du Dimanche; Les Français et la mobilisation contre le pass sanitaire*, Ifop, Paris, 60 pages, August 2021. <https://www.ifop.com/wp-content/uploads/2021/08/118374-Rapport-JDD.pdf>

Conducted online on 11 and 12 August 2021 on a sample of 1,006 people representative of the French population aged 18 and over, this survey uses the quota method on the variables gender, age and occupation of the respondent after stratification by region and urban area category. The survey reveals that 78% of respondents have had a first

dose of the COVID-19 vaccine. People aged 65 and over, retirees, public-sector employees, people with higher education qualifications, and supporters of the République en Marche are the profiles most represented in this ratio. In addition, 72% of respondents are in favour of vaccination, while 57% are in favour of the health pass. People aged 65 and over, retirees, managers and professionals, and those with a university degree are the most likely to be in favour of vaccination.

Those who are most in favour are those in higher education, those with higher qualifications and supporters of the République en Marche.

ELABE, BFMTV; *The French and the Covid-19 epidemic - Wave 43*, ELABE, Levallois-Perret, 44 pages, August 2021. https://elabe.fr/wpcontent/uploads/2021/08/20210823_elabe_bfmtv_-les-francais-et-lepidemie-de-covid-19-vague-43.pdf

Conducted online on 19 and 20 August 2021 on a sample of 1,002 people representative of the French population aged 18 and over, this survey uses the quota method on the variables gender, age and profession of the interviewee after stratification by region and conurbation category. 64% to 77% of French people are in favour of the health pass, depending on the type of location. The main reasons given for opposition to the health pass are the feeling that freedoms would be infringed (32% of those opposed in at least one situation) and the fact that it would virtually make vaccination mandatory (30%). Conversely, approval of the pass is motivated by a feeling that it makes “good sense” to limit the epidemic and protect the most vulnerable (71%). What’s more, 7 out of 10 French people put their health and that of others before their personal freedoms 73% (stable since 13 July) of French people believe that we sometimes have to accept a reduction in our freedoms, because the priority is to protect ourselves against illness. Conversely, 26% (-1) consider that nothing is more important than individual freedoms, even our health and that of others. It should be noted that it is the under-25s (51% health, 48% freedom), the working classes (59%/40%) and people identifying themselves as “yellow waistcoats” (42%/57%) who are the most divided. Among non-vaccinators, the trend is the complete opposite: 72% give priority to their individual freedoms.

Ipsos, The World Economic Forum; *Global attitudes on Covid-19 vaccine booster shots*, Ipsos, Paris, 11 pages, August 2021. <https://www.ipsos.com/sites/default/files/ct/news/documents/2021-09/Global-attitudes-about-COVID-19-Vaccine-Booster-Shots-Sept%202021.pdf>

This online survey is being conducted from 26 to 30 August 2021 among a total of 5,977 to 9,521 participants aged 18 to 74 in the United States, Canada and South Africa, and aged 16 to 74 in Australia, Brazil, China (Mainland), France, Germany, India, Italy, Japan, Mexico, South Korea, Spain and the United Kingdom. France is one of the countries least willing to receive a booster vaccination (61% agree), along with Russia (43% agree), unlike Mexico (85%). When it comes to the intention of fully vaccinated people to receive booster shots, France is in the middle range, with

70% of respondents in favour. However, in all 13 countries, a majority agreed that vaccines should provide the first doses to those who want them, before making boosters available. In this case, France has the lowest level of agreement, at 56%, in contrast to China and Japan, where the percentage is 83% for the booster dose.

Ifop, Fiducial, Sud Radio ; *Balises d’opinion #149 La confiance dans le gouvernement et le pass sanitaire*, Ifop, Paris, 18 pages, September 2021. <https://www.ifop.com/wp-content/uploads/2021/09/117825-Rapport-SR-N149.pdf>

Conducted between 31 August and 1er September 2021, this online survey of a sample of 1,019 participants representative of the French population aged 18 and over used a quota method based on the respondent’s gender, age and profession, after stratification by region and conurbation category. Respondents in favour of the health pass have more confidence in the government to carry out the coronavirus vaccination campaign (79%). Respondents aged 18-24, managers and professionals, those with more than a baccalaureate and supporters of the République en Marche! party have the most confidence in the government.

Harris Interactive, Challenges; *Baromètre d’intentions de vote à l’élection présidentielle de 2022 Vague 11*, Harris Interactive, Vincennes, 32 pages, September 2021. https://harris-interactive.fr/opinion_polls/barometre-intentions-de-vote-pour-lelection-presidentielle-de-2022-vague-11/

Conducted online from 27 to 30 August 2021, this survey of 1,328 people, representative of the French population aged 18 and over, including 1,083 people registered to vote, uses the quota method for the variables gender, age, socio-professional category, region and previous voting behaviour. This survey shows us 27% of those who have been fully vaccinated support the demonstrations against the introduction of a health pass, while 95% of those who have not been vaccinated and do not wish to be vaccinated support these demonstrations. It should be noted that 68% of respondents who have received a first dose of vaccine and 58% of those who have not been vaccinated but intend to do so support these demonstrations.

Odoxa, Backbone Consulting, le Figaro; *Les Français, la vaccination et le pass sanitaire*, Odoxa, Paris, 34 pages, September 2021. <https://www.odoxa.fr/sondage/le-pass-sanitaire-est-soutenu-et-les-anti-pass-rejections/>

Conducted from 1 to 2 September 2021, this online survey of a sample of 1,005 participants representative of the French population aged 18 and over used a quota method based on the respondent’s gender, age, profession and level of education, after stratification by region and conurbation category. At least one dose of the Covid-19 vaccine had been received by 85% of respondents. Of those respondents who did not wish to be vaccinated, 50% were concerned about the safety of the vaccine and would not receive it even if it were compulsory. Meanwhile, 25% remain reluctant but express their willingness to comply

if vaccination were made compulsory. With regard to the “anti-health pass” demonstration, 57% of those questioned do not support it and 67% are in favour of introducing a health pass.

ELABE, BMTV, L'Express, SFR ; *Les Français et les fêtes de fin d'année Poll*, ELABE, Levallois-Perret, 34 pages, December 2021. <https://elabe.fr/fetes-de-fin-dannee-2/>

Conducted from 14 to 15 December 2021, this online survey is based on a sample of 1,000 participants representative of the French population aged 18 and over. The quota method was used for the variables of the respondent's gender, age and profession, after stratification by region and urban area category. The survey shows that 20% of respondents refuse to spend the festive season with a non-vaccinated person. What's more, 68% of parents of children aged 5 to 11 are opposed to vaccination, even though 51% of French people are in favour of Covid-19 vaccination for children aged 5 to 11.

OpinionWay, Radio Classique ; *Les Français et la cinquième vague de l'épidémie Décembre 2021-Ecoscope*, OpinionWay, Paris, 32 pages, December 2021. <https://www.opinion-way.com/fr/sondage-d-opinion/sondages-publies/economie/ecoscope.html>

Conducted between 15 and 16 December 2021, this online survey of a sample of 1,013 participants representative of the French population aged 18 and over used a quota method based on gender, age, socio-professional category, conurbation category and region of residence. Respondents who are less worried about the coronavirus are also those who do not wish to be vaccinated against it, unlike those who are more worried.

2022

ELABE, BFMTV, L'Express, SFR ; *Les Français et l'épidémie de Covid 19: Vague 47*, ELABE, Levallois-Perret, 47 pages, January 2022. https://elabe.fr/wp-content/uploads/2022/01/vague-47_complet.pdf

Conducted between 4 and 5 January 2022, this online survey of a sample of 1,000 participants is representative of the French population aged 18 and over, and uses a quota method for the variables gender, age and profession of the interviewee after stratification by region and urban area category. The survey shows that 66% of French people believe that “if all French people were vaccinated, the situation in hospitals would be better”, while 57% of French people believe that “not being vaccinated is an individual choice that should be respected”, 53% do not wish to “make Covid-19 patients who are not vaccinated pay hospital fees”, and 42% believe that “if all French people were vaccinated, the epidemic would already be over”.

Odoxa, Backbone Consulting, le Figaro ; *Les Français et le pass vaccinal*, Odoxa, Paris, 26 pages, January 2022. <https://www.odoxa.fr/sondage/les-francais-sont-pour-le-passe-vaccinal-et-meme-pour-la-vaccination-obligatoire-pour-tous-a-condition-que-soit-vraiment-utile-sur-unplan-sanitaire/>

Carried out between 19 and 20 January 2022, this online survey of a sample of 1,005 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age, profession and level of education after stratification by region and conurbation category. 75% of those surveyed have already had their booster dose (3rd) or would like to do so. 62% of those surveyed are in favour of replacing the health pass with the vaccination pass, particularly those affiliated to the République en marche ! party (89%) as opposed to those affiliated to the France Insoumise party (32%). 61% of those questioned support the idea of mandatory vaccination for all French people, particularly among those affiliated to La République En Marche (88%), unlike those affiliated to the France Insoumise party (34%). In addition, 71% agree that the use of vaccine passes should be discontinued once the health situation improves.

Cluster 17, Marianne ; *Enquête intentions de vote : élection présidentielle 2022*, Cluster 17, Montpellier, 34 pages, February 2022. https://cluster17.com/wp-content/uploads/2022/02/notice_technique_S5.pdf

Conducted between 1 and 5 February 2022, this online survey of a sample of 2,367 participants, representative of the French population aged 18 and over, used a quota method based on gender, age, socio-professional category, type of municipality and region of residence. The survey shows that 48% of those questioned believe that vaccination should be compulsory. In particular, 82% of Macron-affiliated respondents agreed with this statement.

2023

Ifop, Polytechnique Insights; *Le rapport des Français à la science et au progrès scientifique*, Ifop, Paris, 25 pages, September 2022. <https://www.ifop.com/wp-content/uploads/2022/10/119191-Presentation.pdf>

Carried out between 16 and 19 August 2022, this online survey of a sample of 1,003 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and urban area category. The COVID-19 vaccine has a very high acceptance rate (63%). With regard to this vaccine, 63% of those questioned agreed with its use in as a scientific product or technology.

Toluna, Harris Interactive, *La France Insoumise; Questions d'actualité dans le cadre de la niche parlementaire 2022*, Toluna, Vincennes, 17 pages, November 2022. https://harris-interactive.fr/opinion_polls/questions-dactualite-dans-le-cadre-de-la-niche-parlementaire-2022/

Conducted online from 10 to 14 November 2022 on a sample of 1,059 people representative of the French population aged 18 and over, this survey uses the quota method on the variables of gender, age, socio-professional category and region. The survey shows that more than 7 out of 10 French people say they are in favour of reinstating firefighters and carers who have not been vaccinated against COVID-19. Respondents close to La France Insoumise, the Socialist Party and the Rassemblement National, as well as those with no party affiliation, were particularly in favour.

Ifop, Fiducial, Sud Radio; *Balise d'opinion #205 L'état d'esprit des Français : optimisme, situation du pays et inquiétude face au Covid*, Ifop, Paris, 21 pages, December 2022. <https://www.ifop.com/wp-content/uploads/2022/12/118724-Rapport-SR-N205.pdf>

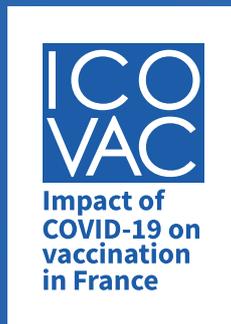
Conducted between 13 and 14 December 2022, this online survey of a sample of 1,000 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. The proportion of respondents worried about the economic consequences of the coronavirus crisis, the development of new variants and the coronavirus for themselves and their families has fallen since the start of the vaccination campaign.

Odoxa, Leem ; *Observatoire sociétal des entreprises du médicament décembre 2022*, Odoxa, Paris, 24 pages, February 2023. <https://www.leem.org/publication/observatoire-societal-des-entreprises-du-medicament-2022-odoxa-pour-leem>

Conducted online from 12 to 27 December 2022 on a sample of 1,005 people representative of the French population aged 18 and over, this survey uses the quota method on the variables gender, age, level of education and profession of the interviewee after stratification by region and urban area category. The survey shows that confidence in medicines and vaccines is still very high, and that three-quarters of French people would now be vaccinated. In fact, more than 8 out of 10 French people (81%) and more than 9 out of 10 elected representatives and healthcare professionals (94% in both cases) say they trust medicines, and three-quarters of French people (73%) and 9 out of 10 elected representatives and healthcare professionals (89% in both cases) trust vaccines. Three-quarters of French people would vaccinate if their doctor or the health authorities recommended it. The main reasons given by those who are reluctant to be vaccinated are the lack of experience with vaccines and the fear of repeated vaccinations ("cumulative effect").

Ifop, Le journal du Dimanche; *Le regard des Français sur la réintégration des soignants non vaccinés*, Ifop, Paris, 9 pages, May 2023. <https://www.ifop.com/wp-content/uploads/2023/05/120054-Rapport.pdf>

Conducted between 9 and 10 May 2023, this online survey of a sample of 1,004 participants representative of the French population aged 18 and over used a quota method based on the respondent's gender, age and profession, after stratification by region and conurbation category. 79% of respondents were in favour of the Government's plan to reinstate unvaccinated healthcare workers to their jobs from 14 May. Among these respondents, women (80% in favour), those aged 35 to 49 (87%), employees (88%), the unemployed (86%), those with a baccalauréat only (81%), those on the lowest incomes (87%), those living in rural areas (85%) and individuals affiliated to the France Insoumise or Reconquête parties (91%) are the most favourable profiles.



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