

COVID-19, VACCINE HESITANCY & ROUTINE IMMUNISATION

INNOVATING VACCINE DELIVERY FOR YOUTH



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TABLE OF CONTENTS



Abstract & Executive Summary	8
Section 1: Literature Review	9
1.1 Introduction & Background	9
1.2 Drops in Routine Immunisation.....	9
1.3 Covid-19 & Vaccine Hesitancy.....	10
1.4 Innovating Vaccine Delivery to Boost Access.....	12
1.5 The Carrot or the Stick? Incentives & Disincentives to Vaccinate.....	12
1.6 HPV Vaccination & Cancer Prevention.....	14
1.7 EU Digital COVID Certificate (EUDCC).....	17
1.8 Making the Most of Digital Health Tools.....	17
1.9 Concluding Remarks.....	18
Section 2: Research Methods	20
2.1 Research Objectives.....	20
2.2 Quantitative Insights: Survey.....	20
2.3 Qualitative Insights: Focus Group Sessions.....	20
Section 3: Results & Findings	21
3.1 Covid-19 Vaccination.....	17
• Incentives & Disincentives to Vaccinate.....	26
3.2 Impact on Routine Immunisation.....	28
• Information on Vaccines.....	31
• EU Digital COVID Certificate.....	37
Section 4: Focus Group Discussions – Discourse Analysis	39
Section 5: Discussion & Recommendations	43
References.....	47



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ABSTRACT & EXECUTIVE SUMMARY

Despite progress being made in expanding Covid-19 vaccination across Europe, the ongoing disruption caused by the pandemic to routine immunisation for Vaccine Preventable Diseases (VPDs) poses significant healthcare risks, and a higher chance of disease outbreak. Even before the pandemic this was a serious concern, with outbreaks of measles being seen in Europe between 2017 and 2019. This increased risk is based on growing 'pockets' of vaccine hesitancy, the spread of new variants, and the need for health authorities and policymakers to direct the lessons learnt on pandemic preparedness in the future, and the fundamental role of vaccination to protect society. With new preventative measures being introduced across Europe and efforts being ramped up to boost vaccine uptake, this report showcases the youth perspective on Covid-19 vaccination, and the wider impacts of the pandemic. It does this by analysing:

- The youth view and experience of receiving Covid-19 vaccines, knowledge levels, barriers to access, and likelihood to receive booster shots.
- Strategies to boost uptake including incentives and disincentives to vaccinate.
- Trust levels in information sources and preferences for vaccine delivery methods.
- Perspectives on digital health tools, e-vaccination cards and digital Covid passes.
- HPV and Meningitis vaccination status, and knowledge on routine immunisation.

The insights were gained through a survey of 1,200 young people between the ages of 16 and 35 in France, Germany, and Italy. Three focus groups were also held with youth between 16 and 24 in the same countries, conducted online. Contributing to the growing insights on the youth view of vaccination in general, and their experience

of the Covid-19 pandemic – it reiterates the need to continue analysing the real-life situations of youth to foster evidence-based policymaking.

Based on the findings uncovered, the report recommends to:

Increase knowledge exchange & empower healthcare professionals (HCPs) to promote routine immunisation, the Covid-19 vaccine and booster shots.

Provide clear information targeted to those with specific concerns on the safety and efficacy of vaccines, or the perceived speed in which the Covid-19 vaccine has been developed despite the emergency approval process - which did not result in any lowering of quality or safety standards.

Continue to innovate delivery methods & leverage best practices in reaching certain groups and sections of society, linked to preferences in vaccine delivery format.

Incentivise vaccine uptake where possible by targeting on the fence or undecided people and groups, or those who are waiting to be vaccinated.

Reinforce understanding on the negative impact of the pandemic on routine immunisation and the need for young people to be vaccinated against vaccine preventable diseases (VPDs) and HPV.

Facilitate individual health ownership & health data portability by extending digital health tools and e-vaccination records for routine immunisation - and exploring the set-up of a common EU vaccination e-card.

SECTION 1: LITERATURE REVIEW

1.1 Introduction & Background

As the Covid-19 vaccine rollout continues across the globe, and progress is made in reaching the targets set for immunisation levels, issues around vaccine hesitancy, the spread of misinformation, and the best ways to boost and facilitate access are taking centre stage. Barriers to vaccine uptake for both the Covid-19 vaccine and wider immunisation programmes are a key challenge for health authorities – and run the risk of prolonging the wider effects of the pandemic.¹ Despite in July 2021 it being stated that the EU had reached its vaccination target, with 70% of adults having received one dose and 57% being fully covered – the Delta variant coupled with declining vaccine uptake meant we ran the risk of the pandemic slipping out of control.² This has become much more of a concern since the first cases of the Omicron variant were detected. Adding to the uncertainties of the pandemic, this is the newest threat to recovery and has the potential to reverse hard won gains, with new measures being introduced to stop its spread globally.

The indirect damage and impact of the pandemic is well known, with many aspects of daily life grinding to a halt, school closures and lockdowns being enforced, and social isolation leading to mental health and well-being concerns. What is key from a contemporary perspective is how the progress made to date can be built on. More specifically, how health authorities, healthcare professionals, policymakers, and the wider stakeholders involved can take the lessons learnt from the pandemic, boost resilience, ensure equitable access to vaccination, and continue to innovate healthcare delivery and vaccine administration.

The following report investigates the youth experience of the pandemic. It analyses their status and views on the Covid-19 vaccination effort and its impact on immunisation in general, knowledge

levels on the role of vaccination, and perspectives on key policies and response measures introduced to build back better. This includes a focus on strategies to boost uptake, innovation in delivery methods, information sources, and digital Covid-19 certificates.

1.2 Drops in Routine Immunisation

While vaccine hesitancy is not something new, the interruptions to routine immunisation programmes seen at the start and throughout the pandemic certainly is. The number of people missing their scheduled vaccines at the start of lockdown and confinement posed a huge problem to health professionals and national health systems across Europe. After just eight weeks of lockdown in France alone, it was estimated that 123,000 children failed to be vaccinated for measles, mumps, and rubella (MMR).³ Thousands of infants failed to be vaccinated against illnesses like tetanus, polio, and meningitis. Moreover, during the first few months of the pandemic routine vaccinations were interrupted in 22% of infants across the entire WHO European Region.⁴ The HPV vaccination coverage decreased in many countries in 2020 – with global coverage including the final dose of HPV now being estimated at 13%. This is a proportionally large reduction from 15% in 2019.⁵

In Italy, a survey saw one in three parents postponing their children's vaccinations during the first months of the pandemic, with the main group being parents of children between 0 and 2 years of age. This trend was seen again in another survey in Italy, with 98% of primary care paediatricians seeing a decline in patient visits.⁶ In Spain, MMR vaccination coverage decreased by 20% during the first three weeks, while in France, deliveries of the MMR and HPV vaccine dropped more than half for both (-50.8% and 78%).⁷

¹ Srinivasan, S and Robinson, D. (2021). Centering equity in vaccine delivery: How digital technologies can combat vaccine hesitancy and misinformation among women and marginalized communities. World Bank.

² European Commission. (2021). Statement by President von der Leyen on a new milestone in the EU Vaccines strategy. Statement, 27th July 2021, Brussels.

³ York, J. (2020). Urgent call to catch up on vaccinations in France post-Covid. 17 June 2020.

⁴ Chiappini, E. et.al. (2020). Impact of the COVID-19 pandemic on routine childhood vaccinations and challenges ahead: A narrative review.

⁵ WHO. (2021). Immunization coverage. World Health Organisation. 15 July 2021.

⁶ Chiappini, E. et.al. (2020).

⁷ Lassi, Z.S et.al. (2021). The Impact of the COVID-19 Pandemic on Immunization Campaigns and Programs: A Systematic Review. Int.J.Environ.Res.Public Health 2021.

Contributing Factors

Several factors were key in this decline. Even when services were offered and available, people were worried about being exposed to the virus at health care facilities and wanted to avoid being in contact with other people. Worries about travel to and from appointments were also a significant concern. A lack of information on the safety of vaccination centres was therefore key. In Italy, 42% of cases were due to vaccination centres postponing, while over 50% of vaccinating physicians had not received new safety measure guidelines, despite having been written by the WHO and the Italian Ministry of Health.⁸

Preventing Disruptions: The Dutch & UK Examples

Despite a dip in vaccination coverage at the onset of the pandemic, the Netherlands was able to maintain a relatively high coverage rate for nearly all vaccines throughout 2020. Several key initiatives helped achieve this including group and mass vaccination events being converted into personal appointments, the rescheduling of missed vaccinations together (e.g., HPV & Meningitis 'MenACWY'), and both a media focus and flyers reminding people routine immunisation was safe

during the pandemic.⁹ Along similar lines, just after the national lockdown in March 2020 the number of MMR vaccinations delivered decreased by 19.8% across England. This recovered over the following months with several innovations being key. These adaptations to routine immunisation services included spaced out appointments, one parent only rules, and pre-calling patients before their immunisation appointments. Innovative models of delivery included immunisations being delivered outside, drive-through or walk-through models, delivery at separate sites, and collaborations with primary care networks (PCNs).¹⁰

1.3 Covid-19 & Vaccine Hesitancy

Vaccine hesitancy being either a slight hesitancy to an outright refusal to vaccinate is not a new phenomenon, and as a result is not unique to Covid-19 or the current situation we find ourselves in. Hesitancy was a growing challenge before the onset of the pandemic, and even for well-established immunisations which have a proven track record of both safety and efficacy.¹¹ The measles and polio vaccines are good examples of this. Outbreaks of measles in Europe linked with under-vaccinated or non-vaccinated groups saw an estimated 60,000

⁸ Chiappini, E. et.al. (2020); Lassi, Z.S et.al. (2021).

⁹ WHO. (2021). Varied impact of COVID-19 on routine immunisation in the European Region. 16-07-2021.

¹⁰ Skirrow, H et.al. (2021). Delivering routine immunisations in London during the COVID-19 pandemic: lessons for future vaccine delivery. A mixed-methods study. *BJGP Open* 2021.

¹¹ Dabla-Norris, E et. al. (2021). Who Doesn't Want to be Vaccinated? Determinants of Vaccine Hesitancy During COVID-19. IMF Working Paper. 2021 International Monetary Fund.



cases being reported between 2016 and 2019 leading to 84 deaths – to illustrate the point.¹² The Covid-19 vaccine effort represents one more example of the need to overcome pockets of hesitancy, and the most contemporary one in terms of its impact, scope, and wider implications. Its impact on a whole host of wider social, economic, and political issues further adds to its importance.

Low vaccine uptake can have a host of drivers and causes. They can range from concerns on safety, efficacy, and potential side effects, to more structural factors including convenience, access, and a person's background and situation – with social exclusion and marginalised communities sometimes harbouring higher levels of mistrust towards authorities.¹³

Vaccine Intent

Like for existing vaccines, concerns about safety and efficacy have the largest direct impact on vaccination intent. Trust in government also plays a key role, with survey results showing that people who strongly believe the government will provide an effective vaccine almost twice as likely to get vaccinated. Concerns on side-effects are another key factor, with people being 30% less likely if they have worries or concerns.¹⁴ Clear differences can therefore be seen in people's intent to vaccinate against Covid-19, with hesitancy levels changing between and within countries, and over time. Demographic factors are also important, with older people being more willing to vaccinate when compared to their younger counterparts, and women being less likely than men. This gender gap has been seen across all age-groups but is strongest among working-age women. This could be driven by gender-specific concerns on the side effects of the vaccine, and differences in access to information.¹⁵

Practical Barriers

The ability to reach and access vaccination centres is crucial. Convenience therefore plays a huge role in vaccine uptake. Making sure systems are in

place to make access as easy and convenient as possible, including easy to reach transport, flexible times, and reduced or zero costs can boost uptake significantly.

Strategies to Combat Hesitancy

With trust in government, concerns on safety and efficacy, and worries over side-effects being key determinants of hesitancy, public health policies and communication play a key role in combatting hesitancy. Policies that increase trust by tackling concerns about side-effects have a dramatic impact on hesitancy and need to be prioritised moving forward. This is based on inconsistent risk messages from experts and elected officials resulting in lower vaccine take-up. As a result, consistent and accurate information for the public aimed at addressing concerns and worries is crucial. This also has a knock-on effect where a person's choice to vaccinate because of this information can boost peer-to-peer exchange and encourage wider vaccine uptake. Updating this targeted information on efficacy, roll-out, and on current and future plans can continue this positive trend. Hesitancy often clusters geographically, and across networks and groups – reiterating the need to target peer-to-peer exchange, and to continue to monitor flare-ups and pockets of hesitancy that challenge herd immunity.¹⁶

Effective communication means understanding audiences, media consumption, language, and barriers to information. Ethnic minority populations are often more hesitant, while resistant groups often use social media as information sources, based on higher levels of distrust in government agencies, news sources, and health professionals. Strategies targeting these groups specifically are important, using dialogue, community engagement, religious leaders, and other outlets for balanced and transparent information sharing.¹⁷

Efforts to boost critical thinking and challenge misinformation can reduce uncertainty. 'Pre-bunking' or 'social inoculation' where people are exposed to small amounts of misinformation and

¹² ECDC. (2019). Measles. In: Annual Epidemiological Report for 2019. Stockholm: ECDC; 2020

¹³ Figueiredo. A et.al. (2020). Mapping global trends in vaccine confidence and investigating barriers to vaccine uptake: a large-scale retrospective temporal modelling study. The Lancet, Volume 396, Issue 10255; The Royal Society. (2020). COVID-19 vaccine deployment: Behaviour, ethics, misinformation and policy strategies. 21 October 2020.

¹⁴ Dabla-Norris. E et. al. (2021).

¹⁵ Dabla-Norris. E et. al. (2021).

¹⁶ Ibid. (2021).

¹⁷ OECD. (2021). Enhancing public trust in COVID-19 vaccination: The role of governments. 10 May 2020.

then explained the flawed and incorrect reasoning, have been seen to help hesitant people overcome their fears of the Covid-19 vaccine. Similarly, games like “Go Viral!” have been introduced exposing people to and educating them on the techniques used for spreading misinformation on social media.¹⁸

1.4 Innovating Vaccine Delivery to Boost Access

When people were originally thinking about taking the Covid-19 vaccine, their first thought was likely to be long lines at health care centres or vaccine clinics. Fortunately, innovative ideas and solutions have been put in place to reach those most in need, and to make the process as easy and convenient as possible.

Drive-Through Clinics

Drive-through centres for vaccination efforts are a key tool in tackling some of the barriers to vaccine adoption and distribution. A contributing factor to low uptake is apathy or complacency, lack of access and information, or a failure to reach certain groups and achieve equitable uptake. Making the most of innovations in the drive-through format can tackle these issues, boost equitable access, and facilitate access to underserved patient populations, and less populated areas and neighbourhoods.¹⁹ Making sure they are strategically placed for easy access is another key strategy.

Walk-In Clinics, Events & ‘Jabbathons’

Northern Ireland’s vaccination programme took major steps to boost uptake, with one of the country’s best known music venues hosting special walk-in jab clinics. Started on the 10th of September 2021, first doses were offered to anyone aged 16 and over, with no appointment needed. In another push to vaccinate more students at campuses, from mid-September the ‘Jabbathon’ vaccine take-up initiative for students was introduced, with over 60 walk-in clinics across 30 university and Further Education colleges.²⁰ Along similar lines, sports

venues in the UK opened their doors to mass vaccination efforts, with football clubs in London offering their services. One dubbed ‘Gunner Get Jabbed’ was offering free stadium tours to everyone who got vaccinated at Arsenal football club. For those preferring smaller events, Mosques across London also offered vaccine appointments.

Local health providers in Cagliari, Italy hosted ‘Open Nights’ for young people with music and events, and vaccines on offer. No bookings were needed, and the vaccines were available for young people from 12 to 30 years old. In Belgium, large chain stores and shopping centres have been used to try and reach the unreachable, with stores like IKEA, Primark, Action and Carrefour offering a single dose of the Johnson & Johnson for full protection.²¹ Belgium also offered free return journeys to vaccine sites for people in Brussels, with easy to access information on travel routes, and instructions on how to access the ‘Event Pass’.

1.5 The Carrot or the Stick? Incentives & Disincentives to Vaccinate

With hesitancy ranging from those ‘taking their time’ or ‘waiting it out’ to the extremely uncommitted and unwilling to budge – coming up with the right methods to boost uptake can be difficult. This is where incentives or disincentives can play a role. Nudging people to vaccinate can include cash or payment, help and assistance in travel and access, or some other type of benefit or ‘reward’ to the person being vaccinated. Disincentives on the other hand are the inability to take part in activities or some part of daily life due to not being vaccinated.

Which Strategy is Best?

Recent research in Germany investigated the effectiveness of different strategies to increase uptake. These included opening activities and some aspects of social life if vaccinated, financial incentives and rewards to vaccinate, and vaccination at local doctors. All three strategies can increase vaccination rates, however each one had a different effect based on the age of the person in question.

¹⁸ OECD. (2021). Enhancing public trust in COVID-19 vaccination: The role of governments; The Royal Society. (2020). COVID-19 vaccine deployment: Behaviour, ethics, misinformation and policy strategies.

¹⁹ Kim, E. (2020). Repurposing COVID-19 Drive-Through Testing Centers for Mass Vaccination. Journal of Multidisciplinary Healthcare. Dovepress.

²⁰ Department of Health. (2021). Grab a Jab at the Limelight. 09 September 2021.

²¹ Walker, L. (2020). Brussels to vaccinate residents in Primark, Action and IKEA. Tuesday, 24 August 2021; Moore, F. (2021). DJs and pop-ups: Cities try to boost jab uptake. Euro Cities, 27 August 2021.

Older people were more attracted to the ease of access to vaccinations, while younger groups were keen to enjoy the return to normality granted to vaccinated citizens.²² Vaccination at pharmacies is another key strategy, increasing ease of access among communities. This was particularly effective in France. Vaccination at local doctors was also seen to raise trust levels amongst the population, having a knock-on effect on uptake.

Impact on Hesitancy

While each strategy has the potential to increase uptake, the impact varies based on the person's history of vaccine hesitancy. Hesitant people are less likely to respond to any of the strategies, but undecided or 'on the fence' people can be reached by each of the options, with the return to normality and ability to take part in certain aspects of social life the most impactful. This highlights the point that the best strategy may be to focus on the undecided population, who are more open to changing their behaviour. Stricter strategies are being discussed, with more heavy-handed policies and disincentives aimed at tackling the staunchly hesitant population. Legally binding restrictions including the need to vaccinate for work, school, day care, or to take part in daily activities pose both benefits and challenges.²³

Strategies in Europe

Across Europe a variety of nudges, incentives, and disincentives have been introduced to tackle the

problem. These have evolved during the pandemic, shifting from instructional to more concrete and mandatory measures. France imposed mandatory vaccination for health workers or suspension without pay, and the extension of Digital Covid Certificate requirements for minors. Italy also ramped up its efforts to control the virus by requiring health professionals to show proof of vaccination. It was one of the first countries to do so. This was extended to teachers and administrative school staff, and the police, military and rescue workers which came into force on December 15th.²⁴

As the new Omicron variant was detected and Europe again became the epicentre of the pandemic, many Member States considered new lockdowns before the holiday season and imposing stricter rules on the need to be vaccinated. Austria imposed lockdowns on the unvaccinated which were then extended to the wider public, with speculation surrounding a vaccine mandate law for anyone 14 years old and above.²⁵ This is to come into force from February 1st, 2022. Germany imposed mandates on medical staff by updating the infection protection law – to be decided by the end of the year if it would be extended to the wider public.²⁶ This was subsequently approved, with people working in care facilities and hospitals needing to be vaccinated before March 15th, 2022.

²² Klüver, H et.al. (2021). What Incentives Can Spur COVID-19 Vaccination Uptake? OSFPrePrints.

²³ De New, P.J et al. (2021). Our survey results show incentives aren't enough to reach a 80% vaccination rate. August 10, 2021. The Conversation.

²⁴ Chadwick, L. (2021). COVID in Europe: Which countries are moving towards mandatory vaccination? Euronews. 07/12/2021.

²⁵ The Local. (2021). €600 fines: What's the latest on Austria's compulsory vaccine plan? The Local. 6 December 2021.

²⁶ DW. (2021). Germany approves COVID vaccine mandate for medical staff. News. 10.12.2021.



1.6 HPV Vaccination & Cancer Prevention

Drops in immunisation have had a wider negative impact on global cancer prevention and control efforts, with disruptions potentially slowing down progress made in recent years towards eliminating cervical cancer. This impact can be both early and prolonged. Catch-up vaccination of adolescents is therefore crucial in averting the potential negative impact down the line.²⁷ The focus of resources on vaccinating against Covid-19 is also a concern among many people in relation to the derailing of HPV coverage plans in low- and middle-income countries (LMICs) with underfunded cancer-control programs.

However, the global response to the pandemic through innovations and adaptations at the health-system level can be applied to ramp-up capacities, improve access, and disseminate information on HPV and cervical-cancer screening.²⁸ The deployment of telemedicine is one example here with video, telephone, and software for virtual tumour boards showing the impact of digital solutions. This has helped increase the number of cases managed and ensure the continuity of care and research, with it being noted that 'We've had five years of innovation in five weeks'.²⁹ Wider innovative solutions have included novel settings for HPV vaccination including drive-through centres like mentioned above, home diagnostic and screening kits, and the use of community pharmacies and general practitioners as local monitoring hubs to reduce patient travel time and risk. Leveraging these innovations is now a priority, with the COVID-19 and Cancer Global Modelling Consortium bringing together public-health and modelling experts to evaluate emerging strategies. This will be used to support decision-making in cancer control, and to ensure the recovery of implementation efforts toward the 2030 targets for the elimination of cervical cancer.³⁰ A further focal point will be the effective realisation of Europe's Beating Cancer

Plan. Adopted on the 3rd of February 2021, this aims to reduce the cancer burden for patients, their families, and health systems, address cancer related inequalities across Europe.

Among other concrete targets, the plans aim at ensuring a 90% HPV vaccination uptake target for girls and increased uptake for boys by 2030.³¹ The key looking forward will be to ensure the benefits of these strategies are taken full advantage of, while the potential to exacerbate inequalities amongst the most marginalised is avoided.

Combatting the shift of vaccine hesitancy from Covid-19 to wider vaccine uptake is another key issue. This would have negative consequences for what was already a problem with HPV vaccination coverage. Numerous studies noted a perceived lack of information on the vaccine, a fear of the side effects, and the need for improved communication. Health Care Workers (HCWs) including GPs, paediatricians, and school nurses were highlighted as key influencers for parents and adolescents, with the need to address hesitancy among medical professionals as a fundamental step.³²

The Role of Healthcare Providers (HCPs).

HCP behaviour and communications have a huge influence on patient reception to and uptake of vaccines. Moreover, their attitudes towards certain vaccines had a direct impact on their likelihood to recommend or not, with differences being seen across specialities. Paediatricians for example with positive views on the meningococcal B vaccine were five times more likely to recommend it. HCPs with a stronger record of recommending vaccines were also much more likely to believe in the efficacy and safety of vaccines, and to view administering vaccination and advising patients as their responsibility.³³ Multiple studies highlight a lack of adequate information among HCPs on vaccines and their use, with the HPV vaccine standing out. 90% of Italian paediatricians indicated a lack of knowledge among their peers, while only 38% of

²⁷ Daniels, V. Saxena, K. Roberts, C et.al. (2021). Impact of reduced human papillomavirus vaccination coverage rates due to COVID-19 in the United States: A model based analysis. *Vaccine*. 2012 May 12; 39(20): 2731-2735.

²⁸ Ophira, G et.al. (2021). Eliminating cervical cancer in the COVID-19 era. *Nature Cancer*, Vol 2, February 2021, 133-134.

²⁹ European Cancer Organisation. (2020). The Impact of COVID-19 on Cancer in Europe: The 7-Point Plan to Address the urgency and Build Back Better. November 2020.

³⁰ Ophira, G et.al. (2021). Eliminating cervical cancer in the COVID-19 era

³¹ European Commission. (2021). Europe's Beating Cancer Plan. About this initiative; European Cancer Organisation. (2022). HPV Action Network.

³² Karafillakis et.al. (2019). HPV vaccination in a context of public mistrust and uncertainty: a systematic literature review of determinants of HPV vaccine hesitancy in Europe. *Human Vaccines & Immunotherapeutics*, 2019, VOL. 15, NOS. 7-8, 1615-1627.

³³ Lin, C et.al. (2021). Healthcare Provider's Vaccine Perceptions, Hesitancy, and Recommendation to Patients: A Systematic Review. *Vaccines* 2021, 9, 713

UK physicians self-reported as well informed.³⁴ Those who saw HPV as a public safety issue or had higher knowledge levels, discussed sexual health with patients, or who had patients accompanied by a maternal figure were more likely to recommend the vaccine.³⁵

Receiving encouraging information on vaccines from trustworthy medical institutions is therefore important for HCPs also. It helps build trust and confidence, and as a result their likelihood to recommend to patients. HCPs are key stakeholders who remain the most trustworthy sources of information for parents. Ensuring they are up to date, and able to pass on the most relevant information is therefore key.

³⁴ Hofstetter, A.M et.al. (2017). Human Papillomavirus Vaccination of Adolescents with Chronic Medical Conditions: A National Survey of Paediatric Subspecialists. *J. Pediatr. Adolesc. Gynecol.* 2017, 30, 88-95.

³⁵ Lin, C et.al. (2021).





1.7 EU Digital COVID Certificate (EUDCC)

Since the first Covid-19 vaccines were approved, the idea of 'covid passports', 'vaccine passports' or 'immunity certificates' has been a hot topic for academics, politicians, health professionals, and the public alike. Israel and Denmark were the first to introduce versions of the certificate, with their 'Green Pass' and 'coronapas' versions rolled out in February and April 2021 respectively.³⁶ Denmark was the first country to remove the mandatory use of the certificate based on the high vaccination rate across the country, and the first to lift all pandemic related restrictions including the use of masks indoors and outdoors.

The application and use of the EU Digital COVID Certificate in the national context has been changing on a rolling basis across Europe, ranging from less strict to the need to show the pass to enter cinemas, museums, restaurants, bars, and shops.³⁷ As a short-term measure introduced in response to the pandemic, it was originally planned to last for 12 months - from the 1st of July 2021 to the 30th of June 2022. It will likely be extended to the 30th of June 2023 based on new variants and the continued spread of infections.³⁸ The EU Digital Covid-19 certificate has set a precedent for effective interoperable health data systems between EU Member States and its potential use in the future to streamline cross-border care.³⁹

Looking forward it will be key to ensure the lessons learnt are used to empower individual health ownership, and to make sure digital health tools and vaccination data foster improved health outcomes for all.

1.8 Making the Most of Digital Health Tools

Much like for the swift introduction of innovative solutions for HPV vaccine delivery and cervical

cancer screening, the pandemic abruptly changed motivation levels to make use of digital health tools. All of a sudden digital tools went from an interesting idea with potential down the line - to an immediate necessity.⁴⁰ Changes were made at the individual and organisational levels, barriers to access were removed, and tools were deployed to combat misinformation, for monitoring and surveillance of cases and new variants, to help with the provision of health services, and to facilitate the vaccine rollout programme. In a specific effort to tackle hesitancy and the rise of disinformation, digital tools have been used by governments, civil society, and healthcare providers to help build trust, boost outreach, and promote post-vaccination follow-up.⁴¹ Through the EU's Code of Practice on Disinformation, further efforts have been placed on promoting accurate and authoritative sources of information, and in launching new tools to promote multilingual information on the pandemic.⁴²

Covid-19 Vaccination Data

The introduction of monitoring systems to measure the progress of vaccination campaigns is another example of digital tools and innovation. Measuring vaccine uptake and identifying at risk populations is key to monitor equitable coverage. It is also important in identifying vaccine availability, demand, in avoiding waste, and for recommender systems. Innovations in Health Management Information Systems (HMIS) and the availability of demographically disaggregated vaccination data has therefore been crucial in trying to reach those most in need or likely to be left behind.⁴³ Through ECDC coordination with EU/EAA countries and the European Commission, the monitoring of vaccine rollout, deployment strategies, and continued dialogue and technical exchanges between countries through the EU/EAA Collaboration of National Immunisation Technical Advisory Groups (NITAGS) has been possible.⁴⁴ This has harmonised monitoring systems for Covid-19 vaccination across the EU.

³⁶ Hodgkin, R et.al. (2021). Covid passports. Institute for Government. Tuesday, July 13, 2021.

³⁷ Henley, J. (2021). Covid passports: what are European countries doing? The Guardian, 13 September, 2021.

³⁸ European Commission. (2022). The EU Digital Certificate, vaccinations and travel restrictions. Frequently asked questions on the EU Digital COVID Certificate, vaccinations and travel restrictions.

³⁹ Gstrein, J.O. (2021). The EU Digital COVID Certificate: A Preliminary Data Protection Impact Assessment. European Journal of Risk Regulation, 12 (2021), pp 370-381.

⁴⁰ Fahy, N, Williams, A.G. (2021). Use of digital health tools in Europe. Before, during and after COVID-19. Policy Brief 42. Health Systems and Policy Analysis.

⁴¹ Srinivasan, S and Robinson, D. (2021).

⁴² European Commission. (2021). Digital solutions during the pandemic. Innovative solutions.

⁴³ WHO. (2021). Monitoring COVID-19 vaccination. Considerations for the collection and use of vaccination data. Interim Guidance, 3 March 2021. World Health Organisation and UNICEF.

⁴⁴ ECDC. (2022). COVID-19 vaccination. European Centre for Disease Prevention and Control.

Lack of Clear Data

The lack of performing Immunization Information Systems (IIS) in many Member States makes it difficult to have timely and accurate news on the vaccination uptake for different vaccines. Even worse, some countries have no IIS at all making it impossible to assess the effectiveness of vaccination campaigns. This lack of data and IIS disparities between EU countries also hinder the possibility to have accurate updated EU-wide data on vaccination coverage rates.

Digital Health Systems

Israel stood out for its successful early vaccination program based on its developed digital health network and electronic medical record system. Covering all citizens, it can be accessed by all Health Management Organisations (HMOs) in the country – helping the implementation of a national health operation, and efficient cooperation between government, hospitals, and care providers.⁴⁵ Digital health systems also played a key role in the British vaccination effort. Tools were used to ensure every citizen could reach the nearest centre with a 10-mile distance, vaccine supply databases were created, and up-to-date vaccination progress reports for monitoring purposes were linked with the National Health Service (NHS).⁴⁶

Expanding Digital Health

If health systems are to build on the innovations in place, strategies are needed to ensure their continued access and use. Strategic investments and targeted research can ensure the progress made is extended beyond the pandemic, that gaps in evidence on digital tool efficacy and impact are overcome, and that their benefits are extended to all.⁴⁷ A key focus of this will need to be on more vulnerable communities to ensure the digital divide does not create further healthcare related inequalities. The creation of a common European Health Data Space will be a step in the right direction, allowing Member States and the

European Commission to facilitate the sharing of health data for public health, treatment, research, and innovation. This is envisaged to promote better exchange of and access to different types of data to support healthcare delivery, and to foster better health research and policy making.⁴⁸

1.9 Concluding Remarks

Playing catch-up

Now is the time to get back on track, to ensure those who missed out on vaccines because of the pandemic benefit from catch-up programmes, and that those most in need are not left behind. It is also time to take the lessons learnt and apply them to vaccine administration and delivery looking to the future, to leverage the innovations and infrastructures introduced, and ensure routine immunisation programmes emerge stronger from the pandemic.⁴⁹ With the identification of new Covid variants, it is now also time to ensure rapid and effective vaccination both in Europe and across the globe to avoid repeated outbreaks.

⁴⁵ Iftekhhar, N, E et al. (2021). A look into the future of the COVID-19 pandemic in Europe: an expert consultation. The Lancet Regional Health – Europe 8 (2021) 100185.

⁴⁶ Iftekhhar, N, E et al. (2021).

⁴⁷ Fahy, N, Williams, A.G. (2021). Use of digital health tools in Europe. Before, during and after COVID-19

⁴⁸ European Commission. (2022). European Health Data Space. Public Health.

⁴⁹ Quaggia, D. (2021). Can we Protect Routine Immunisation in a Time of Covid-19? Vaccines Today.

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SECTION 2: RESEARCH METHODS

2.1 Research Objectives

Following a review of the key literature on the impact of Covid-19 on routine immunisation, the role and impact of technological and vaccine delivery innovation on vaccine uptake, the drivers of vaccine hesitancy, and the strategies put in place to build back better - the project focussed on the following key questions:

1. What was the youth experience of getting vaccinated against Covid-19 during the pandemic? And what were the key barriers and hindrance factors faced?
2. What vaccine delivery formats and methods do young people prefer, and what is their likelihood to take Covid-19 booster shots in the future?
3. What information levels do youth have on vaccination, and what are their trusted sources, views on the best strategies to increase uptake, and opinions on the role and impact of incentives and disincentives?
4. What do young people think about digital health tools, the EU Digital COVID Certificate, and the potential to extend digital records for other vaccines?

2.2 Quantitative Insights: Survey

The data collection exercise was conducted between November and December 2021. An online survey was distributed through local panels targeting young people between the ages of 16 and 35 across France, Germany, and Italy. The survey reached an audience of 400 young people in each target country for a total of 1,200 respondents. Quotas were employed based on age, gender, socio-economic status (SES) and education, and weights were applied to ensure a representative sample.

Certain questions were targeted towards those

who were either vaccinated against Covid-19 or unvaccinated. This was to differentiate views on strategies to boost uptake, and the potential role and impact of incentives and disincentives to vaccinate.

2.3 Qualitative Insights: Focus Group Sessions

Three focus groups were conducted with young people between the ages of 16 and 24 in France, Germany, and Italy (n=21). The sessions lasted between 1.5 and 2 hours, were conducted in the local language by native speaking facilitators and were recorded following participant consent. The focus group script was designed in line with the survey to allow for comparisons and further insights on the key research questions above.



SECTION 3: SURVEY RESULTS

The following section details the key findings from young people on to their Covid-19 vaccination status, their likelihood to take booster shots, their experiences of vaccine delivery, and reasons to vaccinate or not. It also digs into their views on information sources, incentives and disincentives to vaccinate, knowledge levels on routine immunisation, and views on Covid passports. Lastly, it presents the youth view on digital health tools with a specific focus on e-vaccination cards for routine immunisation to help with personal health management.⁵⁰

3.1: Covid-19 Vaccination

Table 1. Covid-19 Vaccination Status

	FRANCE	GERMANY	ITALY	TOTAL
No, and I don't intend to.	14.9%	6.1%	5.6%	8.9%
No, but I will at some point in the future.	5.1%	5.6%	5.0%	5.3%
No, but I intend to soon.	7.8%	7.1%	5.6%	6.9%
Yes, I have taken one dose (if the vaccine has two doses)	5.1%	9.5%	2.7%	6.3%
Yes, I am fully vaccinated.	67.1%	71.7%	81.1%	72.6%

Over 70% of the youth sample are fully vaccinated against Covid-19, with the highest number being in Italy (81%) and the lowest in France (67%). Almost 80% have either had one dose or two depending on the vaccine in question. While less than 10% across all countries have no intention to be vaccinated at all, almost 15% of young people in France do not want to be vaccinated.

Table 2. Covid-19 Vaccination Status: Education

	NO EDUCATION OR PRIMARY EDUCATION	LOWER SECONDARY SCHOOL	UPPER SECONDARY OR POST-SECONDARY NON-UNIVERSITY	HIGHER EDUCATION/ UNIVERSITY
No, and I don't intend to.	27.2%	12.3%	9.7%	3.3%
No, but I will at some point in the future.	18.2%	9.0%	3.6%	4.9%
No, but I intend to soon.	9.1%	7.9%	5.7%	7.9%
Yes, I have taken one dose (if the vaccine has two doses)	9.1%	5.1%	7.3%	5.2%
Yes, I am fully vaccinated.	36.4%	65.7%	73.7%	78.7%

⁵⁰ Key differences based on educational level, gender, and SES are presented only when significant.

Education & Socioeconomic Status (SES) Analysis

Education plays a significant role in young people's vaccination status. While only 9% have no intention to get the vaccine, this rises to 27% for those with only a primary education. Similarly, while only 36% of young people with a primary level education are fully vaccinated, 66% of people with a lower secondary education are, and this rises to 74% and 79% for post-secondary school and university educated young people respectively. Similar trends are present based on household income, with less financially stable youth more than three times as likely to not want to take the vaccine, and only 58% being fully vaccinated.

Gender Analysis

While no major differences exist between males and females, a slightly higher number of young women and girls are fully vaccinated (76% compared to 70%).

Graph 1. Place of Covid-19 Vaccination

WHERE DID YOU RECEIVE EITHER YOUR FIRST OR SECOND DOSE OF THE COVID-19 VACCINE?

	AT A MASS VACCINATION CENTER/SITE	ON A VACCINE BUS	AT A DRIVE-THROUGH CLINIC	AT A MUSIC EVENT, PUBLIC EVENT OR SPORT VENUE	AT A PHARMACY	FROM MY DOCTOR, GENERAL PRACTITIONER OR LOCAL HEALTH PROFESSIONAL	AT S SCHOOL, UNIVERSITY OR AT AN EDUCATIONAL SETTING	OUTSIDE A STORE, SHOP OR PUBLIC PLACE (IKEA, LARGE SUPERMARKET, ETC.)	NONE OF THE ABOVE
FRANCE	74.7%	2.4%	5.4%	1.0%	10.4%	4.0%	2.0%	2.7%	2.0%
GERMANY	47.5%	5.5%	2.2%	1.0%	4.0%	37.2%	3.4%	2.7%	1.7%
ITALY	81.5%	1.1%	4.8%	0.4%	4.6%	5.2%	2.3%	2.2%	1.1%

Of all the places people could get vaccinated against Covid-19, the most common for young people was at a mass vaccination centre. This was the most common for youth in France (75%) and Italy (81.5%). The most striking difference between the young people sampled was when receiving the vaccine at a doctor or general practitioner. While only 5% respectively in Italy and 4% in France were vaccinated by their doctor – over 37% were in Germany. Less than 50% of German youth were vaccinated at a mass site. Twice as many French youth were vaccinated at a pharmacy when compared to Germany and Italy. While only a small number, making use of a vaccine bus was more common in Germany (5.5%) compared to the rest.

Socioeconomic Status (SES) Analysis

It is interesting to note that less than half (41.5%) of the young people from a more financially stable and well-off background received their vaccine at a mass vaccination site. This is compared to 65% from a comfortable financial situation and over 70% for those from a less well-off background. In contrast a higher number received their vaccine from a vaccine bus (11%), at a drive-through clinic (9%), and at a pharmacy (13%).

Graph 2. Reasons to be Vaccinated: Covid-19

PEOPLE GET VACCINATED FOR DIFFERENT REASONS. WHICH OF THE BELOW REASONS WAS MOST IMPORTANT IN YOUR DECISION TO GET THE COVID-19 VACCINE?

	FOR MY OWN PERSONAL HEALTH AND PROTECTION FROM COVID-19	FOR THE HEALTH AND PROTECTION OF FAMILY, FRIENDS, AND THE COMMUNITY FROM COVID-19	TO BE ABLE TO TRAVEL AGAIN	TO BE ABLE TO ATTEND SOCIAL EVENTS (E.G., RESTAURANTS, CINEMAS, AND SPORTS VENUES, ETC.)	TO INCREASE HERD IMMUNITY	TO HELP CONVINCE OTHERS TO TAKE THE COVID-19 VACCINE	LEGAL OBLIGATION, NO OTHER CHOICE	NONE OF THE ABOVE	DON'T KNOW/NOT SURE
FRANCE	34.0%	50.8%	27.3%	42.8%	20.5%	12.0%	17.2%	0.7%	0.7%
GERMANY	47.3%	51.5%	30.6%	31.1%	24.9%	8.7%	13.2%	1.0%	1.7%
ITALY	59.3%	57.4%	13.7%	30.4%	34.7%	7.7%	6.7%	0.4%	1.5%

Reasons and motivations to be vaccinated bring about some interesting differences across countries. While the health of family and the community is a key factor for over half of the young people in all countries, personal health is much less of a concern for youth in France (34%) when compared to Germany (47%) and Italy (59%). To be able to travel again is a key motivator for over twice as many people in Germany and France (31% and 27% respectively) when compared to Italy. For youth in France being able to socialise again and to convince others to get vaccinated are bigger factors, alongside being legally obliged, while in Italy increasing herd immunity (35%) is a bigger reason.

Socioeconomic Status (SES) Analysis

While personal health and protection is a key reason to be vaccinated amongst most of the youth sampled, it is only a motivator for 34% of the well-off young people. To be able to travel again (34%), and to help convince others to get the vaccine (16%) were more important reasons than for the rest of the young people asked.

Graph 3. Reasons not to be Vaccinated: Covid-19

WHAT ARE THE MAIN REASONS YOU HAVE NOT WANTED TO, OR HAVEN'T BEEN ABLE TO TAKE THE VACCINE YET?

	IT HAS NOT BEEN AVAILABLE OR ACCESSIBLE	I HAVEN'T HAD ENOUGH INFORMATION ON THE VACCINE	THE VACCINE HAS BEEN RUSHED AND NOT SUFFICIENTLY TESTED	RELIGIOUS OR OTHER REASONS TO NOT VACCINATE	WORRIED ABOUT SAFETY AND SIDE-EFFECTS OF THE VACCINE	I DON'T THINK THE VACCINES ARE EFFECTIVE AT PROTECTING FROM COVID-19	I AM WAITING TO TAKE IT AT A LATER DATE	HAVEN'T BEEN OFFERED IT YET (NOT ELIGIBLE YET)	NONE OF THE ABOVE
FRANCE	5.7%	18.7%	44.7%	8.1%	36.9%	27.0%	18.7%	5.7%	8.9%
GERMANY	6.6%	24.3%	26.4%	9.3%	35.8%	24.3%	15.0%	4.7%	11.3%
ITALY	9.1%	9.1%	21.8%	10.9%	45.5%	23.2%	18.2%	5.5%	14.3%

Among the surveyed youth un-vaccinated against Covid-19, believing the vaccine was rushed and not tested enough, and worries about both its safety and its efficacy were the most common concerns. Almost half in France (45%) believe the vaccine has been pushed through too quickly, compared to 26% and 22% in Germany and Italy. Not having enough information is a concern for over twice as many young people in Germany (24%) and France (19%) compared to Italy (9%). Concerns about vaccine safety, while being a key concern for all un-vaccinated youth, is particularly prevalent in Italy (45.5%).

Gender Analysis

Of the main reasons not to be vaccinated, almost twice as many unvaccinated females believe the vaccine has been rushed (45%) when compared to men (26%). Men are more concerned about not having enough information or are waiting to take it a later date.

Table 3. Views on Covid-19 Booster Shot

	FRANCE	GERMANY	ITALY	TOTAL
No. I would not take it.	28.5%	16.9%	12.5%	19.6%
Yes, but only if an anti-body test showed that I needed it for protection.	30.0%	24.5%	22.0%	25.7%
Yes. I would take it.	41.5%	58.6%	65.5%	54.7%

When asked if they would take a Covid-19 booster shot in the future if it was recommended to them, the majority (81%) stated they would take it. 26% of those who would take it would need to know it is necessary for continued protection following an anti-body test. Young people in France are the least likely to take it (28.5%), with less than half willing to take it outright. This is compared to 65% of Italian young people who would take the booster once recommended without the need for an anti-body test.

Education & Socioeconomic Status (SES) Analysis

Much like for vaccination status, education and SES plays a considerable role in young people's views on booster shots. The more well educated the young person is, the more likely they are to take a booster shot outright, with 56% of those with an upper secondary and 57% with a tertiary education stating they would take it. This compares to only 17% of those with a low educational background. 67% of young people with just primary level education would not take the booster. The same trends are seen with SES status, with those in a comfortable situation (67%) almost twice as likely to take it as those needing financial help (34.5%).

Graph 4. Future use of Covid-19 Boosters

THINKING ABOUT POSSIBLE COVID-19 BOOSTERS IN THE FUTURE, PLEASE INDICATE HOW WELL YOU AGREE WITH THE FOLLOWING STATEMENTS.

	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE
Vaccine boosters will be needed at least once a year	9.4%	13.7%	26.0%	28.3%	22.6%
Priority should be first on giving Covid-19 shots for everyone instead of boosters for people already vaccinated	6.4%	8.1%	22.0%	33.3%	30.2%
I would be confident in the safety of a booster shot	7.9%	10.3%	22.3%	32.2%	27.3%
I would be confident in the effectiveness of a booster shot	7.9%	9.6%	24.2%	32.4%	25.9%
Booster shots should only be for people who are more vulnerable	4.9%	12.0%	22.8%	31.3%	29.0%

Among the varying statements on the distribution of Covid-19 boosters, young people most agree with the need to ensure everyone is vaccinated before giving boosters to vaccinated people (63%). Over half agree or strongly agree that boosters are both effective and safe to take (59% and 58% respectively). Just over half agree with the view that boosters should only be for the vulnerable (55%), while 52% believe they will be needed at least once a year.

Graph 5. Trust Levels

PLEASE INDICATE HOW MUCH YOU AGREE WITH THE FOLLOWING STATEMENTS

	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE
I trust the government's health authorities to provide an effective Covid-19 vaccine	7.0%	8.9%	21.6%	35.6%	26.7%
I trust my doctor/health care provider to give me accurate advice and information on Covid-19 vaccine	5.2%	6.9%	22.2%	39.2%	26.5%
I trust the government's health authorities to provide accurate information on the Covid-19 vaccine	7.5%	10.5%	23.3%	33.9%	24.8%
I trust the government to provide up-to-date information on vaccine benefits, side-effects, and the rollout programme	8.6%	11.3%	22.8%	32.7%	24.6%
I trust the government to provide clear advice on confinement rules, travel requirements, and attending/accessing public places or events	8.5%	10.1%	22.7%	33.8%	25.0%
I trust the European Union (EU) to provide reliable information on the Covid-19 vaccine	7.2%	12.1%	24.4%	31.3%	25.0%

Young people in general have the highest levels of trust in receiving accurate advice and information on the Covid-19 vaccine from their doctor or healthcare provider (66%). This is closely followed by 63% trusting their government to provide an effective vaccine. They have less trust in the government providing up-to-date information on the status of the vaccine rollout programme and potential side-effects – although it is still above half at 59%. The lowest levels of trust are seen in the EU providing reliable information on the vaccine.

Table 4. Impact of the Pandemic on Immunisation & Vaccination Views

	FRANCE	GERMANY	ITALY	TOTAL
It has made me more hesitant and concerned about vaccines.	25.4%	24.6%	17.1%	22.9%
It has not changed my view in general.	31.2%	17.1%	20.6%	22.7%
It has made me more aware of the role of vaccination	22.2%	23.6%	32.9%	25.6%
It has made me more confident in the safety and impact of vaccines	21.2%	34.7%	29.4%	28.8%

The pandemic overall has had a positive impact on young people's views on the role of vaccines and vaccination. While over half (55%) say it has either boosted their confidence in the safety and efficacy of vaccines or made them more aware of the role of vaccination, 23% state it has increased their vaccine hesitancy. France is the only country where the pandemic has increased hesitancy more than it has increased confidence levels (25% and 21% respectively). However, they are the least likely to have changed their views (31%). Confidence levels have increased the most amongst German youth (35%) – while Italian young people are the least likely to be more hesitant due to the pandemic (17%).

Graph 6. Strategies to Boost Vaccine Uptake

WHICH OF THE FOLLOWING DO YOU THINK WOULD MOTIVATE PEOPLE TO TAKE THE COVID-19 VACCINE?

	EASY TO ACCESS VACCINES (E.G., VACCINATION SITES CLOSE TO HOME, EASY TO TRAVEL TO, AT A CONVENIENT LOCATION, AT A PUBLIC SPACE, ETC.)	FLEXIBILITY ON WHAT IS NEEDED (E.G., NO BOOKING, INFORMATION, OR IDENTIFICATION NEEDED)	FREE ACCESS OR HELP WITH TRAVEL	RECEIVING THE VACCINE FROM A TRUSTED PERSON OR AT A TRUSTED PLACE	CLEARER ADVICE AND INFORMATION ON THE VACCINE	HELP AND ADVICE BASED ON A PERSON'S BACKGROUND, RELIGION, OR SITUATION	NONE OF THE ABOVE	DON'T KNOW/ NOT SURE
FRANCE	30.2%	21.9%	29.6%	28.1%	36.4%	13.1%	10.0%	5.2%
GERMANY	27.7%	26.1%	22.8%	24.4%	42.6%	22.4%	4.9%	7.1%
ITALY	36.0%	18.4%	22.2%	23.3%	53.2%	16.3%	6.7%	5.5%

According to young people across the board the best way to motivate people to get vaccinated is to provide clearer advice and information. Over half of the young people in Italy (53%) chose this as the best strategy. Making vaccination sites easy to access and convenient is another key method – and in particular according to Italian and French youth. Making it more flexible by removing the need to book and provide personal information, and specific help for people based on their background or religion are more impactful strategies according to youth in Germany (26% and 22% respectively).

Gender Analysis

A higher number of young males (26%) believe flexibility on what is needed by removing the need for ID numbers or booking information will boost uptake when compared to females (19%). Young males are also more likely to think receiving the vaccine from a trusted person or at a trusted place would motivate more people (27% vs 23%), alongside specific help and advice based on a person's background (21% vs 14%).

Incentives & Disincentives to Vaccinate

Graph 7. Views on Incentives & Disincentives to Vaccinated

PEOPLE ARE TRYING TO THINK OF WAYS TO INCREASE THE NUMBER OF PEOPLE TAKING THE COVID-19 VACCINE. WHICH IDEAS BELOW DO YOU THINK WOULD WORK BEST?

	REWARDS FOR GETTING VACCINATED (E.G., LOTTERY TO WIN PRIZES, VOUCHERS, ETC.)	MONEY OR CASH PAYMENT OF €25	MONEY OR CASH PAYMENT OF €50	MONEY OR CASH PAYMENT OF €100	NOT BEING ABLE TO TRAVEL (E.G., AIRLINES REQUIRING PASSENGERS TO BE FULLY VACCINATED)	PENALTIES OR CERTAIN RESTRICTIONS FOR NOT BEING VACCINATED (E.G., ACCESS VENUES, LARGE GATHERINGS, SPORTING EVENTS, OR GO TO RESTAURANTS, ETC.)	NOT BEING ABLE TO DO SOME EDUCATION OR WORK-RELATED ACTIVITIES (E.G., TAKE PART IN ERASMUS, BE ABLE TO TRAVEL TO WORK, BE ABLE TO WORK IN SOME SECTORS/FIELDS).	LEGAL OBLIGATION OR OBLIGATION FROM EMPLOYER	NONE OF ABOVE WOULD WORK
FRANCE	25.7%	15.2%	19.0%	22.9%	27.6%	23.6%	17.6%	11.2%	17.6%
GERMANY	21.2%	15.4%	15.3%	28.5%	26.2%	22.6%	16.3%	11.6%	15.5%
ITALY	24.0%	8.0%	8.9%	15.3%	30.1%	38.0%	26.1%	19.1%	15.1%

When asked whether incentives or disincentives to vaccinate would increase uptake, differing views on the best methods are found. Disincentives and penalties for not being vaccinated are the top two methods for Italians, with 38% seeing the removal of leisure and activity freedoms as the most impactful strategy, and 30% not being able to travel. While less prone to choose incentives like cash payments, Italian young people do see the potential benefits in providing rewards and vouchers. While all young people see the

impact of disincentives through travel restrictions, French and German youth are almost half as likely to think the removal of leisure and social activities would work best. The top strategy to boost uptake in Germany is to provide €100. While only 11% in both Germany and France see a legal obligation to vaccinate as the best strategy, 19% do in Italy.

Graph 8. Unvaccinated Views on Incentives & Disincentives

WOULD ANY OF THE FOLLOWING STRATEGIES OR IDEAS TO GET PEOPLE TO VACCINATE CHANGE YOUR VIEW OR INTENTION TO TAKE THE COVID-19 VACCINE?

	REWARDS FOR GETTING VACCINATED (E.G., LOTTERY TO WIN PRIZES, VOUCHERS, ETC.)	MONEY OR CASH PAYMENT OF €25	MONEY OR CASH PAYMENT OF €50	MONEY OR CASH PAYMENT OF €100	NOT BEING ABLE TO TRAVEL (E.G., AIRLINES REQUIRING PASSENGERS TO BE FULLY VACCINATED)	PENALTIES OR CERTAIN RESTRICTIONS FOR NOT BEING VACCINATED (E.G., ACCESS VENUES, LARGE GATHERINGS, SPORTING EVENTS, OR GO TO RESTAURANTS, ETC.)	NOT BEING ABLE TO DO SOME EDUCATION OR WORK-RELATED ACTIVITIES (E.G., TAKE PART IN ERASMUS, BE ABLE TO TRAVEL TO WORK, BE ABLE TO WORK IN SOME SECTORS/FIELDS).	LEGAL OBLIGATION OR OBLIGATION FROM EMPLOYER	NONE OF ABOVE WOULD WORK
FRANCE	18.7%	12.2%	17.1%	19.5%	18.7%	25.2%	13.8%	8.9%	31.7%
GERMANY	17.8%	11.2%	18.7%	33.6%	14.0%	19.6%	15.1%	10.3%	24.3%
ITALY	10.9%	12.5%	19.6%	18.2%	10.7%	18.2%	1.8%	5.5%	45.5%

Persuading unvaccinated young people to change their mind is not an easy task. According to almost half of the unvaccinated youth in Italy, none of the incentive or disincentive strategies would work, while 32% said the same in France. In Germany, cash incentives of €100 would convince 34% of young people to get vaccinated, while in France 25% of unvaccinated youth would be convinced through the removal of their social life freedoms. German youth are the only unvaccinated group who are more likely to be convinced in one way or another than for no strategies to work. Only 2% of Italian young people would change their mind if their education or employment activities were interrupted. This is compared to 14% in France and 15% in Germany.

Gender Analysis

Young males are more convinced by financial rewards, with 28% stating they would re-consider their vaccination status for €100. Only 18% of females would also do so. Similar trends are seen for 50€ payments. A much larger number of unvaccinated females (44%) state nothing would change their mind or view on taking the vaccine when compared to males (23%).

Age Group Analysis

Younger people (15 to 19 years old) are more prone to changing their mind based on financial incentives of €100 (35.5%) than their older counterparts. Only 18% of young people between 27 and 35 would change their mind. Older youth between the ages of 17 and 35 are more than twice as likely to say no incentives or strategies will change their mind (45%) when compared to the younger age groups (21%).

3.2: Impact on Routine Immunisation

Table 5. Awareness of the Impact of Covid-19 on Routine Immunisation

	FRANCE	GERMANY	ITALY	TOTAL
No. I was not aware.	39.8%	41.5%	34.9%	39.3%
Yes, I or my parent/guardian has cancelled a vaccine appointment.	11.6%	11.0%	7.3%	10.2%
Yes, I have had vaccine appointments postponed.	15.6%	13.3%	15.9%	14.7%
Yes, I am aware other people have had vaccine appointments postponed.	33.0%	34.2%	41.9%	35.8%

In general, young people are aware of the impact the pandemic has had on routine immunisation, largely due to knowing people who have had appointments cancelled. When experienced cancellations have taken place, it has been due to postponed appointments (15%) more than through self-cancellation (10%). This is especially the case for Italy where postponements were twice as common (16%) as cancellations (7%). German young people are the least aware of the impact the pandemic has had (41.5%).

Table 6. HPV Vaccination Status

	FRANCE	GERMANY	ITALY	TOTAL
No. I don't know what it is	19.5%	31.0%	13.3%	22.4%
No. I have not taken it	18.4%	17.3%	11.5%	16.1%
Yes. I have heard of it but not taken it	30.4%	23.4%	31.5%	30.0%
Yes. I have taken the vaccine	31.7%	28.3%	43.7%	33.5%

When asked about their HPV vaccination status key country differences are seen. While in general awareness levels are over 61%, only 33.5% of the young people sampled have been vaccinated. Young Italian and German people are on opposite ends of the spectrum, with over twice as many German youth not knowing about the vaccine when compared to Italy (31% and 13%), and 44% of Italians being vaccinated compared to only 28% of Germans.

Gender Analysis

Almost twice as many males (29%) have not heard of the HPV vaccine when compared to their female counterparts (16%). Along similar lines, a higher number of female young people have taken the vaccine (38%) than male young people (29%).

Education level plays a role in young people's awareness and vaccination status for HPV. Young people with either no education or a low education (36.4% and 30% respectively) have not heard of the vaccine before, compared to just over 20% for the highly educated. Similarly, twice as many well-educated young people (36%) are vaccinated and only 18% of the less well educated.

Table 7. HPV Vaccination Status: Country & Education

	FRANCE		GERMANY		ITALY	
	UNIVERSITY EDUCATION	NO UNIVERSITY EDUCATION	UNIVERSITY EDUCATION	NO UNIVERSITY EDUCATION	UNIVERSITY EDUCATION	NO UNIVERSITY EDUCATION
No. I don't know what it is	17.7%	20.8%	30.4%	31.2%	7.3%	14.6%
No. I have not taken it	15.4%	19.9%	16.7%	17.2%	12.7%	11.2%
Yes. I have heard of it but not taken it	27.7%	31.6%	28.4%	22.2%	30.9%	31.7%
Yes. I have taken the vaccine	39.2%	27.7%	24.5%	29.4%	49.1%	42.5%

Looking into the role education plays within the countries surveyed, university and well-educated young people in both France (39%) and Italy (49%) have a higher HPV vaccination rate when compared to their less well-educated counterparts (28% and 42.5% respectively). Interestingly, the same trend is not seen in Germany, with 24.5% of university educated and 29% of non-university educated youth vaccinated. Across the board those with a lower education are less aware of the vaccine, with twice as many less well-educated young people in Italy having not heard of the vaccine before.

Table 8. Place of HPV Vaccination

	FRANCE	GERMANY	ITALY	TOTAL
At a drive-through vaccination clinic.	15.6%	16.7%	13.2%	15.2%
At a general practitioner/ paediatrician.	45.0%	38.9%	25.6%	36.3%
At a pharmacist.	23.8%	22.2%	16.3%	20.7%
During/at school.	4.9%	11.1%	6.2%	7.4%
While getting other vaccines (joint/combined vaccination).	8.2%	11.1%	26.4%	15.4%
Other.	2.5%	0%	12.4%	5.0%

Of those who have received their HPV vaccine, the highest number went to their GP or paediatrician (36%). This is even more common for young people in Germany (39%) and France (45%). While going to a pharmacy was more common in both France and Germany, combined vaccination was much more prevalent in Italy (26%). Despite being relatively low, new innovations including drive-through clinics were used by 17% of those vaccinated in Germany, 16% in France, and 13% in Italy.

Gender Analysis

The only key difference in where young people receive the HPV vaccine is that young girls are more than twice as likely to have gone to a GP or paediatrician (47% vs 22%) while males almost three times as likely to have gone to a pharmacist (33% vs 11%).

Table 9. Meningitis Meningococcal Vaccination Status

	FRANCE	GERMANY	ITALY	TOTAL
No. I don't know what it is	18.2%	17.7%	9.6%	15.8%
No. I have not taken it	19.1%	16.6%	8.2%	15.2%
Yes. I have heard of it but not taken it	24.5%	19.4%	25.5%	22.7%
Yes. I have taken the vaccine	38.2%	46.3%	56.7%	46.3%

Young people across the board have received and are more aware of the Meningitis vaccine when compared to the HPV vaccine (74%). Moreover, only 16% do not know about the vaccine. Vaccine uptake is lowest in France, with 38% having received it – while 47% have received it in Germany and over half (57%) in Italy. Awareness levels are highest in Italy, with only 10% unaware of the vaccine.

Gender Analysis

Half of the females surveyed have taken the vaccine (50%) compared to 43% of young males. Moreover, while only 13% of females are unaware of the vaccine, this rises to 18% for young males.

Education & Socioeconomic Status (SES) Analysis

Education level plays a large role on a young person's vaccination status. While only 21% of youth with either no education or low education are vaccinated, this rises to 41% for those with a lower secondary school qualification and over half (51%) for well-educated youth. The same trend is seen for household income also.

Table 10. Place of Meningitis Meningococcal Vaccination

	FRANCE	GERMANY	ITALY	TOTAL
At a drive-through vaccination clinic.	17.0%	9.4%	9.6%	11.5%
At a general practitioner/ paediatrician.	39.7%	54.9%	33.2%	43.8%
At a pharmacist.	18.4%	13.6%	10.8%	14.0%
During/at school.	5.7%	8.5%	8.4%	7.8%
While getting other vaccines (joint/combined vaccination).	14.2%	11.3%	28.4%	17.5%
Other.	5.0%	2.3%	9.6%	5.4%

Similar patterns can be seen with the HPV vaccine in relation to where young people received their Meningitis vaccine. At a GP or paediatrician was the most common place (44%), and especially for German youth (55%). Much like for HPV, receiving the vaccine at a pharmacist was more common in France than elsewhere (18.4%), and least common in Italy (11%). Similarly, while getting other vaccines (combined vaccination) was most prevalent in Italy (28%), and almost three times as common when compared to Germany. Innovations including at drive-through clinics was almost twice as common in France (17%) than in Germany and Italy (9% respectively).

Gender Analysis

Key differences in where young people receive the vaccine are present based on gender. While over half (56%) of females went to their GP or paediatrician, only 30.5% of males did the same. Instead, almost twice as many young males received the vaccine at a drive-through clinic (15%), at school (11%) and during a joint vaccination appointment (22.5%).

Information on Vaccines

Table 11. Information Levels on HPV Vaccine

	FRANCE	GERMANY	ITALY	TOTAL
No. I am not getting enough.	53.7%	37.4%	45.1%	44.9%
Yes. I am getting enough.	35.3%	48.8%	43.0%	42.7%
Yes. I am getting too much.	11.0%	13.8%	11.9%	12.4%

Information levels on the HPV vaccine bring about some interesting national differences. While across the board young people are split about whether they are getting enough (45% not enough, 43% enough) – the highest number of young people not receiving enough are in France (54%). France also has the least amount of people who think they are receiving too much information on the vaccine (11%). It is also the only country where the combined figure of getting enough and getting too much is lower than that for not getting enough information (46% and 54% respectively).

Education & Socioeconomic Status (SES) Analysis

While the differences are less pronounced, those with a lower education are the only group with a majority who feel they are not receiving enough information (54.5%). This is compared to 46% with a higher education, and 44% with an upper secondary. Financially well-off young people (33%) are almost three times as likely as all other youth to feel they are receiving too much information on the HPV vaccine.

Gender Analysis

While no major differences exist between males and females, young women are slightly more inclined to feel they are not getting enough information (46% vs. 44%), while young men are more inclined to feel they are receiving too much (15% and 10% respectively).

Table 12. Information Levels on HPV Vaccine: Country & Education

	FRANCE		GERMANY		ITALY	
	UNIVERSITY EDUCATION	NO UNIVERSITY EDUCATION	UNIVERSITY EDUCATION	NO UNIVERSITY EDUCATION	UNIVERSITY EDUCATION	NO UNIVERSITY EDUCATION
No. I am not getting enough.	47.6%	57.1%	47.0%	34.5%	42.6%	45.7%
Yes. I am getting enough.	36.3%	34.6%	39.0%	52.0%	42.6%	43.2%
Yes. I am getting too much.	16.1%	8.3%	14.0%	13.5%	14.8%	11.1%

Interesting country differences exist in relation to how much HPV vaccination information youth are receiving and their education level. In France, those with a higher education are almost twice as likely to be getting too much, while well over half (57%) of the less well-educated are not receiving enough. In Italy education does not play such a significant role, although those who are less well educated are more inclined to want more information, and less inclined to be getting too much. Germany is again reversing the trend, with almost half of the well-educated youth (47%) not receiving enough, compared to 34.5% of the less well-educated.



Table 13. Information Levels on HPV Vaccine: Country & Gender

	FRANCE		GERMANY		ITALY	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
No. I am not getting enough.	50.8%	56.5%	39.4%	36.0%	44.1%	46.2%
Yes. I am getting enough.	35.0%	35.5%	45.7%	51.0%	41.2%	44.8%
Yes. I am getting too much.	14.2%	8.0%	14.9%	13.0%	14.7%	9.0%

In both France and Italy, a higher number of young females are not receiving enough information on the vaccine when compared to young males. Regardless of gender, over half of youth in France are not getting enough. Young males in both France (14%) and Italy (15%) are more likely to be getting too much information when compared to females (8% and 9% respectively). In Germany, while males are also more inclined to be getting too much (15%) when compared to females (13%) – they are also more likely to not be getting enough (39%).

Table 14. Information Levels on Meningococcal Meningitis Vaccine

	FRANCE	GERMANY	ITALY	TOTAL
No. I am not getting enough.	57.0%	37.9%	46.3%	46.6%
Yes. I am getting enough.	32.6%	47.5%	44.3%	41.6%
Yes. I am getting too much.	10.4%	14.6%	9.4%	11.8%

Along similar lines, information levels for the meningitis vaccine while relatively split down the middle for the entire youth sample bring about some key country differences. Just under half (47%) believe they need more information, while 53% are getting enough or too much. Young people in France are again the only majority that are not receiving enough (57%), while in Germany 62% are receiving enough or too much. Only 9% of youth in Italy feel they are getting too much information.

Gender Analysis

Much like for the HPV vaccine, young females are more inclined to want more information than their male counterparts. Half (50%) feel they are not getting enough information on the meningitis vaccine, while only 9% feel they are getting too much. This is compared to 43.5% of young males wanting more information and 14% receiving too much.

Education & Socioeconomic Status (SES) Analysis

Young people from financially well-off backgrounds are much more inclined to be getting either enough or too much information on the vaccine. A large majority of youth needing financial assistance (67%) feel they are not well-informed about the vaccine. This is compared to only 24% for well-off young people.

Table 15. Vaccine Delivery Innovation

	FRANCE	GERMANY	ITALY	TOTAL
No.	28.9%	27.2%	14.9%	24.5%
Yes.	71.1%	72.8%	85.1%	75.5%

When asked about the innovations in vaccine delivery introduced because of the pandemic, including drive-through vaccination clinics, vaccination buses and joint vaccination appointments – the majority of young people (75.5%) want to see them continued in the future. Young people are the most in favour of this in Italy, with 85% wanting to see these new methods of delivery continued.

Education & Socioeconomic Status (SES) Analysis

Young people both in a more financially well-off position and with a higher level of education want to see vaccine delivery innovations continued in the future. Less than half of youth with only a primary level education (43%) want these continued, while a large majority (76% and 77%) of those with a secondary or degree level education want to see innovations in the future. Similarly, over 84% of financially well-off youth want this to be continued.

Graph 9. Vaccine Delivery Preference

IF YOU COULD CHOOSE WHERE TO GET YOUR VACCINES FROM, WHICH OF THE FOLLOWING WOULD YOU PREFER?

	AT SCHOOL, UNIVERSITY, OR PLACE OR WORK/ EMPLOYMENT	AT A LOCAL PHARMACY	COMMUNITY HEALTH CLINIC	PERSONAL DOCTOR/ GENERAL PRACTITIONER'S OFFICE	ANOTHER HEALTH PROFESSIONAL	HOSPITAL	CHURCH, MOSQUE, OR ANY OTHER RELIGIOUS CENTRE	MASS VACCINATION SITE	VACCINE BUS/ TRAVELLING CLINIC	DRIVE-THROUGH VACCINE CLINIC	NOT SURE/ DON'T KNOW
FRANCE	13.3%	36.5%	9.8%	41.5%	17.1%	26.2%	3.8 %	22.7%	4.5%	7.9%	7.6%
GERMANY	16.7%	21.0%	13.6%	55.8%	14.0%	24.6%	3.3%	34.4%	6.9%	5.7%	4.3%
ITALY	14.4%	31.3%	38.5%	32.0%	12.3%	30.1%	2.2%	20.2%	2.8%	11.0%	4.9%

Young people in France are the most prone to want their vaccines delivered at a pharmacy (36.5%). It is also their second choice just after from a doctor or GP (41.5%). The Italian top choice is to receive their vaccines at a community health clinic (38.5%), while this choice was only selected by 10% of young people in France and 14% in Germany. Italian youth are therefore more than twice as likely to prefer this option than in Germany and over three times as much than in France. Over half of German youth (55%) want to receive their vaccines from a GP or doctor, while their second preference is at a mass vaccination site. Among the vaccine delivery innovations, drive-through clinics are the most popular in Italy.

Gender Analysis

Over half of the young females consulted want to receive their vaccines from a GP or paediatrician, compared to 39% for males. Males are more inclined to prefer receiving vaccines at community health clinics (21%) than their female counterparts (17%). Pharmacies are another preferred option with 31% of females and 27% of males choosing this delivery method.

Age Group Analysis

Younger youth are almost twice as likely to prefer vaccines at school, university or at work (22%) when compared to young people aged between 27 and 35 (13%). Older youth prefer vaccines at pharmacies (30%) more than the 15- to 19-year-old sample (26%).

Education plays a particularly strong role on a young person's preference for vaccine delivery. While only 10% of less well-educated youth prefer pharmacies, almost three times as many (31%) well educated young people chose this option. Even more drastically, while almost half (48%) of educated young people want to get their vaccines from a GP, only 6% said the same amongst the less well educated. Drive-through clinics are a larger preference for less well-educated youth (12.5%), but a much higher number (19%) are not sure of what their preference is.

Table 16. Information Levels on Covid-19 Vaccine

	FRANCE	GERMANY	ITALY	TOTAL
No. I am not getting enough	22.9%	19.6%	16.0%	19.8%
Not sure/ Don't know	5.5%	6.1%	5.8%	5.8%
Yes. I am getting enough	46.0%	52.5%	52.7%	50.3%
Yes. I am getting too much	25.6%	21.8%	25.5%	24.1%

Young people feel they are getting either enough information or too much information on the Covid-19 vaccine (50% and 24% respectively). This is compared to 20% who feel they are not getting enough. The highest number of young people not receiving enough information is in France, alongside the lowest getting enough (46%). However, French youth are joint most likely to feel they are getting too much information alongside young people in Germany.

Table 17. Information Levels on Vaccination in General

	FRANCE	GERMANY	ITALY	TOTAL
No. I am not getting enough	32.9%	22.4%	25.5%	26.7%
Not sure/ Don't know	7.3%	7.3%	5.2%	6.8%
Yes. I am getting enough	43.6%	52.0%	52.1%	49.2%
Yes. I am getting too much	16.2%	18.3%	17.2%	17.3%

While similar trends are seen for the amount of information young people are getting on vaccines and vaccination in general when compared to the Covid-19 vaccine, some differences are still present. A higher number of young people across the board feel they are not getting enough (27%) when compared to getting too much (17%). Like for the Covid-19 vaccine, the highest number of young people not getting enough information are in France (33%).

Education & Socioeconomic Status (SES) Analysis

Less financially well-off youth (32%) are almost three times as likely to feel they are not receiving enough information about VPDs and vaccination in general compared to well-off youth. While 40% of well-off youth say they are getting too much information, only 15% respectively from less financially stable positions say the same.

Graph 10. Trusted Information Sources

WHAT ARE YOUR PREFERRED AND MOST TRUSTED SOURCES OF INFORMATION ON VACCINES?

	INTERNET/ ONLINE SOURCES	SOCIAL MEDIA (E.G., FACEBOOK, INSTAGRAM, SNAPCHAT)	NEWS SOURCES AND THE MEDIA	PERSONAL DOCTOR/ GENERAL PRACTITIONER OR HEALTHCARE PROFESSIONAL	PHARMACY/ PHARMACISTS	GOVERNMENT HEALTH OFFICIALS	FAMILY AND FRIENDS	MEDICAL AND HEALTH JOURNALS	RELIGIOUS FIGURES/ LEADERS	NOT SURE/ DON'T KNOW
FRANCE	19.1%	14.3%	16.9%	42.1%	33.3%	27.9%	19.8%	16.9%	2.4%	10.0%
GERMANY	17.7%	13.0%	22.4%	46.5%	25.0%	24.4%	22.0%	22.6%	2.4%	4.5%
ITALY	19.6%	8.9%	20.2%	43.6%	23.7%	52.3%	15.4%	19.4%	0.9%	4.0%

Young people have high trust levels in the information they receive from healthcare professionals and GPs. This is the top information source in France and Germany (42% and 46.5% respectively) and is the second preference in Italy (44%). The most trusted information source chosen by over half in Italy is their government health officials. This is compared to only 28% in France and 24% in Germany. The least trusted information sources across the board are religious figures, and the information found on social media channels. Despite being close, young people in both France and Italy trust the information found online more than in medical and health journals. French youth have the highest trust levels in the information provided by pharmacists.

Gender Analysis

While half of young females trust HCPs and doctors, a lower number of the young male sample do so (38.5%). Young males are instead more inclined to trust the information they receive from friends and family (24% vs 16%).

Education & Socioeconomic Status (SES) Analysis

Education levels bring about some of the most striking differences in the trust and use of information sources. Those with a lower education are more inclined to trust internet and online sources (31% vs 22%), and social media (18% vs 13%) when compared to more highly educated youth. Moreover, while HCPs and GPs are trusted by 47% of the well-educated, this goes down to 39% for the less well educated. The well-educated (36%) are almost three times as likely to trust government health officials. Most strikingly, while a quarter of less well educated (25%) youth do not know what information sources to trust, only 3% of the well-educated do not know.

Graph 11. Support for Covid-19 Certificates & Mandatory Vaccination

HOW MUCH DO YOU SUPPORT THE FOLLOWING MEASURES?

	A COVID-19 PASSPORT/ CERTIFICATE ALLOWING ONLY FULLY VACCINATED PEOPLE TO TRAVEL AND TAKE PART IN ACTIVITIES	A COVID-19 PASSPORT/ CERTIFICATE ALLOWING ONLY FULLY VACCINATED PEOPLE OR PEOPLE WHO HAVE RECENTLY BEEN TESTED TO TRAVEL AND TAKE PART IN ACTIVITIES	MANDATORY/ COMPULSORY COVID-19 VACCINATION FOR ALL PEOPLE	MANDATORY/COMPULSORY VACCINATION JUST FOR CERTAIN PEOPLE (E.G., HEALTH PROFESSIONALS, PUBLIC SERVICE PROFESSIONALS, ETC.).	NO VACCINATION CERTIFICATES SHOULD BE REQUIRED
STRONGLY DISAGREE	8.8%	10.7%	16.1%	11.6%	17.3%
DISAGREE	9.3%	11.8%	14.2%	14.6%	17.8%
NEITHER AGREE NOR DISAGREE	21.1%	23.7%	26.4%	25.2%	23.4%
AGREE	30.0%	29.0%	23.6%	25.2%	19.0%
STRONGLY AGREE	30.8%	24.8%	19.7%	19.8%	18.0%
NOT SURE/DON'T KNOW	-	-	-	3.6%	4.5%

Support for the use of Covid-19 passes, mandatory vaccination and proof of negative tests linked to disincentives bring about some interesting variations. On the whole young people agree with the use of Covid-19 certificates to allow only vaccinated people to travel and take part in daily activities (61%). This level of agreement is even higher than for the same requirement as well as allowing people who have recently tested negative (54%). While 44% agree with mandatory vaccines for everyone, 32% disagree and 26% are undecided. Higher agreement levels are seen for mandatory vaccines for people working in certain fields and sectors (45% agree vs 27% disagree). The most polarising statement is that of no vaccination certificates being needed. Young people are almost split down the middle on this issue, with 27% agreeing no certificates should be required, and 35% disagreeing. The most common response to this is to be undecided.

Education & Socioeconomic Status (SES) Analysis

Young people with a higher level of education are much more in favour of Covid-19 vaccination certificates being required for travel and to take part in activities (63%). Half of the less well-educated youth do not support this measure. The same is seen for mandatory vaccination in general, with 44% supporting this compared to only 16%.

Table 18. Views on E-Vaccination Cards for Vaccines (e.g., HPV, flu, etc.)

	FRANCE	GERMANY	ITALY	TOTAL
No	33.5%	23.6%	17.4%	25.3%
Only for some vaccines (e.g., mandatory childhood vaccines)	24.0%	14.6%	23.2%	20.0%
Yes	42.5%	61.8%	59.4%	54.7%

Just over half want to see digital passes or e-vaccination cards to help keep up to date with their health records introduced for wider vaccines. This is not linked to travel requirements. The highest number of young people in favour of this are in Germany (62%). Only in France do less than half of the young people want this to be introduced (42.5%). French youth are also the most likely (24%) to only see digital records needed for a select few vaccines (e.g., mandatory childhood vaccines).

Education & Socioeconomic Status (SES) Analysis

The same trend is seen in relation to young people's education level and financial situation, and their views on using digital records and e-vaccination cards for other vaccines. While less than half of the young people from a less well-off background (45.5%) want e-vaccination cards in the future, over half (57%) from a comfortable situation and a large majority (71%) from a well-off background want them introduced. Similarly, nearly twice as many of the less well educated (46%) do not want those introduced, while 57% of the highly educated want them introduced, and a further 16% for certain vaccines.



SECTION 4: FOCUS GROUP DISCUSSIONS – DISCOURSE ANALYSIS

The following insights emerged from three focus group discussions with young people in Italy, Germany, and France. Covering similar key themes to that of the survey, the participants were asked about their views and experiences of the Covid-19 vaccine, barriers to access, information sources, vaccine hesitancy, and strategies to boost uptake. They were also asked about their views on digital health records, innovations, and routine immunisation.

Vaccination Status & Experience

The majority of those who participated in the focus groups were vaccinated against Covid-19. From their testimonies they largely received their vaccine doses at a vaccination centre, while some went to their family doctor. One young female in Italy made the most of an open day without the need to book, based on ease of access due to belonging to a fragile category.

“I fall into a fragile category, but there were obstacles in recognising this. For this reason, I had to postpone the vaccine for a few weeks. In the end I took advantage of an open day.”
(Female in Italy)

On the whole vaccination centres were seen as being well organised by those who had been, with young people in France expressing a general preference for smaller centres where doctors could dedicate more time and attention to the patients. Only in Germany were some logistical problems experienced during the booking process. Based on long queues and the need to travel long distances to vaccination centres, accessing the vaccine was a challenge for some.

“I got my first dose in a vaccination centre. It was at a gymnasium that had been set up by firefighters. I felt safer because it was well organised and very professional. It reassured me.”
(Male in France)

“I got an appointment at 7:30am and I drove 50 km to a very small hospital far away. It was a real challenge.”
(Male in Germany)

Varied Reasons to Vaccinate

Young people are driven to be vaccinated against Covid-19 for different reasons. Many saw the vaccine as a way to return to normality. Others were motivated by the wish to protect themselves and the people close to them – especially grandparents and more vulnerable groups. Moreover, many felt it was their duty as citizens, while others did so based on obligations to continue working or carrying out their daily activities.

“I thought of vaccination as a way to get back to normal as soon as possible”
(Female in Italy)

There is the umbrella metaphor that says: if there is a certain percentage of vaccinated people, they can also cover with this big umbrella those who, for various reasons, cannot get vaccinated and are more fragile.
(Female in Italy)

“When I see my grandparents, I feel more comfortable knowing that we are vaccinated”
(Female in France)

“It’s kind of a citizen act and duty to get vaccinated”
(Male in France)

“I had it done, simply because of political pressure and simply because of the restrictions”
(Female in Germany)

Conflicting Views on Booster Shots & Third Doses

The Italian and German participants were all willing to take a booster shot when available. Two groups emerged during the discussions with French young

people – those who recognised the need for booster shots to safeguard the national health system, and those who based on seeing no improvement in the situation were questioning the efficacy of the vaccines.

“I would do it, and honestly I don't know why all this hesitation for this particular vaccine when we've received vaccines all our life”
(Female in Italy)

“I don't think I would take the third dose, even if it is required in order to have the Covid-pass [...] I don't see the benefit because, one I'm young, so the risks are lower. And two, the decline in transmission with the vaccine is called into question by some studies.”
(Male in France)

Trust in Government or Official Health Websites over Newspaper Headlines

Young people prefer to get reliable information on Covid-19 and vaccines from accredited sites including the European Medicine Agency (EMA), World Health Organization (WHO), and their government's national health website. GPs were also mentioned as sources of trustworthy information, although some participants recalled their doctors advising against the vaccine. The sensationalised headlines in newspapers and magazines were criticised as they cause panic and promote misinformation. The participants highlighted the problems with social media bubbles and echo chambers, reiterating how dangerous these can be for both balanced discussions on the pandemic and the safety and efficacy of vaccines, and the spread of misinformation.

“When I got vaccinated by my family doctor, [...]he asked me: “Are you really sure about this? I do not accept any liability for it here”. It was really, really disturbing.”
(Male in Germany)

“They get into the Social Media bubble where you click on the usual articles on the usual topics, and you get into a bubble where it seems like everyone is No-Vax.”
(Female in Italy)

Societal Pressures Pushing Some People Away

Fear of a lack of acceptance or dialogue from those with different views and opinions was also expressed by some. A few participants felt societal pressure to be vaccinated and did so to avoid judgement. They also shared their frustration of being labelled as ‘Anti-vax’ without being able to freely express the motivations behind their decisions.

“It completely broke me mentally this last year in lockdown. I had very serious psychological problems [...] and I simply couldn't stand the pressure of betting against the people around me and against politics and against the news and all the fuss”
(Female in Germany)

“When you talk with friends or even older and more adult people, they just label you as an ‘Anti-vax’ and tell you that you are creating conspiracies. When all you are doing is simply sharing your ideas”
(Male in Italy)

Concerns Still Present but Education is Key

The speed with which the vaccine was created raised suspicions and concerns among some young people. However, these doubts were alleviated after they researched the topic, heard explanations of how science was able to provide a vaccine in such a short time and listened to experts talk about the benefits of the Covid-19 vaccine. Moreover, it emerged that to address the root causes of hesitancy people need to be educated by limiting misinformation. The creation of interactive Q&A pages to reassure people and to flag sensationalist content was highlighted.

“I was surprised at the beginning that the vaccine appeared so quickly. But there were actually plausible reasons for this”
(Male in Germany)

“Information is the basis, informing people, including young people, about the real risks by sharing stories and experiences but without using alarmist headlines”
(Male in Italy)

“Reinforce fact checking and try to tackle the bubble that people enter on social media. Try to explain reality and make people aware of what is true and what is not”

(Female in Italy)

Incentives & Disincentives are Polarising

It was noted that in some cases offering rewards could be effective, however it had the potential to cause conflict. The participants highlighted that rewarding those who have waited while ignoring those who voluntarily received the vaccines was unfair. Those with the EU Digital COVID Certificate argued it was reasonable to set limitations in order to create a feeling of safety and security, for example when eating in restaurants or at other social gatherings. However, many young people were concerned about the ‘freedom’ aspect. They sympathised with the idea that vaccination is a voluntary choice and preventing people from conducting routine activities is in opposition to the idea of ‘individual freedom’; especially since no alternatives to vaccination are offered other than daily swabs that young people often struggle to afford. However, some recognised that freedom has its limitations and the choice not to vaccinate has negative repercussions for others.

“I find it really horrible to restrict freedom when being vaccinated is an individual choice”

(Female in France)

“Covid tests in Italy cost about 15 euros, and if you think of a family of 4 where no one is vaccinated,[...] or in my case, an 18-year-old boy who has no stable income, it becomes difficult”

(Male in Italy)

“Last week I worked as a rider and they asked me for the ‘Green Pass’ (EU Digital COVID Certificate), so I worked on Saturdays and Sundays, and I had to pay 15-euros to get the Covid-Pass and they pay me 5 euros per hour for 3 hours. This means that in the end the salary was used for petrol and for the test, and I have almost nothing left.”

(Male in Italy)

“Freedom should never affect the freedom of others, and not being vaccinated could cause, as at the

beginning of the crisis, hundreds of deaths a day, so for me, freedom cannot be taken into question”
(Male in France)

Low Information Levels on the HPV and Meningitis Vaccines

Young people are not well informed about other vaccines, although the female participants showed higher awareness levels. Many of the male participants were unaware they could be vaccinated against HPV. With regards to the meningitis vaccine, young people are either poorly informed, or their knowledge is confusing: some believe they received it but were not sure, others had only heard about it and a smaller group did not know a vaccine existed in the first place.

“I’m vaccinated against HPV and my big sister as well, we did it because our respective GPs told us that it was a vaccine that you should do”

(Female in France)

“I am vaccinated against HPV, but I am not informed because I think these were cases where we relied on our parents or carers. The same is happening to the 12 years olds for the Covid vaccine right now”

(Female in Italy)

“I’m really, absolutely not informed at all. I have a total lack of knowledge about HPV”

(Male in France)

“HPV? I don’t know. I think I was told I didn’t have to do it”

(Male in Germany)

Doctors & Healthcare Professionals (HCPs) a Trusted Source Overall

The majority of participants expect and want to receive information from their GPs and doctors, while some reiterated the idea that doctors do not know everything and are keen to read updated information from primary sources.

“It’s the role of the GPs to remind people about vaccines. I know that all my vaccine reminders, every time, it was my doctor who reminded me”

(Female in France)

“Definitely my doctor, not even newspapers unless they prove with references that what they are saying is the truth and it is accurate”

(Female in Italy)

“Just because they’re wearing a white coat doesn’t necessarily mean they have to be competent. [...] I actually prefer to read this information from primary sources, if possible, from the people who are most likely to deal with it professionally.”

(Male in Germany)

Vaccination Status Influences Views on the EU Digital COVID Certificate

The importance of covid-passes in hospitality sectors was recognised, although this was emphasised by those who were already vaccinated. Unvaccinated participants noted how it restricted their freedoms, and that governments were failing to find a better solution or affordable alternatives for the unvaccinated. Moreover, some were finding it difficult to get the covid pass as a QR code based on the different formats present or requiring internet connectivity.

“In my opinion, the Green Pass is wrong, because it is a deprivation and an alternative needs to be given to those who do not get the vaccine.”

(Male in Italy)

“I am sad when people don’t get vaccinated by choice but in the sense that they do what they want and don’t realise the discomfort of others. In a utopian universe we’ve fixed the situation because the majority are vaccinated. Then the green pass is not even needed, you don’t even have to go and say I’m not vaccinated and then explain all your personal situation”

(Female in Italy)

“I think in theory it’s a good thing because for example when you go to a restaurant you feel a bit safer.”

(Male in France)

“So you’ve been to three different test stations and you’ve had three different certificates.[...] And I found that a bit bad that there was no uniformity, as with the Corona app, that you can upload the result right away.”

(Male in Germany)

The Pandemic Has Helped Raise Awareness on Vaccines & Vaccination

One take-away from the pandemic has been its knock-on effect for awareness levels on the role and impact of vaccination. Some highlighted it made them re-consider their views on the efficacy of vaccines. However, some concerns were raised that those who have built up mistrust over the Covid-19 vaccine may continue this scepticism into the future. Overall, it was seen that the pandemic will have a positive impact on vaccine confidence.

“Now we are more aware because we are all much more sensitive to vaccine information”

(Female in Italy)

“I think globally Covid can have a positive impact because people see the benefits of vaccines and in the long run, we are more open about the scientific progress on vaccines.”

(Female in France)

“I know that, for my part, before COVID, I had a mistrust that was a bit latent when it came to vaccines in general. I had heard a lot. It was pretty negative, so for example I didn’t do the HPV vaccine also because my GP didn’t insist. Besides, I don’t think we even talked about it. And I think that now, the fact that we have talked a lot (about vaccines) and their efficacy, I think it can encourage people and especially young girls in the case of HPV vaccine to do it.”

(Female in France)

“Those who already had good views on vaccination are now encouraged to do so again and will probably look at the calendar a little more often now. And I think those who were a bit sceptical before or who have just developed a great deal of scepticism will now really look very cautiously at every vaccination.”

(Female in Germany)

SECTION 5: DISCUSSION & RECOMMENDATIONS

The preceding analysis has showcased the views and perspectives, real-life experiences, and the perceived and real barriers faced by young people in their access to both the Covid-19 vaccine and routine immunisation. Moreover, it has sought to highlight how health authorities, healthcare professionals, and policymakers can take the lessons learnt from the pandemic to boost vaccine equity and uptake, and tackle hesitancy. It has done this by focussing on young people's vaccination status, views on information sources and trusted places to receive vaccines, their experience of healthcare innovations in delivery methods, digital health tools, and the best strategies to boost vaccine uptake. It also focussed on the role and future use of digital health records and e-vaccination cards, and rights-based considerations regarding the EU Digital COVID Certificate and incentives and disincentives to vaccinate.

Among the key insights gained, while a large majority of young people are fully vaccinated against Covid-19 – education plays a significant role on a person's vaccination status. While only 9% of well-educated youth have no intention to be vaccinated, this rises to 27% for less well-educated young people. Similar trends are seen for booster shots in the future with a willingness to continue to be vaccinated, although on the whole youth want the priority to be on vaccinating everyone instead of boosters for the already vaccinated. Mass vaccination centres are the most common places to receive the vaccine, although national differences exist for being vaccinated at pharmacies and by using innovative delivery methods. Vaccine hesitant youth reiterate worries over the Covid-19 vaccine being rushed and are concerned over both its safety and efficacy. A lack of information is a further barrier to higher vaccination rates. Almost half of the unvaccinated youth in France (45%) believe the vaccine has been rushed, while the same number in Italy are more worried about its safety and potential side-effects. Young women and girls are also twice as concerned about the speed of development when compared to young males, who are most

worried about not having enough information - and are more inclined to receive the vaccine at a later date.

Young people place trust in doctors and HCPs to provide reliable information on vaccines in general, and on the whole are sceptical of sensationalist headlines in the news media, and the impact of social media on information bubbles and echo chambers. Based on this they want to see reliable information more easily accessible, and interventions to tackle misinformation and educate on the safety and efficacy of vaccines.

The pandemic has had an overall positive impact on the youth understanding of the role and impact of vaccines in general, although concerns are raised that it will likely cause hesitant people to validate their hesitancy in the future. In terms of routine immunisation, while knowledge levels are reasonably high, youth overall and especially males are unvaccinated against HPV. Strategies to increase information and boost uptake are therefore important in general but for young males in particular. Innovations in vaccine delivery can play a large role here based on the findings.

Looking forward, young people want to see innovations in vaccine delivery including drive-through clinics, vaccine buses, and combined vaccination slots continued in the future. They also want to see digital health tools extended and e-vaccination cards to be used for other vaccines. To increase access to vaccination youth place emphasis on the role of education and reducing barriers to travel and costs. While on the whole young people believe in the need for the EU Digital COVID Certificate and see the justifications in removing freedoms including travel and daily activities – they are torn on both the role of incentives and disincentives, and whether or not to introduce mandatory vaccination. Among the more hesitant youth population, alternative ways to regain normality other than mandatory vaccination or the removal of freedoms are sought after.

The findings of this report alongside the wider discussions included reiterate the need to continue youth-targeted research on the impact of the pandemic on vaccine confidence and hesitancy. They highlight the need to ramp up efforts to increase both Covid-19 vaccine uptake and routine immunisation, and to continue innovating delivery methods. Based on these key findings, alongside the growing protracted nature of the pandemic – this report further recommends to:

1. *Increase knowledge exchange & empower healthcare professionals (HCPs) to promote routine immunisation, the Covid-19 vaccine and booster shots.*

- a. Ensure healthcare professionals are up to date with the role and impact of vaccination and are in a position to recommend when and where to receive vaccines.
- b. Foster dialogue and trust between HCPs and patients to build confidence, and to reassure people with worries or concerns on different vaccines.
- c. Provide HCPs with up-to-date information on vaccine developments, new technologies, approval processes, and rollout programmes.

2. *Provide clear information targeted to those with specific concerns on the safety and efficacy of vaccines, or the perceived speed in which the Covid-19 vaccine has been developed despite the emergency approval process - which did not result in any lowering of quality or safety standards.*

- a. Tackle misinformation by directing key messages from the most trusted sources. Use HCPs to reiterate the science in medical and health journals based on low trust

among youth as an information source.

- b. Engage communities and ‘pockets’ of hesitancy to foster peer-to-peer exchange.
- c. Reiterate the role and efficacy of Covid-19 booster shots to avoid vaccine fatigue and growing doubts on its necessity.

3. *Continue to innovate delivery methods & leverage best practices in reaching certain groups and sections of society, linked to preferences in vaccine delivery format.*

- a. Remove barriers to vaccine uptake including distance, logistics, costs, and where necessary the need to book or provide individual and personal information.
- b. Increase the role of pharmacies in knowledge sharing and vaccine delivery in general. Focus in particular on countries with lower vaccination rates and higher hesitancy levels based on the success of vaccination at pharmacies.

4. *Incentivise vaccine uptake where possible by targeting on the fence or undecided people and groups, or those who are waiting to be vaccinated.*

- a. Focus on younger hesitant groups based on being more likely or willing to change their mind compared to older youth.
- b. Direct targeted messaging to those on the fence, or those waiting to be vaccinated based on a lack of information.

5. *Reinforce understanding on the negative impact of the pandemic on routine immunisation* and the need for young people to be vaccinated against vaccine preventable diseases (VPDs) and HPV.

- a. Focus on the gender gap in HPV knowledge and awareness and build on the impact vaccine delivery innovations have played in reaching young males.
- b. Elevate the potential role of pharmacists in knowledge sharing and educating young males on general vaccine information based on their higher likelihood to be vaccinated against HPV at a pharmacy where legally allowed.
- c. Combat the higher levels of knowledge gaps on routine immunisation and HPV among youth in France especially. Introduce targeted awareness campaigns on the role of vaccination to combat hesitancy and boost vaccine uptake.

6. *Facilitate individual health ownership & health data portability* by extending digital health tools and e-vaccination records for routine and childhood immunisation – and exploring the set-up of a common EU vaccination e-card.

- a. Ensure shifts in technology do not exacerbate digital divide gaps, or negatively impact certain groups.



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