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ASSESSING PANDEMIC MEASURES: THE IMPACT OF DIGITAL TECHNOLOGIES ON FUNDAMENTAL RIGHTS

by

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The European Union's response to the COVID-19 pandemic relied heavily on creating, deploying and using digital technologies. This article focuses on the implications of two such measures - digital contact tracing and digital vaccine certificates. Much of the academic response to these has focused on data protection law, the preservation of privacy and the reluctance to build surveillance infrastructures that would empower states with tracking capabilities. This contribution tackles these digital initiatives from another angle. It examines their deployment through a broader human rights lens, and explores whether the EU, in mobilising these measures to curb the pandemic and reinstate free movement during these times, complied with its international obligations to protect human rights, particularly those enshrined in the European Convention on Human Rights and the EU Charter of Fundamental Rights. This paper argues that in urgent and extraordinary contexts where knowledge and understanding of health threats are limited, such as was the COVID-19 pandemic, it remains essential to be prudent if and when overstating the primacy of one or more rights over others. Human rights instruments include provisions on emergency contexts, and laws implementing fundamental rights, such as the GDPR, allow for the deployment of measures to help protect against threats to public health. It is essential in such contexts to strive for an

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appropriate balance which ensures a sustained role for protective mechanisms such as lawfulness, proportionality, and legal and technical safeguards, in light of public interest goals and without undue deference to state interests which may have serious implications - such as, in this case, unjustified mass surveillance.

KEY WORDS

Human Rights, ECHR, EU Charter of Fundamental Rights, GDPR, COVID-19, digital technologies, pandemic technology, contact tracing, Digital Certificates

1. INTRODUCTION

The outbreak of the novel coronavirus SARS-CoV-2 ('COVID-19') was declared a Public Health Emergency of International Concern ('PHEIC') by the World Health Organisation ('WHO') on 30 January 2020 and classified as a pandemic less than two months later. COVID-19 retained PHEIC status until May 2023.[1] During this period, governments across the world took various diverse measures to contain the rapidly-spreading virus and to prevent and limit the consequences of the public health threat. By their nature, these measures engaged individual human rights, raising controversy regarding whether they constituted a lawful restriction of human rights in extraordinary circumstances, or whether governments were riding roughshod over and violating such rights.

Core measures implemented during the COVID-19 pandemic were either technological in nature or implemented through technological means. This contribution explores whether measures implemented by EU countries to curb the pandemic and reinstate free movement during these times complied with international obligations to protect human rights, particularly those enshrined in the European Convention on Human Rights ('ECHR') and the EU Charter of Fundamental Rights. In the context of a discussion on the balancing of civil liberties with security, American judge Richard Posner has written: 'In times of danger, the weight of concerns for public safety increases relative to that of liberty concerns, and civil liberties are narrowed. In safer times, the balance shifts the other way and civil liberties are broadened.'[2] This view indicates that values and principles can change depending on how we view threats. In light of this consideration, our article first outlines the digital technologies supporting pandemic measures that were commonly

[1] WHO. (2023) *Statement on the fifteenth meeting of the IHR (2005) Emergency Committee on the COVID-19 pandemic*. 5 May. Available from: `https://www.who.int/news/item/05-05-2023-statement-on-the-fifteenth-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-coronavirus-disease-(covid-19)-pandemic` [Accessed 26 January 2024].

[2] Posner, R. (2006) *Not a Suicide Pact: The Constitution in A Time of National Emergency*. Oxford University Press, p. 9.

deployed by a majority of European countries during the pandemic as part of a pan-European response aimed at reopening borders while still limiting the spread of the virus. It then examines human rights protection (and limitations) under extraordinary circumstances in light of the ECHR, relevant jurisprudence of the European Court of Human Rights ('ECtHR'), and the EU Charter. Finally, it considers the deployment of pandemic-related technologies, in particular digital contact tracing ('DCT') and the EU's Digital COVID Certificates, in light of the obligations under the above-mentioned legal instruments. The paper's conclusion assesses the suitability of human rights to protect all citizens during a public health emergency.

2. DIGITAL TECHNOLOGIES SUPPORTING PANDEMIC MEASURES

Measures taken by governments to help limit the spread of COVID-19 varied from contact tracing to lockdowns and other rules on physical distancing, isolation, quarantine, restricting the movement of people and the prohibition of mass gatherings. Once a vaccine became available, a further measure was the imposition of so-called 'vaccine mandates' or compulsory vaccination. This article focuses on two measures that were supplemented or enforced through digital technology: digital contact tracing ('DCT'), implemented by means of contact tracing mobile applications, and digital vaccine certificates, as the principal pandemic-related technologies that were deployed in a coordinated manner across the EU and that benefitted from interoperability across the EU Member States ('MS').

2.1.DIGITAL CONTACT TRACING AND CROSS-BORDER INTEROPERABILITY

Contact tracing ('CT') is an effective 'time-tested'[3] technique which aims to identify individuals who have come into contact with other individuals infected by a communicable disease, in order to isolate cases and stop the spread of disease. Traditionally, CT has been carried out manually, with the relevant information obtained through interviews conducted in person or over the phone.[4] Over the past century, contact tracing programmes have gained traction as a means of responding to and controlling epidemics.[5]

[3] Shahroz, M. et al. (2021) COVID-19 digital contact tracing applications and techniques: A review post initial deployments. *Transportation Engineering*, 5 (100072), p. 2.

[4] Ibid. See also: Hui, L. et al. (2022) Contact Tracing Research: A Literature Review Based on Scientific Collaboration Network. *International Journal of Environmental Research and Public Health*, 19 (15), p. 2; Nabeel, A. et al. (2022) Digital Contact Tracing Applications against COVID-19: A Systematic Review. *Medical Principles and Practice*, 31 (5), p. 429.

[5] Brandt, A. M. (2022) The History of Contact Tracing and the Future of Public Health. *American Journal of Public Health*, 112 (8), p. 1.

Nevertheless, the CT exercise is not without its challenges. Firstly, manual CT requires a substantial workforce to carry out the required interviews, particularly in fast-spreading epidemics and/or pandemics. Secondly, it is hard to trace disease transmission in contexts such as supermarkets or churches, where people are in contact with others they do not know and are thus unable to identify. Thirdly, the success of the CT exercise depends on the concerned disease: diseases that spread before individuals begin to show symptoms are harder to control and reduce, since the disease will have spread before relevant cases are identified.[6] In this latter case in particular, time is thus greatly of the essence.

In the context of the rapidly-spreading SARS-CoV-2, technology provided a way to relieve the growing burden on the individuals undertaking this manual exercise and foster a timelier response.[7] DCT, which entails the use of smartphones to register close contact with other devices running the same CT app, either through Bluetooth or GPS,[8] is faster, and supports more time-efficient tracing of disease transmission if implemented properly. In fact, research has shown that DCT 'typically averts more cases during the supercritical phase of an epidemic when case counts are rising and the measured efficacy therefore depends on the time of evaluation.'[9] DCT also solves the problem of identifying individuals crossing paths who do not know each other. However, unless mandated by the State, the success of DCT depends on individuals and their willingness to participate in the contact tracing exercise: As a matter of fact, the contact tracing mobile applications launched in most of the EU MS, first as national initiatives and later extended to include cross-border interoperability, were of a voluntary nature[10]

Thus, both manual and digital CT techniques are intrinsically valuable, but both have their drawbacks. In fact, even in the COVID-19 context, manual CT techniques were not disregarded, but were rather supplemented with DCT.[11]

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6 Eames, K. T. D. and Keeling, M. J. (2003) Contact tracing and disease control. *Proceedings of the Royal Society B*, 270 (1533), p. 2570.

7 See: Nabeel, A. et al (2022) Digital Contact Tracing Applications against COVID-19: A Systematic Review. *Medical Principles and Practice*, 31 (5), p. 429.

8 Ibid.

9 Burdinski, A., Brockmann, D. and Maier, B. F. (2022) Understanding the impact of digital contact tracing during the Covid-19 pandemic. *PLOS Digital Health*, 1 (12), p. 1.

10 European Commission. (June 2020) *Progress Report: Mobile applications to support contact tracing in the EU's fight against COVID-19*. Available from: `https://health.ec.europa.eu/document/download/70c9e921-4930-4dbc-925e-d5a38ec393b8_en`. [Accessed 24 October 2024], p. 5

11 Shahro. (2021), *op. cit*.

2.2.DIGITAL COVID CERTIFICATES

In an attempt to encourage safe movement during the pandemic, the EU further established the Digital Covid Certificate,[12] a form of digital proof of vaccination, test results and recovery from COVID-19. Individuals in possession of a valid Certificate were in principle exempted from free movement restrictions and could travel freely within the EU.[13] Such certificates are now set to outlive the COVID-19 crisis: the concept of digital certification as a tool to protect individuals from ongoing and future health threats has in fact been taken up by the WHO and included as a first building block of the Global Digital Health Certification Network.[14]

In practice, the precursor to - and obvious requirement for - digital certification is vaccination, which is itself an integral part of managing disease.[15] Vaccination programmes aim towards reaching the public health concept of 'herd immunity', loosely framed as the proportion of individuals in a particular territory that need to be immune in order for new infections to decline.[16] Herd immunity is achieved if and when a sufficiently large percentage of the population gets vaccinated voluntarily, or through so-called 'vaccine mandates', which may involve direct or indirect coercion (for example by imposing sanctions for not getting vaccinated, or by restricting access to selected venues or restricting travel to the non-vaccinated).

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[12] By virtue of: Regulation (EU) 2021/953 of the European Parliament and of the Council of 14 June 2021 on a framework for the issuance, verification and acceptance of interoperable COVID-19 vaccination, test and recovery certificates (EU Digital COVID Certificate) to facilitate free movement during the COVID-19 pandemic. *Official Journal of the European Union* (OJ L 211/1) 14 June. Available from: `http://data.europa.eu/eli/reg/2021/953/2022-06-30` [Accessed 26 January 2024]

[13] Ibid, Art. 11.

[14] WHO. *Global Digital Health Certification*. [online] Available from: `https://www.who.int/initiatives/global-digital-health-certification-network` [Accessed 26 January 2024]

[15] Andre F. E. et al. (2007) Vaccination greatly reduces disease, disability, death and inequity worldwide. *Bulletin of the World Health Organisation* 86(2), pp. 140-146.

[16] Mc Dermott, A. (2021) Core Concept: Herd immunity is an important - and often misunderstood - public health phenomenon. *Proceedings of the National Academy of Sciences* 118(21).

3. HUMAN RIGHTS IN EXTRAORDINARY CIRCUMSTANCES

This section examines human rights protection and limitations under extraordinary circumstances in light of the ECHR, relevant ECtHR jurisprudence and the EU Charter of Fundamental Rights ('the Charter').[17] It begins by discussing the critical role of proportionality assessments when it comes to limiting human rights.

3.1. THE ROLE OF PROPORTIONALITY ASSESSMENTS

Human rights and interests often need to be balanced against each other. The COVID-19 context in particular presented the challenge of balancing individual rights against public interests. In such cases, proportionality assessments are crucial. The proportionality analysis involves the State establishing a legitimate and pressing goal – such as protecting a public interest – the achievement of which would trigger rights-infringing measures. It is up to the judiciary, then to assess the legality of any such measures. The COVID-19 pandemic presented unique challenges for courts, as governments enacted urgent and time-sensitive sweeping measures to protect public health. While necessary to combat the pandemic, these measures also severely limited individual freedoms, prompting requests to courts to reassess the proportionality of such limitations.

Vyhnanek et al.[18] explore the dynamic nature of proportionality assessments during crises like pandemics, where traditional approaches face significant limitations. They outline the standard three-step proportionality test used by courts globally: (i) Suitability (rationality), where courts assess whether the measures taken by the government are suitable for achieving their intended goal. For COVID-19, this typically involved evaluating whether restrictions were rational means of protecting public health; (ii) Necessity: This step examines whether less restrictive alternatives exist that could achieve the same objective; (iii) Proportionality in the narrow sense (balancing): Finally, courts conduct a 'cost-benefit analysis' to determine if the benefits of the restrictive measures outweigh the harm to individual rights. This was particularly challenging during COVID-19, as courts had to weigh the public interest in saving lives against the severe social and economic costs of imposed restrictions.

Vyhnanek et al. argue that courts faced a dilemma during the pandemic between adopting a 'substantive proportionality assessment' (alternatively

[17] *Charter of Fundamental Rights of the European Union*, 18 December 2000 (C 83/02). Available from: `https://www.europarl.europa.eu/charter/pdf/text_en.pdf` [Accessed 26 January 2024]

[18] Vyhnánek, L. et al. (2024). The Dynamics of Proportionality: Constitutional Courts and the Review of COVID-19 Regulations. *German Law Journal 25*, pp. 386–406.

termed 'strict substantive review'), or maintaining a deferential approach. A substantive proportionality assessment would involve closely scrutinising the government's actions and demanding strong justification for every measure taken. This approach, though protective of individual rights, risked slowing down the rapid response needed to control the pandemic. On the other hand, substantive deference allowed courts to give governments more leeway, acknowledging the complex, rapidly evolving nature of the pandemic and the high stakes involved in public health allowed courts to give governments more leeway. Most courts, during the pandemic, opted for the deferential approach, acknowledging the need for quick and decisive government action amid scientific uncertainty and time constraints.[19]

Vyhnanek et al. propose a third approach, which they call 'semiprocedural review'. This approach does not focus solely on substantive proportionality, nor does it fully defer to the government's decisions. Instead, it emphasises reviewing the rationality of the decision-making process. Courts using semiprocedural review assess whether the government followed a rational and transparent process in making decisions, considering the available evidence and weighing alternatives carefully. This approach, they argue, is particularly suited to dynamic and uncertain situations like a pandemic. It allows courts to ensure that governments act responsibly without overstepping their constitutional boundaries, while still respecting the need for swift action in emergencies.

Finally, and as a related aside, it is pertinent to note that proportionality is also a general principle of EU law, where it is recognised as having three prongs: suitability, necessity and non-excessiveness (or proportionality stricto sensu). In other words, when assessing whether there is proportionality in the context of EU law, one would ask the following questions: (i) is the measure concerned suitable for realising the goals it is aimed at meeting; (ii) is the measure concerned required for realising the goals it is aimed at meeting; and (iii) does the measure go further than is necessary to realise the goals it is aimed at meeting. Furthermore, proportionality has emerged as a data privacy principle in its own right,[20] and is an intrinsic requirement of the EU General Data Protection Regulation ('GDPR').[21]

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[19] Vyhnánek, L. et al. (2024). The Dynamics of Proportionality: Constitutional Courts and the Review of COVID-19 Regulations. *Op. cit.*

[20] Bygrave, L. A. *Data Privacy Law: An International Perspective*, OUP 2014.

[21] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). *Official Journal of the European Union* (2016/L-119/1) 4 May.

3.2.THE EUROPEAN CONVENTION ON HUMAN RIGHTS

The measures mentioned in section 2 impact various human rights protected under international laws such as the European Convention on Human Rights.[22] Lockdowns and other free movement restrictions affect the right to liberty[23] and the freedom of assembly and association,[24] while digital measures such as compulsory contact tracing apps and vaccine certificates impinge specifically on individuals' right to a private life[25] and raise concerns about possible discrimination.[26]

Still, States must act to manage extraordinary circumstances, and human rights instruments thus provide mechanisms for the lawful restriction of so-called 'qualified' human rights in such circumstances. For instance, the ECHR provisions pertaining to qualified rights include the conditions under which restrictions may be made, and the ECHR also provides an alternative option for states to derogate from certain human rights obligations 'in times of war or other public emergency threatening the life of the nation' by declaring a state of emergency.[27]

Restrictions must be justified. The ECHR lays down a three-part test in this regard, of lawfulness, legitimate aim, and proportionality ('necessary in a democratic society'). For example, in terms of Article 8 (2) ECHR, any interference with the right to a private life must be 'in accordance with the law' and 'necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others.' Furthermore, in terms of established jurisprudence, any law restricting rights and freedoms must be 'accessible to the person concerned and foreseeable as to its effects';[28] limitations should be in response to a 'pressing social need' and not merely 'useful', 'reasonable' or 'desirable' in a democratic society;[29] and states must demonstrate a legitimate aim for the concerned interference[30] and show that they employed the least restrictive method to achieve their stated aim.

Available from: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679&from=EN

22 Council of Europe. (1950) *European Convention for the Protection of Human Rights and Fundamental Freedoms, as amended by Protocols Nos. 11 and 14*. 4 November (ETS 5).

23 Ibid., Art. 5.

24 Ibid. Art. 11

25 ECHR, *op. cit.*, Art. 8.

26 ECHR, *op. cit.*, Art. 14.

27 ECHR, *op. cit.*, Art. 15.

28 *Kudrevičius and Others v. Lithuania [GC]* (2015). No. 37553/05, paras 108-110

29 *Dudgeon v. the United Kingdom* (1981). No. 752576, para 51.

30 *S.A.S v. France* (2014). Np. 43835/11

3.3.JURISPRUDENCE OF THE ECTHR

The ECtHR carries out assessments of the legality of measures that limit human rights, and through its jurisprudence, offers insight into the balancing exercise that must be undertaken when limiting a human right to pursue a public interest such as public health. The authors are not aware of any ECtHR judgments to date that specifically address the implications of tech measures deployed by states to aid with combatting the COVID-19 pandemic on fundamental rights. Furthermore, although numerous other pandemic-related complaints were brought before the ECtHR, this Court has not ruled on the substance in the majority of such complaints, but has rather declared these inadmissible on procedural grounds. Thus, established parameters on justified restrictions of human rights in circumstances such as those of the COVID-19 pandemic are limited. Nevertheless, in reaching its verdicts of inadmissibility, the Court shed light on how this context could eventually be substantively considered.

To exemplify the above, this section first considers pertinent COVID-19 cases relating to the right to liberty, the freedom of assembly and association, and the right to private life, respectively, that were deemed inadmissible by the Court. It then analyses a recent COVID-19 case on the right to private life where the ECtHR delivered a substantive ruling. Rather than focusing on whether the Court's approach to fundamental rights differs pre- and post-COVID-19, this article aims to elucidate the Court's approach in the pandemic-related cases, with a view to shedding light on whether such approach would also be reflected in judgments relating to pandemic tech measures.

The complainant in Terhes v. Romania[31] alleged that a lockdown imposed during the pandemic breached his right to liberty. The ECtHR dismissed the case on the grounds that this measure had not targeted the applicant individually. It considered that while the lockdown did not amount to a deprivation of the applicant's liberty (since he had been "free to leave his home for various reasons and could go to various destinations, at whatever time of day it was necessary to do so" and he "was not individually monitored by the authorities"), it did constitute a restriction to the applicant's freedom of movement as protected by Article 2 of Protocol No. 4 ECHR.[32] Nonetheless, the ECtHR did not proceed to examine whether such restriction was a permitted interference since the applicant did not invoke Protocol No. 4 in his complaint, and in any case, Romania had already previously declared an Art. 15 state of emergency and its intention to derogate from such Protocol.

[31] *Terhes v. Romania* (2021). No. 49933/20
[32] Ibid., paras 43, 45.

In CGAS v. Switzerland,[33] the ECtHR considered whether a ban on public and private events imposed by Switzerland at the onset of the pandemic was a legitimate interference with the right to freedom of assembly and association in terms of Art. 11(2) ECHR. The ECtHR initially ruled on the merits of the complaint, holding that the blanket ban was 'not proportionate to the aims pursued', that 'the domestic courts did not conduct an effective review of the measures at issue during the relevant period' and that thus, in implementing such a measure, Switzerland had 'overstepped the margin of appreciation afforded to it.'[34] The Court declared that it was 'not persuaded that the applicant enjoyed at the time of the application an effective remedy'[35] and thus dismissed the Swiss government's objection of non-exhaustion of domestic remedies.[36] This judgment would have been one of the few substantive rulings on a pandemic-related complaint; however, the case was later referred to the Grand Chamber, which, contrary to the earlier judgement, held that domestic remedies had been available to CGAS and deemed the application inadmissible precisely on the grounds of failure to exhaust such remedies.[37] In what may be described as a deferential approach, the Grand Chamber affirmed in its decision of inadmissibility that it 'cannot ignore the exceptional nature of the [COVID-19] context'[38] and that it was 'all the more important that the national authorities were first given the opportunity to strike a balance between competing private and public interests or between different rights protected by the Convention, taking into consideration local needs and conditions and the public-health situation as it stood at the relevant time.'[39]

The applicant in Piperea v. Romania[40] complained that the state had infringed on his right to privacy when, during the pandemic, it imposed a requirement on individuals leaving their homes to fill out a document stating where they were going, why, and for how long, together with other personal information. The ECtHR dismissed the case on the grounds that the applicant did not explain how the measures affected him personally. In this case too, the Court may be said to have opted for the deferential approach, as it stated in its inadmissibility decision that 'the measures had been imposed on the entire population in response to what competent national authorities

[33] *Communauté Genevoise d'Action Syndicale (CGAS) v. Switzerland* (2022). No. 21881/20
[34] *CGAS v. Switzerland (2022), op. cit.*, para 91.
[35] *CGAS v. Switzerland (2022), op. cit.*, para 59.
[36] *CGAS v. Switzerland (2022), op. cit.*, para 60.
[37] *Communauté Genevoise d'Action Syndicale (CGAS) v. Switzerland* (2023). No. 21881/20
[38] Ibid., para 162
[39] Ibid., para 163
[40] *Piperea v. Romania* (2022). No. 24183/21

had determined to be a serious public health situation' and acknowledged that 'the situation had to be characterised as 'unforeseeable exceptional circumstances.'[41]

The right to a private life has also been invoked in complaints pertaining to compulsory COVID-19 vaccination. In Thevenon v. France,[42] the complainant alleged that the requirement of vaccination based on his occupation as a firefighter breached his right to a private life and was discriminatory and in breach of Art. 14 ECHR. The ECtHR dismissed this application on the grounds that the applicant had not exhausted domestic remedies available to him prior to seeking recourse to it. It also reached a similar decision in Zambrano v. France,[43] concerning the so-called 'health pass' implemented by French authorities, by virtue of which individuals could show proof of vaccination to be allowed into places hosting large numbers of people, such as cinemas, museums and trade fairs. The applicant contended that this measure was intended to 'compel individuals to consent to vaccination' and that the laws establishing the health pass amount to a 'discriminatory interference with the right to respect for private life.'[44] This case was also dismissed on the basis that the applicant had failed to exhaust all domestic remedies available to him.

In the case of Pasquinelli and Others v. San Marino,[45] decided in August 2024, the Court finally pronounced itself on the merits of a COVID-19 related complaint. This case involved twenty-six healthcare personnel who refused to get vaccinated against COVID-19 and who were consequently affected by several measures relating to their employment - such as suspension without pay and relocation to vacant posts - under a 2021 law regulating the vaccination of healthcare workers. The Court held that this law did not constitute a violation of the right to a private life, that 'restrictive measures in the health sector adapted to the constant evolution of the COVID-19

[41] Registrar of the European Court of Human Rights. (2022) *Complaint against Romanian COVID-19 measures inadequately substantiated, inadmissible.* [press release] 1 September. Available from: `https://hudoc.echr.coe.int/app/conversion/pdf/?library=ECHR&id=003-7416653-10152416&filename=Decision\%20Piperea\%20v.\%20Romania\%20-\%20Complaint\%20against\%20Romanian\%20COVID-19\%20measures\%20inadmissible.pdf` [Accessed 26 January 2024]

[42] *Thevenon v. France* (2022). No. 46061/21

[43] *Zambrano v. France* (2021). No. 41994/21

[44] Registrar of the European Court of Human Rights. (2021) *The European Court of Human Rights declares inadmissible an application contesting the French "health pass"*. [press release] 7 October. Available from: `https://hudoc.echr.coe.int/app/conversion/pdf/?library=ECHR&id=003-7145978-9686694&filename=Decision\%20Zambrano\%20v.\%20France\%20-\%20application\%20which\%20was\%20challenging\%20the\%20French\%20\%E2\%80\%9Chealth\%20pass\%E2\%80\%9D.pdf` [Accessed 26 January 2024]

[45] *Pasquinelli and Others v. San Marino* (2024). No. 24622/22

pandemic … pursued the legitimate aim of the protection of health and the protection of the rights and freedoms of others'[46] and that such measures 'stood in a reasonable relationship of proportionality to the legitimate aims pursued by the State', which had as such not 'exceeded its wide margin of appreciation in health care policy matters.'[47] It re-confirmed the COVID-19 context as 'exceptional and unforeseeable'[48] and endorsed the measures taken by the concerned State in this case.

Barring the exceptional decision in CGAS, which was in any case later overturned by the Grand Chamber, the ECtHR appears reticent to call into question measures adopted by States at such an extraordinary time as was the onset and duration of the COVID-19 pandemic, or indeed, to pronounce itself on whether an appropriate balance was struck between the taking of appropriate measures and respect for human rights. The ECtHR has dismissed numerous complaints relating to general and/or nation-wide measures, and in most cases, appears to at least implicitly reaffirm the severity of the COVID-19 context in particular as perceived at the time the events were unfolding.

It is in light of the stance seemingly adopted by the ECtHR that the above-mentioned CGAS decisions merit further attention in the present discussion. The decisions of both the ECtHR Third Section and the Grand Chamber include an opinion of dissenting judges. Broadly speaking, there were those who felt that a limitation of the freedom of peaceful assembly should fall within the wide margin of appreciation generally afforded to States in healthcare matters,[49] and those who, while acknowledging that 'the Court must respect the member States' margin of appreciation in weighing up the requirements of combatting a pandemic on the one hand and fundamental freedoms on the other', nevertheless argued that 'no such margin of appreciation exists with regard to the availability of judicial remedies' and that the Grand Chamber had failed to sufficiently

[46] Ibid., para 96

[47] *Pasquinelli and Others v. San Marino* (2024), *op. cit.*, para 108. Note that the ECtHR had previously and outside the COVID-19 context, ruled on the issue of compulsory vaccination in the context of Art. 8 ECHR, also finding in that case that there was no violation of this provision. In the case of *Vavřička and others v. Czech Republic* (2021), Nos. 47621/13, 3867/14, 73094/14, 19298/15, 19306/15 and 43883/15, the Court held that while the duty to vaccinate children (subject to a sanction/fine on parents) and the direct consequences of non compliance with such duty (exclusion of children from preschool or nursery) amounted to an interference with Art. 8, this interference was lawful and pursued the legitimate aim of protecting the health and the rights of others. In this assessment, the Court considered the State's margin of appreciation, the pressing social need and relevant and sufficient reasons, and proportionality

[48] *Pasquinelli and Others v. San Marino* (2024), *op. cit.*, para 19

[49] *CGAS v. Switzerland* (2022), *op. cit.*, Joint Dissenting Opinion of Judges Ravarani, Seibert-Fohr and Roosma, para 13

recognise that 'the principles which are at the heart of a democratic society are "vulnerable" in times of crisis, in terms both of procedure and of substance'.[50]

The former judges supported their position by referring to the fact that, although there was no parliamentary debate regarding the introduction of health measures in Switzerland, the federal authorities had the support of the people as evidenced by two referenda, held in June and November 2021. On both occasions, a majority of more than 60% of the electorate rejected initiatives to force the lifting of the relevant restrictive measures.[51] Insofar as the latter judges' opinion is concerned, pre-eminence is placed on the 'guardian' role of the Court even in times of crisis. In their view (i) Switzerland had not provided a readily available judicial remedy, thus the applicants had in fact exhausted domestic remedies and the ECtHR was properly seized of the case; and (ii) on the substantive merits of the case Switzerland had in fact infringed human rights. While these authors are in agreement with the majority opinion of the Grand Chamber, we do not deny that judicial remedies that need strengthening should be strengthened, while the legality of measures allegedly infringing human rights should (always) be assessed in light of the relevant contextual factors.

Finally, although there is no specific ECtHR ruling on the compatibility with human rights of digital measures deployed to manage the pandemic, it is arguable that this court will continue to pursue the stance elucidated above in this regard too, and attach greater importance to state discretion (within the 'margin of appreciation') with regard to such measures employed temporarily at a time of emergency. This is also in line with what is being observed elsewhere in the literature, that, as the ECtHR appears to be increasingly inclined to permit mass surveillance, it is also 'likely to agree with most of the [technological] measures that states have introduced to prevent the COVID-19.'[52]

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[50] *CGAS v. Switzerland* (2023), *op. cit.*, Joint Dissenting Opinion of Judges Bošnjak, Wojtyczek, Mourou-Vikstrőm, Ktistakis and Zűnd, paras 9, 10.

[51] Joint Dissenting Opinion of Judges Ravarani, Seibert-Fohr and Roosma (2022), para 13, *op. cit.*

[52] Vardanyan, L. and Stehlik, V. (2022) Is the Case Law of the ECtHR Ready to Prevent the Expansion of Mass Surveillance in Post-Covid Europe? *Sciendo*, 7 (2020), p. 253.

3.4.FUNDAMENTAL RIGHTS WITHIN THE EUROPEAN UNION

3.4.1 The EU Charter of Fundamental Rights

In addition to their obligations under the ECHR, EU MS must abide by the EU's Charter of Fundamental Rights,[53] which is primary EU law and legally binding on such MS,[54] but only applicable when these States are 'implementing Union law'[55] and thus covering 'all situations where member states fulfil their obligations under the treaties as well as under secondary EU law (adopted pursuant to the treaties)'.[56]

The EU Charter contains a general 'horizontal' provision which sets out the conditions that every limitation on a fundamental right set out in the Charter must comply with in order to be compliant with EU law. Article 52(1) states that any such limitation must be 'provided for by law', and must 'respect the essence' of those rights and freedoms recognised by the Charter. Furthermore, such limitations must be compliant with the principle of proportionality, and 'may be made only if they are necessary and genuinely meet objectives of general interest recognised by the Union or the need to protect the rights and freedoms of others'. The 'objectives of general interest recognised by the Union' include the protection of public health.[57] Lenaerts notes that the wording of Article 52(1) of the Charter is largely inspired by CJEU jurisprudence on the protection of fundamental rights, which, in turn, draws on the jurisprudence of the ECtHR.[58]

As primary EU law, the Charter serves as an aid to the interpretation of both secondary EU legislation and national legislation falling within the scope of EU law, which must therefore be interpreted in light of the Charter.[59] Moreover, the Charter may provide grounds for judicial review, as EU law that violates Charter rights will be declared void by the CJEU, and national legislation that falls within the scope of EU law and violates the Charter must be set aside. The scope of application of EU fundamental rights with regard to MS' actions, or in other words, the circumstances in which these rights apply to MS actions, is also determinative of the cases where, in principle, the CJEU

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53 EU Charter (2000), *op. cit.*

54 *Consolidated Version of the Treaty on the European Union*, 26 October 2012 (C 326/13). Available from: https://eur-lex.europa.eu/resource.html?uri=cellar:2bf140bf-a3f8-4ab2-b506-fd71826e6da6.0023.02/DOC_1&format=PDF [Accessed 26 January 2024], Art. 6 (1).

55 EU Charter (2000), *op. cit.*, Art. 51 (1)

56 Lenaerts, K. (2012) Exploring the Limits of the EU Charter of Fundamental Rights. *European Constitutional Law Review*, 8 (3), pp. 375–403

57 Judgment of 29 April 1999, Standley and Others, C-293/97, ECLI:EU:C:1999:215

58 Lenaerts (2012), *op. cit.*, p. 388.

59 Ibid.

has the final word on fundamental rights protection in the EU in the event of an allegation that a MS failed to comply with them.[60]

3.4.2 The EU Charter and the ECHR

The EU framework also gives due importance to the ECHR. Fundamental rights as guaranteed by the ECHR constitute general principles of EU law,[61] although the EU has itself to date refrained from acceding to the ECHR[62] and thus the Convention does not constitute a legal instrument which has been formally incorporated into the EU legal order.[63]

The EU Charter itself provides that, in so far as the Charter contains rights which correspond to rights guaranteed by the ECHR, the meaning and scope of those rights shall be the same as those laid down by the Convention. Furthermore, EU law may 'provide more extensive protection.'[64] For instance, the right to a private life enshrined in Art. 8 ECHR is mirrored in Art. 7 of the Charter. The meaning and scope of both rights are the same.[65] Consequently, limitations which may be legitimately imposed on these rights are also the same as those allowed by Article 8 of the ECHR.[66] Notably, 'it seems clear that the level of protection afforded by the Charter may not be lower than that guaranteed by the Convention as interpreted by the Human Rights Court.'[67]

ECtHR jurisprudence is clearly relevant within the EU context. The CJEU has explicitly declared that EU courts must take such jurisprudence into account in interpreting fundamental rights; for example, in the Abdida case[68] the CJEU stated that in accordance with Art. 52(3) of the Charter, ECtHR jurisprudence must be taken into account for the purpose of interpreting

[60] Kokott, J. and Sobotta, C. (2015) Protection of Fundamental Rights in the EU: On the Relationship between EU Fundamental Rights, the European Convention and National Standards of Protection, *Yearbook of European Law*, 34 (1), pp. 60-73.

[61] Article 6(3) TFEU

[62] Advocate General Kokott. (2014) *Opinion procedure 2/13 initiated following a request made by the European Commission*. (ECLI:EU:C:2014:2454) 7 June. Available from: https://curia.europa.eu/juris/document/document.jsf;jsessionid=6580258E3F20CFA2CB5CAB5DCC17936E?text=&docid=160929&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=145338 [Accessed 26 January 2024]

[63] Kokott, J. and Sobotta, C. (2015), *op. cit*

[64] EU Charter (2000), *op. cit.*, Article 52(3).

[65] Ibid.

[66] Explanations relating to the Charter of Fundamental Rights. *Official Journal of the European Union* (2007/C 303/02) 14 December. Available from: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2007:303:0017:0035:en:PDF [Accessed 26 January 2024]

[67] Kokott, J. and Sobotta, C. (2015), *op. cit.*, p. 64.

[68] Judgment of 18 December 2014, Abdida, C-562/13, ECLI:EU:C:2014:2453

Charter provisions,[69] although the CJEU retains the final word on the interpretation of EU fundamental rights.[70]

Of relevance to the present discussion, the Charter has elevated to fundamental right status the right to protection of personal data.[71] The significance or added value of affirming data protection as a fundamental right, separate from the right to privacy, has been explored in the literature.[72] It is pertinent to note that this 'new' right as enshrined in the Charter constitutes the normative foundation for the secondary data privacy legislation in the EU, in particular, the General Data Protection Regulation ('GDPR'). It is the GDPR that implements the substantive aspect of this right, providing conditions and limitations for the exercise of the right to the protection of personal data (within the scope of that legislative instrument, that for example excludes processing by law enforcement authorities for law enforcement purposes.[73])

The deployment and use of pandemic tech engage privacy and data protection rights above all. Thus, within the EU, they fall within the scope of the Charter and are subject to the GDPR.

3.4.3 The GDPR

As aforementioned, the provisions of the GDPR implement the fundamental right to protection of personal data guaranteed by Art. 8 Charter, and must be interpreted in light of such Charter. The processing of personal data for the management of the COVID-19 pandemic – including the processing of health data by contact tracing mobile apps and for the purposes of digital health certificates – is subject to the GDPR, which lays down rules regarding lawfulness and proportionality of processing, but also envisages extraordinary circumstances.

The GDPR requires any processing operation involving so-called 'special categories of personal data' (which include 'data concerning health') to have a lawful basis under Article 6 and to be exempt from the general prohibition on processing of special categories of personal data under one of the conditions listed in Article 9(2).[74] Thus, data processing undertaken during emergency circumstances such as a pandemic, for purposes such as contact tracing,

[69] Judgment of 18 December 2014, Abdida. *Op.cit.* para 47
[70] See Opinion of Advocate General Kokott (2014), *op. cit.*, para 170
[71] EU Charter (2000), *op. cit.*, Art. 8.
[72] Mifsud Bonnici, J. P. (2013). Exploring the non-absolute nature of the right to data protection. *International Review of Law, Computers & Technology*. 28 (2)
[73] GDPR, *op. cit.*, Art. 2 (2)
[74] Judgement of 21 December 2023, Medizinischer Dienst der Krankenversicherung Nordrhein, Körperschaft des öffentlichen Rechts, C 667/21, ECLI:EU:C:2023:1022

must be provided for by law, where such processing is not based on the individuals' consent. In terms of Art. 9 (2), in fact, the general prohibition against the processing of special categories of data such as health data in Art. 9 (1) can be lifted in the context of public health emergencies where 'necessary for reasons of public interest in the area of public health, such as protecting against serious cross-border threats to health ... on the basis of Union or MS law which provides for suitable and specific measures to safeguard the rights and freedoms of the data subject'.[75]

The GDPR's recitals provide further guidance about the changing role of the data protection framework during emergencies, noting in particular that data subject consent is not needed during public health emergencies: 'the processing of special categories of personal data may be necessary for reasons of public interest in the areas of public health without consent of the data subject.'[76] Furthermore, '[s]uch processing should be subject to suitable and specific measures so as to protect the rights and freedoms of natural persons.'[77] Thus, apart from other general qualities that an implementing law should have, such as foreseeability and publicity requirements, it should provide for legal and other organisational and technological safeguards, such as encryption of data, the latter as recalled throughout the text of the GDPR and particularly in its provisions on data protection by design. Such safeguards would normally be implemented in light of risks of varying levels identified in data protection impact assessments ('DPIAs'), themselves mandated by the GDPR in such 'likely to result in a high risk' circumstances.

[75] GDPR, *op. cit.*, Art. 9 (2) (i)

[76] GDPR, *op. cit.*, Recital 54

[77] Ibid. For further discussion, see Leiser, M. R. and Caruana, M. M. (2020) *Some Contrarian Thoughts on the Deployment of Contact-Tracing Apps.* Available from `https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3608677`. [Accessed 15 February 2024]

4. TECHNOLOGICAL INITIATIVES IN EXTRAORDINARY CIRCUMSTANCES

This section considers the deployment of pandemic-related technologies, in particular, digital contact tracing and digital vaccine certificates as the principal pandemic-related technologies deployed in a coordinated manner across the EU, in light of the obligations emanating from the legal instruments discussed in the previous section.

4.1.DIGITAL CONTACT TRACING

A face value reading of the justifications and limitations permissible to qualified human rights and the conditions and requirements under which they may be applied or availed of during times of crisis leads one to conclude that, at least in Europe, this legal framework is relatively robust; It offers flexibility to States to act as may be required to manage extraordinary events, whilst still providing for the upholding of human rights.

In practice, however, it appears that in the context of the COVID-19 pandemic, countries generally either proceeded as they deemed fit, or erred on the side of caution and subjected all relevant data processing to their citizens' consent. Many countries around the world implemented a form of DCT. Some, such as Russia and Armenia, made it compulsory for their citizens to download the relevant CT apps.[78] In the EU, individuals were free to choose whether or not to do so.[79] Furthermore, EU DCT apps only measured the Bluetooth signal strength between devices and the length of time of exposure, meaning that actual location data was not stored, but merely the relevance of the proximity in terms of likely contagion, which was notified to the individual via the app; no public or other central authority was permitted to check for compliance and/or enforce the notifications sent to users that recommended that they isolated, self-quarantined, or got tested.

Deployment of DCT apps in the EU required compliance with the EU Charter of Fundamental Rights and the GDPR. Nevertheless, it may be questioned on a preliminary basis whether DCT apps deployed in certain EU Member States were actually processing personal data - and thus fell within the material scope of the GDPR - at all, since the issue of when data can be considered anonymous and therefore, outside the scope of the GDPR, remains contentious.[80] It is nevertheless worth noting that where data

[78] Vardanyan, L. and Stehlik, V. (2022), *op. cit.*, p. 256.

[79] European Commission. (2022) *Digital Contact Tracing Study*. Luxembourg: Publications Office of the European Union, p. 7

[80] cf. the contested interpretation of the 'means reasonably likely to be used ... either by the controller or by another person to identify the natural person directly or indirectly': Judgment of 19 October 2016, Patrick Breyer v Bundesrepublik Deutschland, C-582/14,

undergoing processing does not relate to an identifiable individual and thus does not constitute 'personal data' as per the GDPR, the right to privacy may still be engaged.

In any case, a genuine choice not to download and use DCT apps was offered to EU citizens and thus, in GDPR terms, consent remained a viable and indeed the commonly chosen option for processing.[81] Some MS adopted specific legislation to ensure an appropriate legal basis for the relevant data processing;[82] a case in point, the authors' home country of Malta based its processing of data for the purposes of the CT app on the legal basis of public interest and implemented safeguards such as purpose specification and limitation, and non-discrimination in specific legislation.[83]

In this context, were EU MS legally obliged to rely on data subject consent for the deployment and use of CT apps? Russia and Armenia have been criticised for imposing such apps on their citizens.[84] In the EU, such a notion was condemned at the outset, when CT apps began to be developed,[85] even though the legal framework appears to provide an alternative option for processing that does not involve individuals' consent. One must of course acknowledge that, beyond privacy and data protection related concerns, it may in practice be hard to enforce the use of compulsory apps and/or smartphones, as such an exercise would surely entail challenges of its own, particularly in respect of individuals who can or do not use smartphones at all.

Practical issues aside, however, the question arises: in the context of digital contact tracing, can there be no restriction of the fundamental rights

ECLI:EU:C:2016:779; Judgment of 26 April 2023, Single Resolution Board v. European Data Protection Supervisor, T-557/20, ECLI:EU:T:2023:219, under appeal brought by the EDPS (C-413/23 P)

81 European Commission, *Digital Contact Tracing Study: Study on lessons learned, best practices and epidemiological impact of the common European approach on digital contact tracing to combat and exit the COVID-19 pandemic*, p.7 ('All apps were made available on a voluntary basis.')

82 European Commission. (2020) *Mobile applications to support contact tracing in the EU's fight against COVID-19 Progress*. Available from: `https://health.ec.europa.eu/document/download/70c9e921-4930-4dbc-925e-d5a38ec393b8_en` [Accessed 29 December 2024]

83 S.L. 465.52 *Malta Contact Tracing and Alerting Mobile Application Order, Subsidiary Legislation 465.52, adopted by Legal Notice 379 of 2020 as amended by Legal Notice 128 of 2021*. In: English. The government of Malta took this approach on the legal advice provided by the first author of this contribution (relative documentation on file with the author)

84 Vardanyan, L. and Stehlik, V. (2022), *op. cit.*, p. 256.

85 European Data Protection Board. *Guidelines 04/2020 on the use of location data and contact tracing tools in the context of the COVID-19 outbreak*, Adopted on 21 April 2020. Available from: `https://edpb.europa.eu/sites/default/files/files/file1/edpb_guidelines_20200420_contact_tracing_covid_with_annex_en.pdf` [Accessed 26 January 2024]; and Ventrella, E. (2020) Privacy in emergency circumstances: data protection and the COVID-19 pandemic. *ERA Forum*, 21 (3), p. 385

to privacy and data protection except for that explicitly consented to by the individuals concerned, even in the context of a public health emergency such as was that of the Covid context? If on the contrary, any such restrictions are indeed justified in a democratic society in the context of crises, could and should EU MS have been able to do better than they actually did with the technological solutions they were able to deploy in the face of resistance from privacy advocates and lobbyists?[86]

The obligation towards the State is not one reasonably based on consent as defined by the GDPR. The State processes personal data on legal bases other than consent for a variety of purposes, such as to provide social services and for taxation purposes. It would be meaningless for the state to claim to be processing such data on the basis of citizens' consent, since the citizen cannot reasonably deny or withhold their consent in such contexts. Moreover, the state has an obligation to carry out its tasks in this regard, and can and should not be hindered in doing so by the withholding of the individual's consent.

However, as elucidated in section 3, in restricting a fundamental right on a basis other than consent, a state must assess the suitability, necessity and proportionality of the relevant measure, and then also ensure appropriate safeguards. Akinsanmi and Salami highlight the importance of elements such as lawfulness, fairness and transparency, accountability and public trust in balancing competing rights and interests.[87] Indeed, to deploy a CT system that does not rely on citizen collaboration expressed through such individuals' consent, a state must pass a law that provides both for data processing for specific purposes and other suitable and specific safeguarding measures to be implemented in respect of it.

A law intended to safeguard the rights and freedoms of concerned individuals in this regard should define who the controller/s is/are, specify the purpose of processing and lay down explicit limitations regarding further use, identify the categories of data as well as the entities to, and purposes for which the personal data may be disclosed, and enact additional meaningful safeguards as appropriate, including a specific reference to the voluntary nature of the application, and providing specific rules for non-discriminatory protection. Laws enacted in extraordinary circumstances should importantly include a time limit or 'sunset clause' – in the sense that measures should be

[86] For more discussion on this see Litan, R. E. and Lowy, M. (2020) *Freedom and privacy in the time of coronavirus*. [online]. Washington DC: Brookings. Available from: `https://www.brookings.edu/articles/freedom-and-privacy-in-the-time-of-coronavirus/` [Accessed 26 January 2024]

[87] Akinsanmi, T. and Salami, A. (2021) Evaluating the trade-off between privacy, public health safety, and digital security in a pandemic. *Data & Policy 3*, e27. `https://doi.org/10.1017/dap.2021.24`

temporary and rolled back once the crisis is over. A time limit should also be applied to the retention period of all collected personal data. Measures and penalties for non-compliance could also be integrated into the law. Even where States deploy systems that do rely on citizens' consent, it is advisable to base any human rights restrictions on a law. In such cases, a specific reference to the voluntary nature of the application, providing specific rules for non-discriminatory protection, may be included in such law. For example, in line with the approach taken throughout the rest of the EU, Maltese law also stipulated that 'the use of the application shall be on a voluntary basis and no person shall suffer from any form of disadvantage or discriminatory action for refusing or for being unable to use the application.[88]

Beyond legal safeguards, throughout the pandemic much emphasis was placed on implementing safeguards 'by design' in contact-tracing apps.[89] Indeed in practice, and also for the sake of achieving interoperability across the Member States, most EU Member States deployed decentralised applications based on the Google and Apple Exposure Notification Framework, using Bluetooth technology to enable digital proximity tracing,[90] and following the DP-3T (Decentralised Privacy-Preserving Proximity Tracing) data protection solution developed by a group of European academics.[91] The use of decentralised contact-tracing apps used in combating Covid-19 was, for example, 'applauded' by Akinsanmi and Salami 'for minimising privacy risks while ensuring the digital security and health safety of people'.[92] While not discounting the importance of 'by design' strategies, the first author of this piece has argued elsewhere that 'trust-building elements can come about on the front end at the expense of functionality, or on the back end through strong safeguards as required under Article

[88] S.L. 465.52 (2021), *op. cit.*, Art. 6.

[89] See Li, J., Guo, X., (2020). COVID-19 Contact-tracing Apps: a Survey on the Global Deployment and Challenges. *arXiv*. Available form: https://doi.org/10.48550/arXiv.2005.03599

[90] European Commission: Directorate-General for Communications Networks, C. and T., Prodan, A., Birov, S., Wyl, V., Ebbers, W., Schulz, C., Hentges, M., Tariq, S., Stroetmann, V., (2022). *Digital contact tracing study – Study on lessons learned, best practices and epidemiological impact of the common European approach on digital contact tracing to combat and exit the COVID-19 pandemic*. Publications Office of the European Union. Available from: https://doi.org/10.2759/146050

[91] Troncoso, C et al. *Decentralised Privacy-Preserving Proximity Tracing (DP-3T) White Paper*. [GitHub] 25 May. Available from: https://github.com/DP-3T/documents/blob/master/DP3T\%20White\%20Paper.pdf [Accessed 14 October 2024]. See also: Troncoso, C. et al. (2020). Decentralized Privacy-Preserving Proximity Tracing. *arXiv*. Available from: https://doi.org/10.48550/arXiv.2005.12273

[92] Akinsanmi, T. and Salami, A. (2021), *op. cit.*

9(2)(i)'[93] and further that 'there is more than one means to achieve [trust] and there is more than one way to ensure privacy: put effective functionality first (trusting that the app has worthwhile utility to justify the interference with privacy), ensure the user interface is friendly and understandable second (by ensuring the app is friendly and easy to navigate, users trust what is going on inside the environment), design apps for compliance with the GDPR's principles third, while ensuring strong privacy and data protection safeguards are put on a lawful basis.'[94]

However, the functionality of technological solutions should not be undermined in light of privacy and/or data protection concerns. Thus, understanding the purpose that a tech solution is intended for is central to the legal consideration of whether such solution passes the necessity and proportionality tests set out in the relevant human rights frameworks and the GDPR. It is often claimed that necessity must be born out of effectiveness: however, at the onset of the pandemic, there were many unknowns about the way COVID-19 spreads. Moreover, there was no conclusive evidence available to States regarding how effective the deployment of a DCT app would be at the time they were being called upon to carry out their duties and take necessary actions to contain the crisis. Thus, the status of the threat must be taken into account as understood and given the scientific evidence available at the time when the action was taken and the proposed tech solution deployed, and not with the benefit of hindsight.

The question of necessity is not one that can be answered conclusively in the abstract, as proportionality is contextual upon the ongoing current status of the threat. Thus, a technology that is deployed and that is proportionate at one point in time may need to be decommissioned/withdrawn at a later time when the extent of the threat has diminished or is no longer extant – for example after a vaccine has been developed and administered to a sufficiently large percentage of the population. As mentioned, such 'sunset clauses' should also be included as a safeguard in the relevant legislation.

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[93] Leiser, M.R., Caruana, M.M., (2020). Some Contrarian Thoughts on the Deployment of Contact-Tracing Apps. *SSRN*. Available from: https://dx.doi.org/10.2139/ssrn.3608677

[94] Ibid.

4.2.DIGITAL VACCINE CERTIFICATES

Like contact tracing, digital vaccine certificates were deployed with the ultimate aim of limiting the spread of the virus. Their deployment happened hand in hand with the introduction of vaccine mandates, meaning that some countries chose to restrict access to workplaces and other publicly accessible places such as museums and cinemas, or to international travellers to enter the country, based on whether the individual could produce such a certificate of vaccination.[95] This led to allegations of unfair discrimination, as the unvaccinated suffered the consequences of their choice not to get vaccinated in terms of the restriction of their ability to go to work, other selected venues, and to travel.

The EU's vaccine certificates, called Digital COVID Certificates, were praised for being established by and grounded in primary EU law, as well as for being more 'privacy-preserving' than other technological solutions such as the blockchain-based IATA Travel Pass deployed by some airlines.[96] Nevertheless, the introduction of these certificates gave rise to much controversy, centering around concerns relating to social exclusion and inequality.[97]

In terms of human rights, digital certificates and corresponding vaccine mandates must also be considered in light of the principle of non-discrimination, enshrined in Art. 14 ECHR. Notably, the ECtHR has always examined this right in conjunction with another substantive ECHR provision, such, for instance, as Art. 8, although it has held that there may be a breach of Art. 14 even if there was no breach of the associated substantive right.[98] In the early stages of the pandemic, the Council of Europe called for emergency measures to be amongst others non-discriminatory.[99] However,

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[95] European Commission. (2022) *Report from the Commission to the European Parliament and the Council pursuant to Article 16(3) of Regulation (EU) 2021/953 of the European Parliament and of the Council on the Framework for the issuance, verification and acceptance of interoperable COVID-19 vaccination, test and recovery certificates (EU Digital COVID Certificate) to facilitate free movement during the COVID-19 pandemic.* 22 December. Available from `https://commission.europa.eu/publications/key-documents-related-digital-covid-19-certificate_en` [Accessed 27 February 2024], p. 11.

[96] Halpin, H. (2022) A Critique of EU Digital COVID-19 Certificates: Do Vaccine Passports Endanger Privacy? *The 17th International Conference on Availability, Reliability and Security*. Vienna, Austria. Available from: `https://dl.acm.org/doi/10.1145/3538969.3544459` [Accessed 26 January 2024], p. 7.

[97] See Mohapatra, S. (2020) Passports of Privilege. *American University Law Review*, 70, pp. 1729-1763 and Halpin, H. (2022) A Critique of EU Digital COVID-19 Certificates: Do Vaccine Passports Endanger Privacy? *op.cit.*

[98] ECtHR (2022). *Guide on Article 14 of the European Convention of Human Rights and on Article 1 of Protocol No. 12 to the Convention. Prohibition of Discrimination*. 31 August, p. 9 para 19

[99] CoE Steering Committee on Anti-Discrimination, Diversity and Inclusion. (2020) *COVID-19: an analysis of the anti-discrimination, diversity and inclusion dimensions in Council of Europe*

even in this regard, one should not be too quick in presuming unlawfulness. As has been pointed out in literature, 'unequal treatment of people who belong to different groups… does not necessarily constitute discrimination that is morally objectionable, and hence, prohibited by law – that is, wrongfully imposed disadvantageous treatment – because the distinction is not arbitrarily related to a characteristic the person does not control.'[100] While, as discussed above, the ECtHR has recently declared allegations of discrimination in relation to COVID-19 vaccination inadmissible and dismissed these, it remains to be seen whether these would be declared discriminatory in a substantive ruling, particularly in light of the fact that the notion of vaccination passports has also now been taken up by the WHO with a view to applying it on a global level.

5. CONCLUSION

Human rights laws do not exist or purport to exist in isolation. They often permit flexibility in extraordinary circumstances, and themselves provide mechanisms for states to manage such circumstances lawfully. For instance, the ECHR sets out permitted limitations to qualified rights in its substantive provisions, and permits an alternative course of action under Art. 15 in the event of war or other public dangers threatening the life of the nation, whereby states may derogate from qualified rights and freedoms by declaring a state of emergency. Within the EU, substantive laws that implement fundamental rights – like the GDPR – also envisage and provide for such circumstances. Furthermore, the EU Charter of Fundamental Rights does not preclude EU MS from declaring a state of emergency in terms of Art. 15 ECHR.[101]

COVID-19 presented an extraordinary scenario involving a highly infectious and potentially life-threatening disease. Governments rushed to implement measures in an attempt to halt or limit contagion, with the legitimate aim of saving lives, in the face of limited knowledge and understanding of the virus itself. Such measures did not come without a cost, both in terms of restricting and potentially violating human rights, but also severely affecting national and global economies.

These exceptional circumstances have even been acknowledged by the ECtHR. Although there is limited guidance from this court on the human

Member States. 11 November. Available from: `https://edoc.coe.int/en/living-together-diversity-and-freedom-in-europe/9741-covid-19-an-analysis-of-the-anti-discrimination-diversity-and-inclusion-dimensions-in-council-of-europe-member-states.html` [Accessed 26 January 2024], p. 11.

[100] Smith, M. J. and Emanuel, E. J. (2023) Learning from five bad arguments against mandatory vaccination. *Vaccine*, 41 (21), p. 3302.

[101] Explanations relating to the Charter of Fundamental Rights (2000), *op. cit.*

rights compatibility of the specific technological measures deployed in the context of the Covid pandemic, the analysis shows that the ECtHR attaches importance to a State's flexibility or 'margin of discretion' in times of crisis.

Notably, the current legal framework within the EU and the broader European context permits States to legitimately restrict or derogate from human rights in extraordinary circumstances, in order to protect and uphold other fundamental rights and interests such as public health or human life. In the EU in particular, MS do not have to base the relevant data processing on their citizens' consent as long as they ensure lawfulness, proportionality and appropriate safeguards for such processing. Nevertheless, many EU MS opted for consent in the context of the deployment and use of pandemic tech such as digital contact tracing, with the consequence that the functionality of such technologies may have been compromised, and the knock on effect of potentially compromising the health of other citizens.

The use of digital certificates also impinges on fundamental rights, in particular privacy and data protection, and raises concerns about possible discrimination. However, such discriminatory measures may in fact be socially justifiable, and it remains to be seen how the ECtHR would rule in a specific case scenario.

The present analysis aims to bolster future pandemic preparedness and responses. European human rights legal frameworks would appear to stand us in good stead, but this effectiveness can be compromised in contexts which are extraordinary and where knowledge and understanding of the health threat posed is limited. In such circumstances it is important to resist overstating the primacy of certain rights over others, in the face of an important or even essential public interest, such as public health. This is not to say that this paper advocates for undue deference to State interests or going down the slippery slope towards a totalitarian surveillance regime, but it rather advocates for ensuring a sustained role for protective mechanisms such as lawfulness (including legal guarantees or safeguards), proportionality, and judicial review, while keeping public interest goals squarely in focus.

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