

# Covid-19 health status certificates:

Policy recommendations on data privacy and human rights



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## Executive Summary

### Key findings and recommendations

This report uses Covid-19 health status certificates as an all-encompassing term, referring to the digital and paper-based certificates that, combined with identity verification, allow individuals to prove their health status (such as the results of Covid-19 tests and vaccination records).

It follows from the research that three main barriers to the successful implementation of Covid-19 health status certificates can be identified:



1. Lack of trust
2. Lack of global standards
3. Lack of a holistic approach

The research findings suggest that three key sets of measures have the potential to contribute to the responsible implementation of Covid-19 certificates:



1. Inclusion of sunset clauses in legislation
2. Appropriate governance of health data
3. Proactive protection of data privacy



Accordingly, it is recommended that:



1. Policymakers should ensure the availability and affordability of Covid-19 tests and vaccines to the whole population to avoid creating a two-tiered society in which only the wealthy have access to mobility and services.

2. Policymakers should ensure that Covid-19 health status certificates are only used during the pandemic and that their use is discontinued once the WHO declares that Covid-19 is no longer a public health emergency of international concern.

3. Policymakers should ensure that Covid-19 health status certificate providers, whether from the private or public sector, abide by the basic data protection principles, including lawfulness, fairness and transparency, purpose limitation, data minimisation, accuracy, storage limitation, integrity and confidentiality, and accountability.



4. Policymakers should ensure that Covid-19 health status certificate providers build data protection into the design of these certificates by default, thus contributing towards mitigating known risks to data privacy.

5. Policymakers should ensure that Covid-19 health status certificate providers maintain the confidentiality and security of the information collected and processed. They should prevent any unauthorised access, accidental loss, damage or destruction of the data.

6. Policymakers should request that Covid-19 health status certificate providers undertake data protection impact assessments (DPIA) before implementing specific solutions. That is important as these certificates are likely to result in a high risk to natural persons' rights and freedoms.



## Introduction and methodology

The Covid-19 pandemic has imposed a significant toll on countries around the world. In addition to the dramatic increase in population mortality and the substantially adverse health effects for many individuals, the pandemic has also shown the limits of public health policies.

Solutions based on technology abounded – mainly geared to help solve the problems caused by the pandemic, with various degrees of success. Contact-tracing applications and Covid-19 health status certificates were among those technologies aiming to support public health measures while providing individuals with a promise of returning to normalcy.

This report focuses on Covid-19 health status certificates, also commonly referred to as vaccine passports or digital health passports. It presents independent research funded by the Economic and Social Research Council (ESRC) as part of UK Research & Innovation (UKRI)'s rapid response to Covid-19.

The report builds on research findings based on disciplinary and interdisciplinary literature reviews and evaluations of primary and secondary sources of law. The research was also informed by twenty semi-structured interviews with technologists and experts in digital identity and certification conducted between December 2020 and March 2021. The study also benefited from the insights and views of experts who participated in two workshops in March 2021 and May 2021.

While the report does not refer to individual contributions by each of the experts, a list of those who were interviewed and participated in the workshops is available in annexes 1 and 2.

Using socio-legal methodology (Cownie & Bradney, 2017), the research situated the law within the broader context of using technology and health data in public health emergencies. The socio-legal approach was used to uncover the “law in context” (as opposed to doctrinal or black-letter law research), to investigate the limits and necessary safeguards imposed by courts when States restrict individuals' human rights.

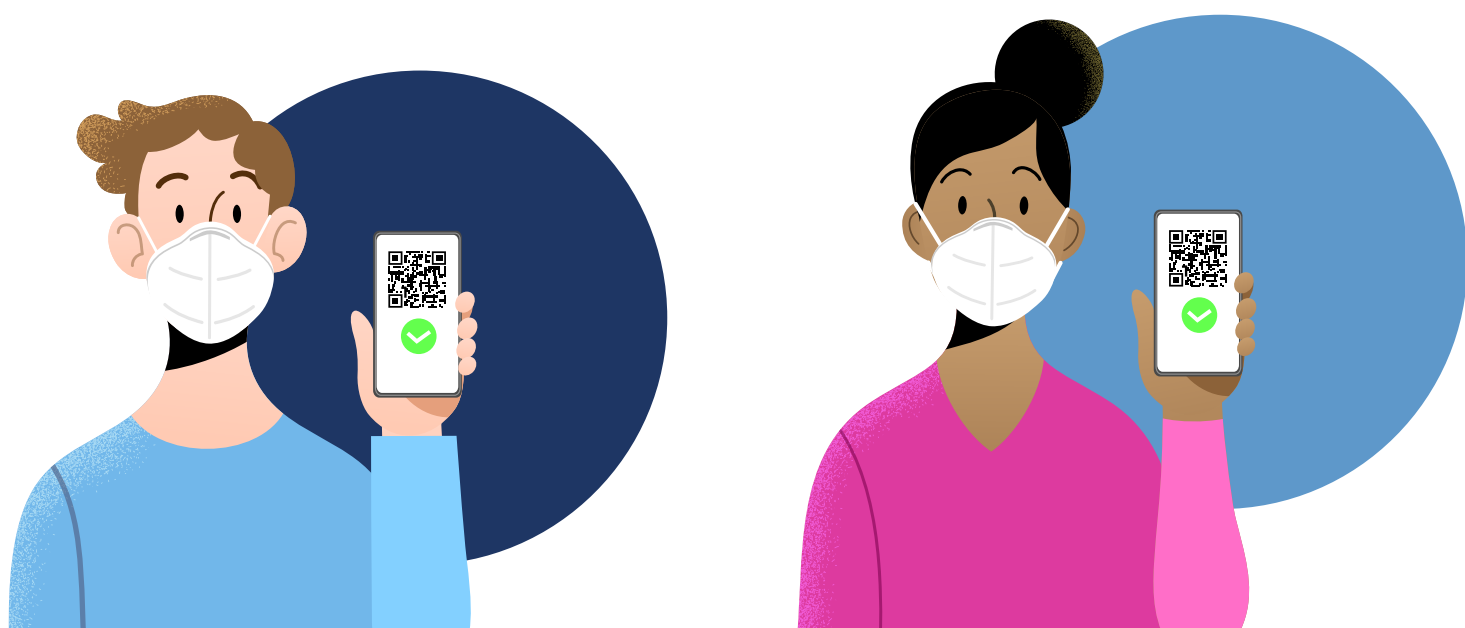
The report aims to inform decision-makers about (1) the key barriers to the implementation of Covid-19 health status certificates; (2) the potential implementation enablers, and (3) the risks these certificates pose to the protection of data privacy and human rights as well as the potential avenues for risk mitigation.



## Clarifying the terminology

A variety of terms has been used to describe the tools allowing an individual to prove their Covid-19 health status – “digital health passports”, “vaccine passports”, “green passes”, or “immunity passports”. While the term passport has been used liberally, notably in the media, these certificates do not refer to passports in the sense of official documents issued by governments as proof of one’s nationality or citizenship.

This report uses Covid-19 health status certificates as an all-encompassing term, referring to the digital and paper-based certificates that, combined with identity verification, allow individuals to prove their health status (such as the results of Covid-19 tests and vaccination records).





## State of play

At the time of writing, the World Health Organization (WHO) had advised against governments requiring proof of Covid-19 vaccination for international travel due to the uncertainties about whether the vaccines prevent disease transmission (WHO, 2021a). Much is still unknown, despite the scientific community's efforts in evaluating the risk of SARS-CoV-2 reinfection, immunity, and immunisation (Phelan, 2020; Boyton & Altmann, 2021; Mills & Dye, 2021; Ada Lovelace Institute, 2021b; Ada Lovelace Institute, 2021d).

The WHO launched (in December 2020) and later dissolved (in June 2021) a Smart Vaccination Certificate Working Group. The group had the task to review the possibility of adopting a Smart Vaccination Certificate for Covid-19 (WHO, 2020, 2021b). The decision to dissolve the working group reflected a change in scope for the WHO – the institution announced that it would develop guidance to include SARS-CoV-2 testing and Covid-19 recovery status in addition to Covid-19 vaccination. Three separate documents will reportedly guide States, focusing on the technical aspects of the rebranded Digital Documentation of Covid-19 Certificates (DDCC) (WHO, 2021b).

There is a growing consensus about requiring Covid-19 health status certificates for international travel. In England, since 17 May 2021, those persons who have received a full course of the Covid-19 vaccine can use the NHS digital application to demonstrate their vaccination status when travelling abroad (Department of Health and Social Care, 2021).

In all Member States of the European Union (EU), the EU Digital Covid Certificates (formerly labelled Digital Green Certificates) have been fully operational since 1 July 2021 (European Commission, 2021a). These digital and paper-based certificates are primarily used for international travel within the EU. They contain a QR code and a digital signature for enhanced security.

The European Economic Area (EEA) countries (Liechtenstein, Iceland and Norway) and Switzerland have also implemented Covid-19 health status certificates that can be connected to the EU Digital Covid Certificate Gateway (European Commission, 2021a).



However, the lack of a data protection impact assessment (DPIA) for the EU Digital Covid Certificates has cast significant doubts on the level of protection of health data (European Data Protection Board and European Data Protection Supervisor, 2021, para. 16).

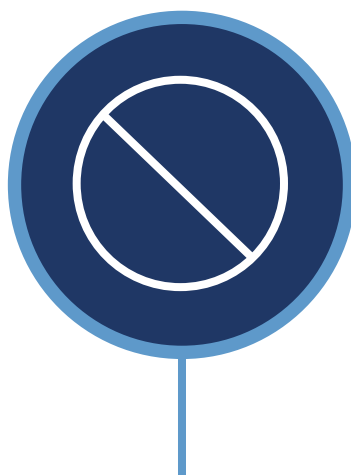
The private sector has also proposed a variety of Covid-19 health status certificates, often based on smartphone applications and mostly focusing on international travel (CommonPass, 2021; Good Health Pass, 2021; IATA, 2021; IBM, 2021).

The domestic uses of Covid-19 health status certificates are not straightforward. While the UK government has decided not to mandate Covid-19 status certification (HM Government, 2021, para. 4), domestic uses of Covid-19 certificates are being considered by the government in England. Such certificates would notably be required for access to nightclubs and crowded venues (Stewart, 2021). A number of other countries worldwide have introduced Covid-19 health status certificates for use in domestic settings. These include, for example, Israel, France, Italy and Switzerland, (Ada Lovelace Institute, 2021a).

Risks of increased surveillance, scope creep, inequality and discrimination have been repeatedly voiced by academics and civil society organisations (Kofler & Baylis, 2020; Phelan, 2020; Privacy International, 2020; Beduschi, 2020a, 2020b; Ada Lovelace Institute, 2021b; Mills & Dye, 2021).

On this basis, the present report takes stock of these different initiatives and provides a comprehensive analysis of their main barriers to implementation, potential enablers and their implications for data privacy and human rights.





## Key barriers to implementation

**It follows from the research that three main barriers to the successful implementation of Covid-19 health status certificates can be identified: (1) lack of trust; (2) lack of global standards; and (3) lack of a holistic approach.**

### Lack of trust

A lack of trust in digital solutions proposed so far for the management of the Covid-19 has been consistently highlighted as a significant issue by populations worldwide (Blasimme & Vayena, 2020; Ipsos MORI, 2020). Contact-tracing applications were of particular concern (Akinbi, Forshaw, & Blinkhorn, 2021).

Contact-tracing applications have indeed been misused in certain countries. For instance, reportedly, in Singapore, data from the contact-tracing applications were shared with the police even though the government had initially ensured that the data would only be used for the limited purpose of managing the pandemic (Illmer, 2021).

Similarly, concerns about whether Covid-19 health status certificates would be re-purposed for further uses (Pietropaoli, 2021), such as serving as a *de facto* digital identity system, have been voiced by experts and activists worldwide (Privacy International, 2020; Edwards, 2021).

While there seems to be broad support for Covid-19 health status certificates worldwide, significant trust issues remain, notably regarding access and management of health data.

In the UK, where debates about digital identity are still ongoing, a survey found that Britons strongly supported the introduction of vaccine certificates for international travel (Ipsos MORI, 2021a).

Another survey by Ipsos MORI for the World Economic Forum showed that about three in four adults across 28 countries supported the idea of requiring vaccine certificates for international travel and for attending large public events (Ipsos MORI, 2021b).

However, this global survey also found that only 50% of individuals were comfortable allowing their governments to access their personal health data, and just 40% in the case of private companies (Ipsos MORI, 2021b).



## Lack of global standards

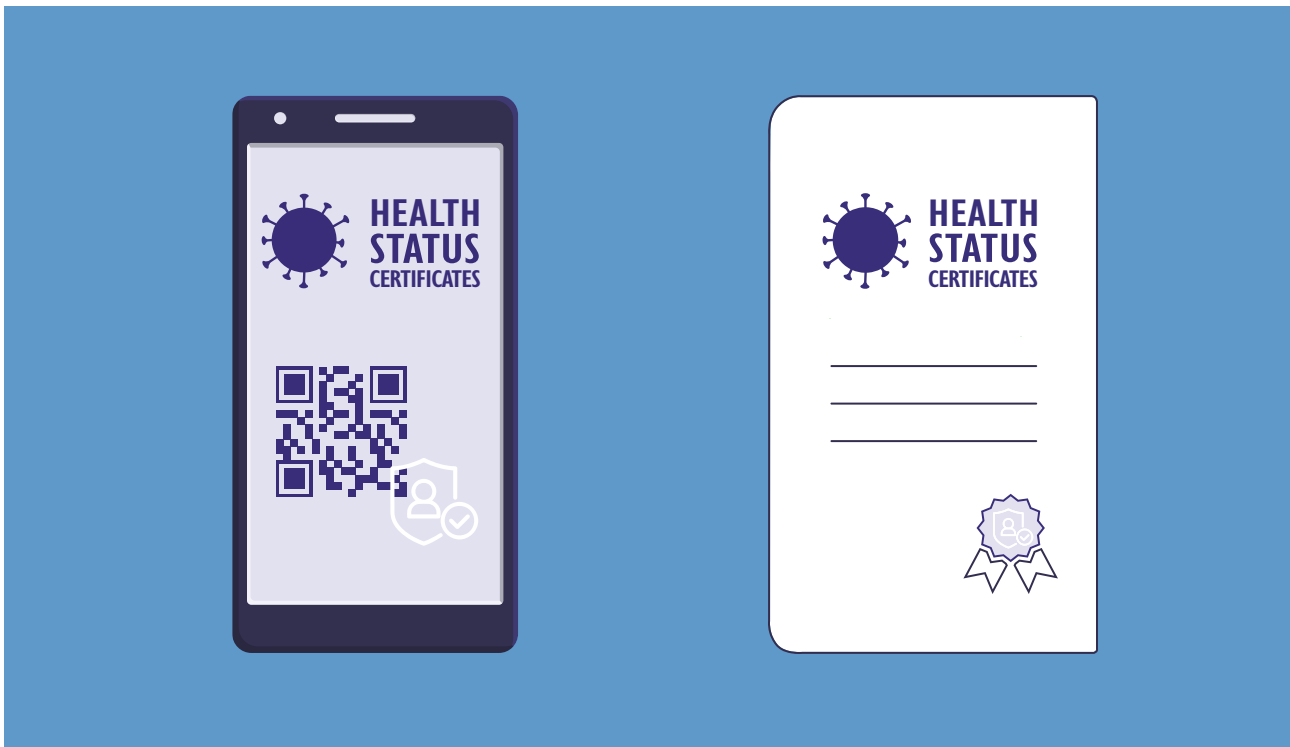
The lack of global standards for Covid-19 health status certificates was also identified as an important barrier to successful implementation. Ten out of twenty experts interviewed for this project mentioned a need for widely accepted standards for Covid-19 certificates. Experts participating in the project's workshops also pointed out that policymakers must learn from previous experiences implementing digital identity solutions – the lack of universal standards was a significant problem already back then. The experts have also highlighted the difficulties in achieving truly global standards in this area due to time constraints.

Yet, since June 2021, the EU has progressed in establishing a common framework and setting up EU Digital Covid Certificates standards. The European Commission has issued technical specifications and developed reference software and applications for issuing, storing, and verifying certificates (European Commission, 2021b).

An EU Digital Covid Certificate Gateway was set up and was already operational in June 2021. The gateway is hosted at the European Commission's data centre in Luxembourg. This digital infrastructure connects national databases holding the public signature keys contained in the QR codes of each certificate (vaccine records, Covid-19 test results, or recovery certificates). Its goal is to allow the verification of these digital signatures without processing personal data – as the personal information of the certificate holder does not go through the gateway but is stored at the national level (European Commission, 2021a).

Further research will be needed to evaluate the uptake of the EU Digital Covid Certificates by individuals at the EU level and the impact these certificates will have on creating global standards in the context of international travel outside of the EU.

In this regard, the Council of the EU recommended that if the Commission is satisfied that certificates issued by a third country comply with the EU standards and are interoperable, it may adopt a decision allowing these certificates to be accepted in the EU (Council Recommendation (EU) 2021/816, para. 11). The same conditions as those applicable to the EU Digital Covid Certificates would then apply. For example, as a baseline, the vaccines authorised in the EU are to be accepted. However, individual member States can also decide to accept those vaccines approved by the WHO (Council Recommendation (EU) 2021/816, para. 12).



## Lack of a holistic approach

Our research findings clearly indicate that focusing only on the technological solutions for Covid-19 health status certificates is not sufficient. As these certificates directly impact individuals' rights, there is a crucial need to consider the laws and regulations, including those on data privacy and human rights.

Experts at the workshops and interviews have also highlighted that to avoid the exacerbation of existing biases and inequality in society, providers of Covid-19 health status certificates should consider the needs of all users and not only those with high levels of digital literacy.

In this regard, paper-based certificates facilitate access to the credentials by all.

Yet, the risk of fraud and the incentives to procure false Covid-19 health status certificates were also emphasised. Such risks may be more important concerning paper-based certificates. As a solution, experts have underlined the need for secure applications and embedded technologies such as QR codes.

Accordingly, these three main barriers to implementation – lack of trust, lack of global standards, and lack of a holistic approach – should be carefully considered by those implementing Covid-19 health status certificates in the public and private sector. Conversely, measures that can improve the implementation of these certificates should also be considered, as discussed below.



## Potential implementation enablers

**Three sets of measures have the potential to contribute to the responsible implementation of Covid-19 certificates: (1) inclusion of sunset clauses in legislation; (2) appropriate governance of health data; and (3) proactive protection of data privacy.**

### Sunset clauses

A sunset clause is a provision that sets a time limit for legislation. That means that in principle, the rules provided for in a given legislative act will only be valid for a fixed period unless specific exceptions apply – for example, the extension of the statute by law after re-examination of the matter by Parliament.

For instance, in the UK, a sunset clause was inserted in the Coronavirus legislation due to the unprecedented nature of the pandemic (Coronavirus Act 2020, ss 89-90). It sets out that the “Act expires at the end of the period of 2 years beginning with the day on which it is passed” (Coronavirus Act 2020, s 89 (1)) – although a variety of exceptions apply (Coronavirus Act 2020, ss 89 (2) and 90). The Act is also reviewed by the Parliament every six months (Coronavirus Act 2020, s 98). The Coronavirus (Scotland) Act 2020 also provides a sunset clause according to which an expiry date is set – although that date can be extended (Coronavirus (Scotland) Act 2020, s 12).

In the same way, legislators should include a specific sunset clause in the relevant legislation providing the legal basis for the deployment of Covid-19 health status certificates. Such a clause should specify an expiry date for the deployment of these certificates. As such, it is recommended that:

- Covid-19 health status certificates should be used only during the pandemic, and their use discontinued once the WHO declares that Covid-19 is no longer a Public Health Emergency of International Concern (as per the 2005 International Health Regulations, Article 1 (1)).

- In addition, technical measures should be in place to ensure that such limitations are effective in practice. For example, technical measures can be adopted to enable automatic data deletion after a predefined timeframe within data transfer agreements (Stock & Orrell, 2020). They can also be used to phase out smartphone Covid-19 health status certificates applications after the pandemic.

The provision of a sunset clause coupled with these technical measures could contribute to building trust in the deployment of Covid-19 health status certificates. They would be used as emergency and exceptional tools, valid only during the pandemic, thus avoiding their normalisation beyond that timeframe.

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## Accountability

The Covid-19 pandemic exposed the need for better data governance concerning health data, particularly data collected and used in the context of Covid-19 health status certificates. Accountability is one of the fundamental principles of data governance (Ladley, 2019) and should be central to Covid-19 health status certificates due to the sensitivity of health data.

Accountability mechanisms should be an integral part of the frameworks governing the deployment of Covid-19 certificates.

In simple terms, accountability can be defined as calling someone to account for their actions or omissions (Mulgan, 2000). Therefore, accountability entails a process in which one person or entity gives account for an action or omission to another one. Through this process, it is possible to verify whether that person or entity may be legally responsible or liable for the consequences of their acts or omissions (Giesen & Kristen, 2014, p. 6).

For instance, State responsibility is engaged when harmful conduct is attributable to a State and when it constitutes a breach of one of the State's obligations under international law (International Law Commission, 2001; Marks & Azizi, 2010; McGregor, Murray, & Ng, 2019). State parties to international treaties on human rights owe treaty obligations to individuals who find themselves within those States' jurisdiction – as per Article 2 of the International Covenant on Civil and Political Rights (ICCPR); Article 1 of the European Convention on Human Rights (ECHR); and Article 1 of the American Convention on Human Rights (ACHR). These States must, therefore, respect and protect individuals' human rights set forth by these treaties (Human Rights Committee, 2004).

Therefore, public authorities deploying or requiring Covid-19 health status certificates are responsible for the harms caused to individuals if their conduct breaches the applicable legal obligations to respect and protect human rights.

Their responsibility does not depend on whether they have designed and developed Covid-19 health status certificates internally. They are also responsible if they procure the certificates and the technologies enabling them to work from private sector suppliers. This is because States must adopt measures necessary to safeguard the effective respect of these rights even when harm originates in actions or omissions committed by private persons or entities (Human Rights Committee, 2004, paras. 6-8).



## Proactive protection of data privacy

If effectively implemented, Covid-19 health status certificates may contribute to managing the effects of the current pandemic. Yet, as it will be discussed in more detail in the following section, Covid-19 health status certificates pose significant challenges to data privacy.

Data protection impact assessments (DPIAs) should also be carried out, as per Article 35, paragraph 1 of the General Data Protection Regulation (GDPR), considering that the Covid-19 health status certificates pose significant risks to the rights and freedoms of individuals.

Moreover, due to the sensitivity of health data collected and used by Covid-19 health status certificates, providers should build data protection into the design of the certificates by default to address potential data privacy-invasive situations proactively, as required by Article 25, paragraph 1 of the GDPR.

In any case, the urgency surrounding the adoption of these measures should not lead to governments rolling out Covid-19 health status certificates in haste without the appropriate protection of data privacy, as discussed below.



## Risks and mitigation strategies

**Covid-19 health status certificates pose essential questions for the protection of data privacy and human rights given that: (1) they use sensitive personal health information; (2) create a new distinction between individuals based on their health status, and (3) can be used to determine the degree of freedoms and rights individuals may enjoy (Beduschi, 2020b).**

**Therefore, it is important to analyse the risks and the potential risk mitigation strategies concerning data privacy and exclusion and discrimination.**

### Data privacy

Data protection is guaranteed in the EU by the GDPR. This regulation was implemented in the UK before Brexit through the adoption of the Data Protection Act 2018. Subsequently, the GDPR was retained in domestic law as the UK GDPR (Department for Digital, Culture, Media & Sport, 2020).

According to Article 4, paragraph 15 of the GDPR, “data concerning health” means “personal data related to the physical or mental health of a natural person, including the provision of health care services, which reveal information about his or her health status.” Covid-19 test results and vaccination records relate to a natural person’s physical health and reveal information about their health status – thus, they are considered health data under the GDPR.

As previously analysed in detail in the context of this research project (Beduschi, 2020b, 2021), health data such as Covid-19 test results and vaccination records enjoy a reinforced level of protection under Article 9 of the GDPR.

In addition, it is a matter of well-established case-law of the European Court of Human Rights that the right to respect for private life (as provided for in Article 8 of the ECHR) includes the protection of personal information concerning one’s health and attributes such as biometric data and DNA samples (S. and Marper v. UK, 2008; Gaughram v. UK, 2020).



However, the protection afforded by Article 8 of the ECHR is not absolute. That means that this right may be restricted, as long as the restrictions are not arbitrary. Interferences with this right by public authorities may be justified under the following two broad conditions:

1. Any interference must safeguard at least one of the legitimate aims enumerated in the second paragraph of Article 8 of the ECHR.

These include, for example, “the protection of health” and “the economic well-being of the country,” which are of importance in the context of the current pandemic.

2. Any interference with this right must satisfy the cumulative tests of legality, necessity, and proportionality.

The legality test requires that public authorities’ measures interfering with this right have a legal basis in domestic law and be compatible with the rule of law (*S. and Marper v. UK*, 2008, para. 95; *Malone v. UK*, 1984, para. 67). Accordingly, domestic laws must provide suitable and specific measures to safeguard individuals’ rights and freedoms as required by Article 9, paragraph 2 under (i) of the GDPR – even when public health interests are at stake. In addition, to comply with the legality test under Article 8 of the ECHR, domestic laws must be adequately accessible and foreseeable and afford adequate legal protection against arbitrariness (*S. and Marper v. UK*, 2008, para. 95).

The necessity test demands that the measures adopted address a pressing social need (*S. and Marper v. UK*, 2008, para. 101). In the context of the current pandemic, if the adoption of Covid-19 health status certificates contributes to re-instating freedom of movement and lifting restrictive lockdowns, the measure may arguably satisfy the necessity test.

The proportionality test requires that the measures taken by public authorities are proportionate to the legitimate aims pursued and entail the least restrictive viable solution (*Kennedy v. UK*, 2010, para. 155; *Roman Zakharov v. Russia*, 2015, para. 260). The proportionality test would require that public

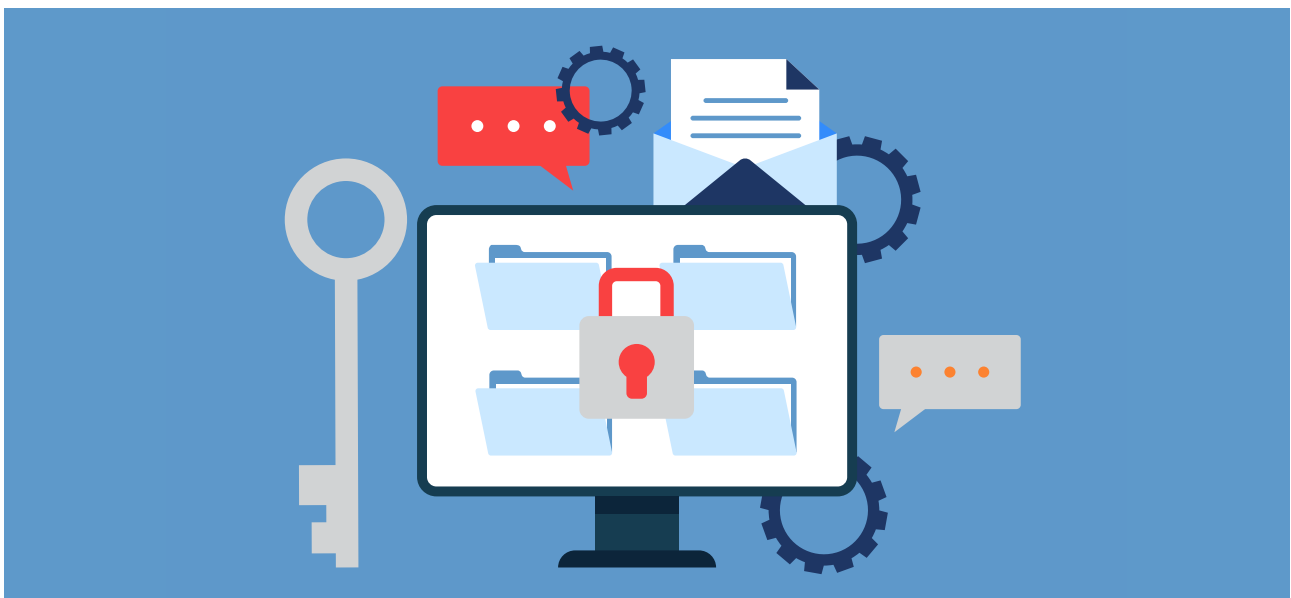


authorities strike a fair balance between, on the one hand, the interests of the community as a whole and, on the other hand, private individuals' rights. In doing so, public authorities often benefit from a certain leeway or margin of appreciation (Greer, 2000; Shany, 2005; Letsas, 2006; McGoldrick, 2016; Follesdal, 2017).

In this regard, the context of deployment of these certificates, their impact on rights and freedoms, and the extent of the safeguards put in place will determine whether public authorities have found an adequate balance between the competing rights and interests at stake (Beduschi, 2021, pp. 5-6).

Accordingly, the following recommendations can be made:

- First, it is crucial that Covid-19 health status certificate providers, whether from the private or public sector, abide by the basic data protection principles enumerated in Article 5 of the GDPR. These include the principles of lawfulness, fairness and transparency, purpose limitation, data minimisation, accuracy, storage limitation, integrity and confidentiality, and accountability.
- Second, providers should build data protection into the design of the Covid-19 health status certificates by default, as required by Article 25, paragraph 1 of the GDPR. That would contribute towards mitigating known risks to data privacy. For example, providers should limit the type of information requested and collected by default. They should also add safeguards concerning any transfer of personal data to third parties in the design of the Covid-19 health status certificates.
- Third, as Covid-19 health status certificates concern health data, providers should maintain the confidentiality and security of the information collected and processed. They should prevent any unauthorised access, accidental loss, damage or destruction of the data, as per Article 5, paragraph 1 (f) of the GDPR.
- Finally, policymakers should request that providers undertake data protection impact assessments (DPIAs) in line with the requirements of Article 35, paragraph 1 of the GDPR. Doing so is essential as Covid-19 health status certificates are likely to result in a high risk to natural persons' rights and freedoms, in particular, due to exclusion and discrimination.





## Exclusion and discrimination

All persons are equal in dignity and rights (Article 1 of the Universal Declaration on Human Rights (UDHR)) and are entitled to the equal protection of the law without any discrimination (Article 7 UDHR; Article 26 of the ICCPR; Article 14 of the ECHR; Article 24 of the ACHR; Article 3 of the African Charter on Human and Peoples' Rights (ACHPR)).

Yet, Covid-19 health status certificates create a distinction between individuals based on their health status (Beduschi, 2020b). Depending on how they are implemented, Covid-19 health status certificates may lead to the exclusion of parts of the population based on their health status. That can be the case of those persons who do not have access to vaccines or cannot afford Covid-19 tests (Beduschi, 2020b; Council of Europe, 2021; Equality and Human Rights Commission, 2021).

Minorities and vulnerable populations may be even more at risk of exclusion due to the pervasive social and health inequalities that have only been deepened during the pandemic (Ada Lovelace Institute, 2021c).

A critical issue relates to the risk of excluding populations who do not currently have ways to prove their identity. As Covid-19 health status certificates rely on verifying identity to allow individuals to prove their health status, those without documentary evidence of their identity may be left behind. For instance, in the UK, an estimate of 24% of adult citizens do not have a passport or a photographic ID document such as a drivers' licence (Uberoi, 2019).

As a result, Covid-19 health status certificates providers may turn to facial recognition technologies to verify the identity of those without identity documents (Ada Lovelace Institute, 2021d, pp. 71-72). That may impact Black, Asian and minority ethnic individuals more severely. Research demonstrates that facial recognition technologies are still not accurate for recognising Black and Asian faces and are significantly inaccurate when trying to recognise women with darker skin types (Buolamwini & Gebru, 2018).

Such technical problems could have devastating consequences for individuals using Covid-19 certificates. They could also lead to unlawful discrimination based on race if there are no alternative ways to verify identity and if the providers insist on using inaccurate facial recognition technologies.

In addition, identity verification may deter migrants in an irregular situation from being vaccinated and thus increase the risks for public health if these populations are not vaccinated (UN Committee on Migrant Workers, 2021).

Globally, while a consensus is being formed about requiring Covid-19 health status certificates for international travel (World Committee on Tourism Ethics, 2021), the lack of equitable access to vaccines by populations worldwide may reduce international mobility. The unvaccinated individuals in the Global South may find limited access to international travel and mobility. Such limitations can also be worsened by the differences in types of vaccines reaching Global South countries and those approved by and authorised in Global North countries. Similar concerns have been voiced about the type of vaccines administered in the UK as compared with those authorised for travel to the EU (Rankin, 2021).

The domestic uses of these certificates also pose considerable problems. In particular, requiring proof of Covid-19 vaccination for access to workplaces, restaurants, shops, and other private venues may lead to the exclusion of the unvaccinated population and risks creating a two-tiered society (Ada Lovelace Institute, 2021d; Beduschi, 2021; Taylor, Milan, Veale, & Gürses, 2021; Thomas, King, Fernandez-Bermejo, Bogg, & Veale, 2021; Wagner, 2021).

In addition, if Covid-19 tests are not affordable to everyone, requiring Covid-19 health status certificates for travel and accessing public and private spaces risks reinforcing the inequality in society and creating a system in which only the wealthy have access to mobility and services. For instance, the costs of Covid-19 tests at airports worldwide vary significantly, with PCR test costs ranging from USD \$8 to USD \$404 and rapid antigen test costs between USD \$2 and USD \$214 (Skytrax, 2021).

Accordingly, policymakers should ensure the availability and affordability of Covid-19 tests and vaccines to the whole population to avoid creating a two-tiered society in which only the wealthy have access to mobility and services.





## Recommendations

**The Covid-19 pandemic has exposed the need for policymakers to navigate a complex set of legal obligations while balancing competing individuals' rights and public interests.**

This report has examined (1) the key barriers to the implementation of Covid-19 health status certificates, (2) the potential implementation enablers, and (3) the risks these certificates pose to the protection of data privacy and human rights as well as the potential avenues for risk mitigation.

Analysis in this report confirms that while managing the effects of the pandemic, policymakers must strike an adequate balance between protecting the rights and freedoms of all individuals and safeguarding public interests. In doing so, policymakers should carefully consider the risks to these rights and freedoms and the available mitigation strategies.

Accordingly, it is recommended that:



1. Policymakers should ensure the availability and affordability of Covid-19 tests and vaccines to the whole population to avoid creating a two-tiered society in which only the wealthy have access to mobility and services.



2. Policymakers should ensure that Covid-19 health status certificates are only used during the pandemic and that their use is discontinued once the WHO declares that Covid-19 is no longer a public health emergency of international concern.



3. Policymakers should ensure that Covid-19 health status certificate providers, whether from the private or public sector, abide by the basic data protection principles, including lawfulness, fairness and transparency, purpose limitation, data minimisation, accuracy, storage limitation, integrity and confidentiality, and accountability.
4. Policymakers should ensure that Covid-19 health status certificate providers build data protection into the design of these certificates by default, thus contributing towards mitigating known risks to data privacy.
5. Policymakers should ensure that Covid-19 health status certificate providers maintain the confidentiality and security of the information collected and processed. They should prevent any unauthorised access, accidental loss, damage or destruction of the data.
6. Policymakers should request that Covid-19 health status certificate providers undertake data protection impact assessments (DPIA) before implementing specific solutions. That is important as these certificates are likely to result in a high risk to natural persons' rights and freedoms.





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## Annex 1. Interviews

**We conducted twenty semi-structured interviews with technologists and experts in digital identity and certification between December 2020 and March 2021. The interview protocol including the questions and the list of interviewees are reproduced below.**

### Interview protocol

#### ***Covid-19: Human Rights Implications of Digital Certificates for Health Status Verification*** **Interview Protocol**

This project is funded by the UK Research and Innovation (UKRI) and Economic and Social Research Council (ESRC) – grant number ES/V004980/1. It investigates the data privacy and human rights implications of digital certificates for health status verification, also referred to as digital health passports or immunity passports.

As part of the study, we are interviewing digital identity and digital certification specialists from across the private and public sector to inform our analysis. Given your relevant expertise, you have been invited to take part in an interview with the project team, lasting approximately 45 minutes.

If at any point you feel you are unable to respond to any of the interview questions, simply inform the interviewer, and we will move onto subsequent questions. We understand that the backgrounds and experiences of our interviewees will vary considerably and are keen to focus on the areas where you feel able to provide commentary.

You have been provided with a Participant Information Sheet and a Consent Form. We would like to ask you to review these documents and please complete and sign the consent form. We will be taking notes during the interview, and – if selected in the consent form – we will record this interview solely to aid note-taking. Both the recording and the notes of the interview will be stored securely in line with the EU's General Data Protection Regulation (GDPR).



### Interview questions

- What is your current role and experience with digital identity and or digital health passports?
- How would you characterise the current landscape of using digital health passports in the country or countries where you work and more broadly?
- In your view, what are the main opportunities associated with digital health passports?
- In your view, what are the main risks or challenges associated with digital health passports, particularly concerning privacy, data protection and human rights in general?
- In your view, what are the main barriers or challenges for wider adoption of digital health passports in the country or countries where you work and more broadly?
  - What is the nature of these barriers or challenges?
  - Do these barriers or challenges concern specific technical capabilities, or are they more general?
- In your view, what should be the requirements in relation to ethics and the legal and regulatory environment to enable further adoption of digital health passports?
- In your view, what should be the priorities for governments and the industry to address these requirements?

### Conclusion

- Do you have any further comments or observations?
- Do you have recommendations of other experts for us to speak to in the context of this study?

## Interviewees

INT 01	Adrian Gropper	CTO, Patient Privacy Rights Foundation
INT 02	Andres Kütt	Proud Engineers
INT 03	Cristina Apostol	Global PAM Lead, Visa
INT 04	Elizabeth Renieris	Founder, hackylawyer Affiliate, Berkman Klein Center for Internet & Society, Harvard University Tech + Human Rights Fellow, Carr Center for Human Rights Policy, Harvard Kennedy School
INT 05	Francesca Hobson	Content Marketing Manager at Ubisecure
INT 06	Anonymous	eHealth expert, MyData Sweden
INT 07	Jessica Patel	CCO at Airside
INT 08	Joss Langford	Director, Coalition
INT 09	Anonymous	Anonymous (Digital Identity Industry)
INT 10	Karyn Bright	Head of Communications, Women in Identity
INT 11	Anonymous	Anonymous (Government)
INT 12	Anonymous	Anonymous (Digital Identity Industry)
INT 13	Michael Shea	Director, Identity Science Practice
INT 14	Paul Knowles	Head of the Advisory Council   Human Colossus Foundation
INT 15	Anonymous	Yoti
INT 16	Marten Kaevats	National Digital Advisor, Government of Estonia
INT 17	Heather Kendall	CEO, Web42
INT 18	Anonymous	London School of Economics
INT 19	Emrys Schoemaker	Research Director, Caribou Digital
INT 20	Debajani Mohanty	DID/SSI Expert, MyEarth.Id



## Annex 2. Workshops

The first project workshop was co-organised with Women in Identity and focused on exploring the key opportunities and challenges concerning designing and deploying digital health certificates. The purpose of the second project workshop was to discuss the different legal and ethical implications of such certificates.

### Workshop participants

WP 01	Dia Banerji	Expert, Women in Identity; Business Consultant, Blockchain Blockpass Identity Lab, Edinburgh Napier University
WP 02	David Barrett	Lecturer, University of Exeter
WP 03	Karyn Bright	Head of Communications, Women in Identity
WP 04	Lilian Edwards	Professor of Law, Innovation & Society, Newcastle University
WP 05	Swati Gola	Lecturer, University of Exeter
WP 06	Naomi Hawkins	Associate Professor, University of Exeter
WP 07	Jo Hollings	Expert, Women in Identity
WP 08	Timon Hughes-Davies	Senior Lecturer, University of Exeter
WP 09	Elinor Hull	Digital Identity Lead, Post Office
WP 10	Joasia Luzak	Associate Professor, University of Exeter
WP 11	Louise Maynard-Atem	Data Insights Lead, GBG Plc and Women in Identity
WP 12	Sarah Munro	Director of Personal Identity, Onfido and Women in Identity
WP 12	Irene Pietropaoli	Research Leader in Business & Human Rights, British Institute of International and Comparative Law
WP 13	Cheryl Stevens	Expert, Women in Identity
WP 14	Adam Wagner	Barrister, Doughty Street Chambers



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