



This preprint research paper has not been peer reviewed. Electronic copy available at: https://ssrn.com/abstract=4144692

THINKING, TALKING AND ACTING ABOUT PUBLIC ETHICS IN THE COVID-19 PANDEMIC

Working Paper: Text finalised 9 April 2021

Professor Sir Jonathan Montgomery FMedSci, LLM, Hon FRCPCH

Professor of Health Care Law, Faculty of Laws, University College London Co-chair Moral and Ethical Advisory Group, Department of Health and Social Care, England, United Kingdom

Professor Kenneth R. Kaufman AM, MD, FRCPsych, DLFAPA, FAES

Professor of Psychiatry, Neurology and Anaethesiology, Rutgers Robert Wood Johnson Medical School, New Brunswick, New Jersey, USA Visiting Professor, Department of Psychological Medicine, Institute of Psychiatry, Psychology & Neuroscience, King's College London, United Kingdom

Professor Richard Williams OBE, TD, MB ChB, FRCPsych, FRCPCH, MRSPH, DPM, DMCC

Emeritus Professor of Mental Health Strategy, Welsh Institute for Health and Social Care, University of South Wales

Presidential Lead for COVID-19, Emergency Preparedness and Mental Health for the Royal College of Psychiatrists

Corresponding author:

Professor Sir Jonathan Montgomery

jonathan.montgomery@ucl.ac.uk

Authors' Roles

JM led writing and editing of this paper. KRK advised on international aspects of this paper and contributed to drafting, reviewing and editing it. RW contributed to drafting this paper and to reviewing and editing it. All authors critically reviewed and approved the final version.

Contents

ABSTRACT	2
INTRODUCTION	3
ETHICAL FRAMING	4
Transactional Analysis	4
Clinical and Public Health Ethics	5
Egalitarian Justice	7
Corrective Justice Claims	
Utopian and Dystopian Justice	9
CHALLENGES OF PUBLIC REASON	
Dwindling Faith in Expertise?	10
Anti-societal Media?	14
GOVERNANCE AND CO-ORDINATION PROBLEMS	
How It Was Supposed to Work	18
How It Happened	
CONCLUSION	21
REFERENCES	23

ABSTRACT

During the COVID-19 pandemic, the discipline of public ethics has struggled to find a consensus on how best to conceptualise the challenges. The transactional nature of clinical ethics is too limited to capture the range of ethically relevant concerns. Although public health ethics is broader, it fails to provide a convincing framework for the deeply political implications of the response to the pandemic. They go beyond health issues and raise questions of justice.

We consider the demands of fairness for all, corrective justice for past structural wrongs, and utopian approaches that draw on our ideas about the ideal society. The lack of an agreed framework for ethical analysis is exacerbated by dwindling faith in expertise and a degradation of trust in media sources to present reliable, accurate information. These matters have undermined the quality of public reason. Although both the USA and UK had well-established anticipatory governance for pandemic influenza, it was not followed when COVID-19 took hold.

The pandemic has exposed the weaknesses of our collective thinking, our readiness to discuss the issues rationally and effectively, and our ability to act effectively in the public good. Rebuilding effective public ethics in its wake will present a monumental challenge.

KEY WORDS

COVID-19; bioethics; public health ethics; anticipatory governance; pandemic planning

INTRODUCTION

The COVID-19 pandemic resulting from the emergence in humans of the SARS-CoV-2 virus has required bioethicists to engage with novel issues at a very challenging pace. In this paper, we consider three aspects of the way in which public ethics has and is adapting to this challenging context. They concern the ways in which we are thinking, talking, and acting about the issues.

First, we show that there are different ways in which academic disciplines conceptualise the issues, values and problems and how these 'frames' are competing for dominance in public debate and policymaking. They are mediated by different 'experts', draw on different theoretical constructs, and use different data to provide the foundations for their application. Some issues become more salient than others depending on options our colleagues select; some types of arguments are made stronger, and others weakened. We observe that policy outcomes may be determined more by the choice of frame than by reflection on the situation that has arisen.

Second, we explore the way in which public reason, and public reasoning, has changed. COVID-19 hit the world at a time when attitudes to expertise, including but not limited to science, and to a rule-based international order, were undergoing a radical transformation. The proliferation of social media has fragmented the idea of truth, reduced reliance on curated information, and democratised public debate while destroying the hope for universally-trusted voices. 'One-nation' politics, in which leaders were expected to govern for all, not just for those who voted for them, has collapsed into partisan factionalism. This, in turn, has given conspiracy theories far wider traction, encouraged by deliberate manipulation and disinformation. The 'marketplace of ideas' has become an anarchic jungle rather than a mechanism for winnowing the chaff from the grain. Assumptions about public information and communications from previous pandemic planning frameworks have proven unreliable.

Third, we examine the way in which the governance institutions that public health experts anticipated would protect the world against the risks of pandemics have dissolved at the very moment when they were expected to come into their own. Global co-ordination through the World Health Organization has failed to avoid the vicissitudes of international politics, coming up against unilateral nationalism sometimes with xenophobic behaviours. The painstaking preparations of some of the most developed nations turned out to have become diluted, with lessons from exercises forgotten or ignored. Nations with some of the richest resources, including bioethical expertise, have struggled to deploy them effectively to reduce health and economic harms.

It will be many years before it will be possible to assess the success of responses based on the different approaches we summarise in this paper. Separating the impacts of inherited

demographic, socio-economic, political and health systems factors from those things over which there was a chance of influence during the pandemic will be challenging. It may never be possible to determine with any confidence what difference specific Governmental choices at key decision points have made. The complexities of such assessments are immense. All these judgments will be made with the benefit of hindsight and objectivity will be very difficult to obtain. However, it is not too early to try to disentangle some of the strands of the very muddled tapestry in the hope that this will illuminate the nature of the confusion and provide a foundation for understanding and learning for the future. We anticipate a desire to attribute blame and identify scapegoats in the inquiries that will, undoubtedly, follow once the pandemic has calmed. The analysis in this paper aims to contribute to our understanding of what is unfolding during these exceptional times with a view to providing some structure for future reflections.

FTHICAL FRAMING

Frameworks have become popular in public ethics because they aid people who wish to act ethically but lack either the skills or the time to engage in philosophical reflection. Coggon et al. note that they can be used to increase ethical awareness, provide guidance for action, and improve deliberation. They can also provide a benchmark against which to assess plans, including when holding individual persons, organisations and governments to account for their actions. COVID-19 has proved particularly challenging because there is no consensus on the best way to frame the ethical and political problems that we have faced. Transparency promotes good governance, but it also brings costs. Exposing this collective moral uncertainty causes some to experience moral distress when they worry that they may be acting inappropriately. In this section, we outline the approaches we see as most plausible.

Transactional Analysis

Our most familiar accountability models aim to make individual moral agents responsible for the choices that they make. The records and promises made by politicians can be judged by ballot when elections are held. Clinical decisions are judged in malpractice cases by reference to the relevant standard of care; taking into account what practitioners knew, or should have known, at the time when they were made. Hospitals can be penalised for health and safety failures (e.g., unsafe equipment, poor supervision, unhygienic buildings) by patients, staff and regulators. These approaches share the feature that they see decisions and actions as a form of transaction between the decision-maker and the expected beneficiary. Redress should be offered if the defendant has not met the expected standards.

This can be seen in discussions about the ethical approaches to resource scarcity, in which responsibility is fixed on frontline clinicians to determine what care should be offered to which

patients, perhaps with institutional or clinical ethics support.^{3, 4} Their actions can be judged against ethical principles such as those proposed by Emanuel et al. of maximising benefits, treating people equally, promoting and rewarding instrumental value (although avoiding the risk that people's wealth should determine whether they live or die), and giving priority to people who are worst off.⁵ Building on significant previous conceptual and public engagement work, White et al. express concern about categorical exclusions and point out the need to avoid 'morally irrelevant considerations, such as sex, race, religion, intellectual disability, insurance status, wealth, citizenship, social status, or social connections.'^{3 p 1774} Their solution is a points system based on capacity to benefit. They propose adapting it to prioritise those people vital to the public health response although the definition of this category and the rationale are unclear. Where scores are equal, life cycle considerations would justify the prioritisation of young patients so that they get an opportunity to pass through life stages.

However, such an approach deflects attention from more fundamental ethical responsibilities to avoid the need for prioritisation. We assert that the transactional model should be supplemented by a broader approach. Thus, in the UK, guidance from the Intensive Care Society adopts the similar principle that the prospects of a patient surviving and receiving 'sustained benefit' if admitted to critical care should be the guiding question and provides a decision support aid to summarise relevant data to make an assessment. The intention is to use this aid to identify those people who are most likely to benefit and to rank them if resources become scarce (addressing issues of transactional justice). However, this guidance goes further and also sets out a capacity management matrix that identifies the responsibilities of leaders within the health system to provide mutual aid so that this situation should not usually arise (and has not in the UK at the time of writing). Although it is more difficult to achieve outside state sponsored health services, the need for co-ordination has also been raised in the USA.

The key ethical questions that COVID-19 makes us confront cannot be captured by considering only decisions made within particular clinician-patient transactions. We need also to explore how the context for those decisions has been influenced by the choices made by those people and organisations that manage health systems and those who have influence over state and national health policy. This suggests that the traditional frameworks for clinical ethics should be supplemented by a broader perspective such as that of public health.

Clinical and Public Health Ethics

Like clinical ethics, public health ethics can be transactional; as in when specific interventions such as quarantine, contact tracing and mass vaccination programmes are under consideration. Options must be relevant to the problem being addressed and evaluated to see whether they can reasonably be expected to achieve the objective, whether that is to benefit an individual person or a population.⁸ Yet there are some important differences.

Clinical ethics is generally focused on a specific patient. Whether based on respecting key principles, as in the USA tradition (autonomy, beneficence, non-maleficence and justice),⁹ or values as in Europe (autonomy, dignity, integrity and vulnerability),¹⁰ clinical ethics aims to ensure that a particular patient's interests are promoted in therapeutic interactions and during human subject research. Public health ethics does not sit in opposition to this focus but supplements it with additional consideration of social and system contexts in which it rapidly becomes apparent that trade-offs may be necessary.¹¹

They may include matters within the scope of health systems. Whether to limit the resources devoted to one form of service, for example, in order to increase the resources of another (such as intensive care for patients who have COVID-19) or whether to prioritise one aspect of wellbeing over another (say survival over mental health for people advised to self-isolate). There may be pressures to adapt regulatory systems, such as emergency authorisations for medicines with reduced efficacy and safety data. It may also be necessary to trade health objectives against others such as justice or prosperity.

One key implication of these features of the context is that decision-making processes for clinical ethics, based on informed consent by each patient, is not sufficient or appropriate for public health ethics. This can be illustrated by vaccination ethics, where the need for collective action requires oversight and authorisation by a politically legitimate authority. Usually, authorisation is additional to that given by subjects of the intervention. However, if the urgency of the situation is thought to justify mandatory immunisation, consent from the legitimate authority may be alternative to patient's consent. Similar principles apply to other interventions, including non-pharmaceutical ones. Good governance requires that the reasonable options must be submitted for decision to an appropriate authority. This body should be accountable for the reasonableness of its decisions, by reference to criteria that are acceptable to the public who are affected, and ideally tested through some form of deliberative democratic process. The context is that the context is the public who are affected, and ideally tested through some form of deliberative democratic process. The context is that the context is that the public who are affected, and ideally tested through some form of deliberative democratic process.

It is misleading to characterise public health ethics as based on a utilitarian calculus that aims to maximise net public benefit without regard for the rights of individual persons. Rather, it emphasises different types of rights (to health and security), stresses less individualistic values that better recognise interdependencies, and is concerned with exacerbation of vulnerabilities that are associated with public health emergencies. ^{20, 21, 22}

Public health ethics recognises the political context of these decisions and some people suggest that it should be analysed as the operation of state power.²³ They note that health is not the only legitimate goal and that action must be restrained by citizens' negative rights of non-interference,²⁴ and that governments should seek to use the least restrictive or coercive means to achieve public health gains.^{25, 26, 27} Therefore, public health ethics should be

underpinned by political theory.²⁸ It can provide a satisfactory guide to responses to the COVID-19 pandemic only if these aspects of the challenge are accommodated.

Egalitarian Justice

We have shown that public health ethics has broader concerns than traditional clinical ethics, but it may still present too narrow a focus. The scale of COVID-19 infection is such that it affects the whole of society rather than an identifiable subset that can be targeted by public health interventions. In these circumstances, it may be more appropriate to consider what is required of a society that aims to treat its members fairly. The Pandemic Planning Framework, from which the UK response to COVID-19 has drawn, sets out the fundamental principle that 'everyone matters equally'. This egalitarian commitment does not require each person to be treated identically but it does mean that their interests are the concern of us all, and of society, and that they must be treated fairly and with respect.²⁹

The idea of fairness is contested. Some take a transactional approach in which unequal patterns of advantage can be regarded as fair if they result from a chain of free exchanges that have not robbed others of their legal rights.³⁰ In this approach, fair treatment preserves historical entitlements (always provided they were legitimately gained) and is compatible with high levels of inequality. Others suggest that fairness cannot be judged without regard to the pattern of distribution of goods. John Rawls argued for an understanding of 'justice as fairness' in which basic liberties should be secured for all and that inequalities could be tolerated only if there was equality of opportunity and that society was arranged so as to provide the greatest benefit to the least-advantaged members of society.^{31, 32}

A rhetoric has emerged around whether the restrictions on social interactions imposed to protect public health might cause greater harm through damage to the economy. On this view, we need to trade health protections for economic benefit and vice versa. The metaphor of trade-offs suggests the need for a common currency against which options can be measured. However, we have found that there is no consensus on how the consequences of decisions should be measured on a single scale, making it impossible to calculate the rationality of trade-offs. The social determinants of health model uses a currency of morbidity and mortality to assess the impact of socio-economic problems, 33 and demonstrates how social inequality is associated with poorer health outcome. 4 Economists have developed currencies to enable comparisons between health interventions such as disability adjusted life years. 5 Others have suggested that social benefits such as reduced crime rates can be attributed to changes in provision of health services, such as increased access to abortion services. However, it is hard to measure reliably the net effects of different policy options in a way that enables direct comparison because the various outcomes are not easily commensurable. It is even harder to do so across time and between countries due to confounding variables.

A second problem facing people who consider how to make these trade-offs arises from the fact that the costs and benefits are not evenly distributed. Trade-offs that might make sense at an aggregate level may have very different impacts on individual persons. An 'efficient' collective outcome might be unfair when considered from the perspective of individuals. Trade-offs involve choosing who will gain and who will lose as well as assessing net impacts. They, therefore, import questions about how we value people. We might appeal to the idea of rights to provide a constraint on aggregation of benefits.^{30, 37} COVID-19 related deaths fall mainly in older age groups, but it is younger people who suffer most directly from economic recession. Inter-generational justice may call into question the infliction of economic damage on those of working age in order to protect older persons. We anticipate that issues of this nature may well come before the courts as matters of age discrimination.

Governments across the world have adopted generic social distancing requirements under various names, including 'lockdown', 'stay-at-home' and shelter-in-place'. The connotations of these labels vary, as does their precise meaning. They may seem to treat everyone in the same way, but the practical and psychological impacts can be widely different. Some people can work effectively at home with reduced outgoings and stable income, giving them economic benefits. In stark contrast, large numbers of people have seen dramatic losses in income, or lost their jobs, but must continue to eat and pay rent. Governments in rich nations have responded with expensive support packages; sometimes subsidising employers to keep people in work, sometimes through direct payments.

Health and social impacts are also not uniform. Staying at home may not be particularly isolating for people who have strong social networks and who have maintained them through remote communication, such as social media and video links. But for lonely people and for some who have mental health conditions, the cost of social distancing measures is much greater.³⁸ Equal treatment may not be fair or equitable, if it impacts more harshly on some than others.

Corrective Justice Claims

Fairness may require that people who are adversely affected by restrictions that are imposed in the interests of health are compensated so that impacts are equalised. It can also be argued that those people most vulnerable to the adverse effects of the virus can expect greater protection in order to ensure equality of opportunity to survive. However, this way of understanding the requirements of justice may underestimate the extent to which pre-existent inequalities demand to be taken into consideration. Current patterns of disadvantage are often the result of past structural discrimination that has been exacerbated by the COVID-19 pandemic. This may require us to go further than an egalitarian approach suggests.

The impact of the virus has been more severe in communities that have suffered historical injustices. This invites consideration of whether there is an obligation to put right those structural disadvantages and restore an equality of respect and dignity. In both the USA and the UK, black communities have been more likely to become ill, and less likely to survive. ^{39, 40} Death rates in the most deprived areas of England are more than double those in the least deprived. ⁴¹ The 'Black Lives Matter' movement is significant in this regard as well as in relation to particular acts of brutality or indifference.

Martin Luther King coined the phrase 'living in the red' to capture the extent to which the rich of today are indebted to the past generations of poor and exploited people for their current prosperity. He thought this was true of us all, but that it had a particular resonance for those people from disadvantaged communities in which political promises of equality had been undermined by discriminatory practices. He argued that it followed there was a need for reparation in the form of compensatory measures to fulfil the promissory note of egalitarianism: where a society has systemically and specially structured *against* a group, then it becomes necessary to take special action in its favour.^{42, 43}

Utopian and Dystopian Justice

King's approach is based on past societal wrongdoing, but there may be obligations to correct structural disadvantage that has generated need without attributing blame. This may be articulated in terms of the proper response to vulnerability, 44, 45, 46 the need for health justice in realising capabilities, 47 by reference to the idea of the 'right to health', 48, 49 or to less specifically articulated state responsibilities to protect life, liberty and the pursuit of happiness. For without good health none of these is possible. We might describe this as an approach to public ethics based on what would be required of us in a perfect society, or Utopia. That is, public ethics might be driven by reflection on the sort of society we want to be. Here COVID-19 has brought into the spotlight some fundamental political differences between the United States and European approaches, with the United Kingdom once again finding itself somewhere in between.

In its statement on COVID-19, the European Group on Ethics in Science and New Technologies called on Governments to ensure that values were strengthened, not diluted during the response to the pandemic.⁵¹ It argued that that 'Good leadership in times of crisis is dependent upon protecting and promoting democracy, and human rights and the rule of law.'⁵¹ p³ It stressed the value of social solidarity, which it described as a 'social vaccine' and noted how the pandemic had elicited acts of kindness that must be encouraged. It argued that the protection of human health was accorded higher priority in European values than economic interests. Others have argued that European health governance is more concerned with market regulation than bioethics, ⁵² but the emphasis on solidarity and state responsibility

can be contrasted with the focus on liberty and the limits of governmental power in the debates across the USA.

In the USA, some protestors against disease control measures through lockdown have asserted a position that is different in its conclusions but similar in so far as its foundations lie in their view of the sort of society to which they aspire. Thus, Freedom Works, which describes itself as an association of 'Americans who are passionate about promoting free markets and individual liberty ... a desire for less government, lower taxes, and more economic freedom' has supported anti-lockdown protests under banners such as 'hazardous liberty' framing the questions around their conception of political freedom. From such a perspective, a slogan such as 'Give me liberty or give me death', reported as a 'popular mantra' at protests, symbolises a political stance that rejects the public health approach because the protestors regard it as an overreach of Government power.

Approaches to public ethics in the COVID-19 pandemic that draw not from the specifics of the pandemic, but the fundamentals of political justice lead us to consider the ways in which our democracies have deliberated on the options that we have available. We, therefore, turn to consider how 'public reason' has manifested itself during the pandemic. John Rawls has argued that the theoretical idea of public reason is a mechanism for enabling pluralist societies to find ways to reach sufficient consensus on contested issues to enable governments to operate with legitimacy.⁵³ However, the actual experience of public reasoning during the COVID-19 pandemic provides little cause for optimism that it can be achieved in practice. We explore this concern in the next section of this paper before turning to consider the implications for good governance in the final section.

CHALLENGES OF PUBLIC REASON

Science and health policy cannot avoid politics. Like all parts of our shared life, it is influenced by cultural conflict,⁵⁴ subject to manipulation by governments for political purposes,⁵⁵ and shaped by commercial and market opportunities.⁵⁶ This is not new. However, there are features of contemporary public discourse that have made effective public reason particularly challenging during this pandemic. We examine them under two headings: the alleged reduction of public trust in experts; and the corrosive effects of the explosion of channels for public debate.

Dwindling Faith in Expertise?

a https://www.freedomworks.org/about/about-freedomworks (accessed 10 May 2020).

^b https://www.bbc.co.uk/news/world-us-canada-52359100 (accessed 11 May 2020)

The COVID-19 pandemic emerged at a time when claims of expertise have come under intense scrutiny. Academic study of the sociology of expertise,⁵⁷ has moved into the broader public debate with attacks on the value of academic study, detachment and objectivity,⁵⁸ and political rejection of the advice of 'distant, unaccountable elitist' organisations.^c This context has profound implications for the ability of scientists to support decision-making during the pandemic response. Expert-led responses to decision-making will only secure public confidence if trust in scientists and doctors is high. In the most recent US General Social Survey in 2018, only 21% of respondents agreed or strongly agreed that Government administrators can be trusted to do what's best.^d A popular discourse has emerged that we live in a post-truth society, but this seems to be an over-simplification of the context for public reason in the pandemic.

Public confidence in science is measured regularly, and in the abstract was high as the pandemic emerged. The US General Social Survey reports 44% of respondents in 2018 had a great deal of confidence in the scientific community, the highest level of support recorded since the highest ever result of 45%, last seen in 1987.^d This is considerably lower than confidence in the military (60%), but higher than in medicine (27%) and much higher than is expressed in the executive branch of the federal government (12%). Globally, according to IPSOS-Mori, scientists are the most trusted profession, followed by doctors.⁵⁹ Its data for the United Kingdom shows slightly higher trust in scientists; in the UK 62% think they are trustworthy, higher than average (60%), but the USA is less trusting (55%). The Wellcome Global Monitor reported for 2018 that 90% of UK respondents said that their trust in scientists was high or medium, while the USA equivalent was 81%.60 However, surveys in March 2020 for the Winton Centre in Cambridge UK found that the US respondents had higher trust than those in the UK that 'their country's national scientific and medical advisors know the best measures to take in the face of the pandemic' even though US respondents trusted their politicians less and thought the response to the pandemic had been less effective than did those from the UK.⁶¹ It is, therefore, to be expected that public reasoning about the response to the COVID-19 pandemic should be led by scientific experts.

The established practice of the United Kingdom when presented with a major threat is to convene the Scientific Advisory Group for Emergencies (SAGE) to inform Government decisions. This brings together relevant expertise that is tailored to the circumstances under the leadership of the Government Chief Scientific Adviser. SAGE had been activated 8 times since 2009, including in relation to threats from the Zika, Ebola and Swine Flu viruses. COVID-19 has required a much more extensive and also intensive co-ordination of expertise. The intensity can be seen in the frequency of meetings. SAGE met 74 times during 2020, having been activated on 22 January. For Zika, it met only five times between February and August 2016. For Ebola, three meetings were held between October and December 2014. Even during

chttps://www.youtube.com/watch?v=GGgiGtJk7MA

d https://gss.norc.org/Get-The-Data

the H1N1 Swine Flu pandemic, there were only 22 meetings between May 2009 and January 2010. The total number of meetings is an indication of the extent of the work, and its complexity can be seen in the additional expert groups that feed into SAGE: the New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG); the Scientific Pandemic Influenza Group on Behaviours (SPI-B); the Scientific Pandemic Influenza Group on Modelling (SPI-M); the PHE Serology Working Group; the COVID-19 Clinical Information Network (CO-CIN); the Environmental Modelling Group; COVID-19 Genomics UK (COG-UK); Health Data Research UK (HDR UK); the Children's Task and Finish Working Group; the Hospital Onset COVID-19 Working Group; the Ethnicity Subgroup; and the Social Care Working Group (SCWG).

However, despite this mobilisation of expertise, the UK has struggled to maintain public trust in expert-driven decision-making. ⁶² Professional, media and public concern was stoked by lack of transparency in relation to SAGE. Although first convened for COVID-19 in late January 2020, the membership remained obscure until May 2020 (despite the Government's Chief Scientific Adviser, Sir Patrick Vallance, and the Chief Medical Officer, Professor Chris Whitty, being reported earlier as in favour of openness on this point). Minutes of SAGE have been available since 29 May, ^e but 34 meetings had already been held. Papers submitted for SAGE consideration have been public since the following day and are now searchable. ^f

Among the results of this early lack of transparency was establishment of a rival 'Independent SAGE' (Indie SAGE) in early May 2020.^g This group aims 'to provide independent scientific advice to the UK government and public on how to minimise deaths and support Britain's recovery from the COVID-19 crisis' and 'was founded with the intention of putting scientific facts and debate into the public domain.'^g The membership of Indie SAGE is based on a similar model of expertise to the official version. However, the implications of its mission are, of course, that government advisers lack independence and, therefore, should not be trusted and that there is a conspiracy against the public to keep them in the dark about the science. This may be a pandemic specific response. However, it may also indicate an increased tendency towards privatised policymaking with rival and partisan lobby groups, as has been more common in the USA.

Though multiple departments and agencies are involved in the coordinated responses to health hazards such as pandemics, the Centers for Disease Control and Prevention (CDC) is the principle permanent scientific body that addresses public health in the United States and has been key in responding to prior epidemics/pandemics. In addition, the United States presidential administrations have historically addressed epidemics with the potential for pandemics with specific executive orders. President George W. Bush created the National

e https://www.gov.uk/government/news/government-publishes-sage-minutes

 $^{^{\}rm f}\ https://www.gov.uk/government/collections/scientific-evidence-supporting-the-government-response-to-coronavirus-covid-19$

g https://www.independentsage.org/independent-sage/

Strategy for Pandemic Influenza in 2005,⁶³ followed a year later by an Implementation Plan.⁶⁴ President Obama's administration developed its Playbook for Early Response to High-Consequence Immerging Infectious Disease Threats and Biological Incidents.⁶⁵ Under President Trump, there was the Pandemic Influenza Plan 2017 Update.⁶⁶ The current White House Coronavirus Task Force sits within this tradition. As in the early stage of SAGE's work on COVID, it did not publish minutes and there was no transparency for the internal/crossagency communications among Health and Human Services (HHS), CDC, Food and Drug Administration (FDA) and the Task Force; however, the Task Force, as reformulated under President Boden, has shown increased transparency and communications.

The need for scientific integrity, with randomised controlled trials even in emergency infectious outbreaks has been emphasised by bioethics bodies.^{67, 68} However, the COVID-19 pandemic emerged at a time when some argue that scientific method and claims to expertise should be regarded with suspicion. Nicholas Taleb has suggested that the 'knowledge we get by tinkering, via trial and error, experience and the workings of time ... is vastly superior to that obtained by reasoning, something self-serving institutions have been very busy hiding from us.'^{58 p 8} This is a line of analysis that has supressed rigorous scientific trials in favour of 'compassionate use' of unproven therapies, sometimes under the rubric of the so-called 'right to try'.^{69,70}

In the USA, responsibility for regulatory oversight of new drugs and devices lies with the FDA. It has been under increasing political pressure to approve Emergency Use Authorizations (EUA) for numerous potential pandemic treatments later requiring revocation and impacting the pubic credibility of the FDA. 12, 71, 72 It was reported that the Trump White House attempted to block FDA guidance for vaccines. 73, 74

The question of when to trust experts has spilt over into the pronouncements of Governments. Where science should lead, there has been an ongoing politically-based tug-of-war over specific issues, such as changing CDC guidance for school openings. The position of the CDC has sometimes been undermined by comments from the White House and its role in addressing the COVID-19 pandemic has been marginalised. President Trump personally promoted therapies that have not been assessed in scientific studies or which research have sometimes demonstrated to be ineffective. We should be concerned about these developments as disregard for scientific methodologies is connected with a denial of the possibility of reliably distinguishing fact from fiction that Hannah Arendt has identified as a far more significant feature of the vulnerabilities to abuse of state power than ideologues of either the left or the right. These are lines of argument that undermine scientific expertise, and by doing so empower politicians because they limit the effectiveness of constraints on public rationality. We turn now to consider how modern media platforms have contributed to this trend.

Anti-societal Media?

At least since the work of John Stuart Mill, theorists of free speech have argued that one of its benefits is that truth is likely to emerge from debate and challenge, sometimes conceived as a form of competition in a 'marketplace of ideas'.⁷⁸ It is doubtful whether the 'perfect' market conditions that would enable this have ever existed, as debate can never escape socio-political contexts that predispose participants to accept some ideas more readily than others. However, there are particular challenges arising from the context for public reason during COVID-19 that have an adverse impact on effective discussion of ethical issues.

They include the impact of social media in dissolving, or at least diluting, trusted sources of truth in public discourse. In addition, demand for soundbites, slogans, and constant news feeds, has made measured, timely responses hard to communicate. The divisive blame cultures of current politics have made the stakes uncomfortably high. The need to challenge taboos in order to face up to the impact of the virus has created unhelpful tensions. Each of these matters has contributed to poor quality of discussion about the ethics of the response to the pandemic. We illustrate each of these problems in this section.

Traditional media platforms have regarded themselves as bound by journalistic ethics, with obligations to report accurately and fairly, and as subject to a degree of independent, if not necessarily external, regulation. In the UK, the Independent Press Standards Organisation oversees compliance with the Editors' Code of Practice. First Amendment rights in the USA reduce the scope for formal regulation but Codes of Professional Ethics aim to promote 'special care not to misrepresent or oversimplify in promoting, previewing or summarising a story' and verification, or fact-checking, is a journalistic duty.⁷⁹ However, the idea of professionalism, with related ethical obligations, does not apply to social media, which claim to be radically democratised sources of information. This may have made sense when they hosted democratic peer-to-peer communication and it appeared no one was in control. However, they have developed into the most profitable businesses in the World, become a platform for commerce, and provide multiple opportunities for idea of truth to be weaponised as political tool for oppression, and exploitation through sophisticated misinformation techniques.⁸⁰ Various fact-checking operations seek to reintroduce the idea or truthfulness and social media platforms have become more diligent in flagging misinformation (even when promulgated by the President of the USA).81 The pandemic did not create this situation, but it has drawn attention to the implications.

During COVID-19, governments, scientists and clinicians have struggled to be heard above the clamour of competing claims to be the voice of truth. Conspiracy theories abound, ranging from denial of the existence of the virus through its deliberate introduction (including from China into the USA or vice-versa, by Bill Gates or by Big Pharma) to dissemination via 5G.⁸² False news travels further and faster than scientific truth.⁸³ People who rely on social media

for information are more likely to hold conspiracy beliefs about COVID-19 and those who hold such beliefs are less likely to exhibit health protective behaviours,⁸⁴ or to comply with government guidelines.⁸⁵

The demands that media cycles make on politicians also serve to undermine careful scientific analysis and ethical debate. First, the soundbite culture demands simplicity even at the expense of accuracy on complex and uncertain issues. In the UK, public health messages have been distilled into simplistic slogans such as 'Stay Home, Protect the NHS, Save Lives'. They operate as behavioural interventions rather than as vehicles for conveying information. In being so focused, they detract from key messages about hand and other hygiene practices, social distancing or mask wearing. As they are behavioural interventions, their use gives credence to people who are concerned that they are coercive impositions rather than health advice. Such reductionist slogans are also unhelpful to those whose circumstances depart from the assumed norm, such as essential workers who must leave home to support the NHS or those for whom economic or social circumstances make compliance unrealistic. Debate about these issues is suppressed in the public sphere for fear of undermining the impact of the 'nudges' that are being applied.

Second, the constant need of media outlets in a 24-hour news cycle for new developments to report or failures to hold people to account, forces premature certainty. COVID-19 has seen an explosion in public dissemination in pre-print papers that have not been subject to any form of peer review. This has led to the suspension of practices designed to avoid misleading the public about untested analyses.^{86, 87} From the early stages of the pandemic, governments have felt compelled to promote numbers of tests as a performance indicator without regard to either the reliability of the tests (some of which had to be withdrawn from the market) or to whether the results would prompt any action.^{88, 89, 90}

Testing became an end in itself instead of a clinical or public health tool. This departed even further from the scientific rationales for testing when it played into the need of the media to find people to blame. In the UK, aspirational targets for the numbers of tests carried out by specific times had been set to ensure a focus on establishing programmes, as is typical in operational management. In the hands of the media, failure to reach these targets was used to attack the government in its daily press briefings. Management by targets is only effective if they are at the limits of attainability so it is to be expected that they are not met. The whole point is to put them just beyond reach in order to incentivise extra effort — a logic that is undermined by media treatment of this kind. It would be more conducive to public ethics to abandon targets than to use them in a way that distorts their contribution to the public good. The context of scrutiny, therefore, served to incentivise poor public health practice. In both the USA and UK, high numbers of tests have been performed, but they have not been matched with efficient contact tracing or effective encouragement to people to self-isolate.

The third contextual element that has hampered public reason during COVD-19 concerns the difficulties that officials face when exploring 'tragic choices', in which all the available options present uncomfortable ethics problems. ^{91, 92} In private ethics, it is acceptable to privilege your own values, or the needs of people close to you. In academic ethics, it is permissible to explore the taboo and unpalatable. However, in public ethics, the first is regarded as unjustly partisan and the second rapidly exposes officials to attack rather than debate. This point can be illustrated by reference to the problem of prioritising scarce critical care resources. Academics and clinicians can readily debate such matters without attracting criticism – it is the essence of their role. ^{5, 93, 94} Things are trickier for official bodies.

The nature of the challenges can be illustrated by the UK's experience in relation to the ethics of selection for admission to critical care units. In late March 2020, the UK's Moral and Ethical Advisory Group discussed a draft document on critical care prioritisation that built on an evidence review of the significance of age in predicting prognosis. In the event, this was not progressed as it became apparent that there was sufficient ICU capacity to avoid the need for rationing. At much the same time, the National Institute for Health and Care Excellence (NICE) was preparing a rapid guideline but did not include any data on the extent to which age was an independent predictor of outcomes. These events are linked by the understandable fear of public bodies of being accused of discrimination, as indeed they were.^{95, 96}

We should be worried about discrimination, but the effect of these pressures was to prevent a public discussion, and to drive the work into an obscure section of a professional society website. Given the evidence of poor survival of older persons admitted to intensive care with COVID-19,97 it is plausible to argue that, where resources are scarce, it is unethical to discriminate against young people by ignoring evidence of their better chances of successful treatment. However, such nuances are obliterated by the weaponisation of media slogans such as those typifying attempts to apply ethical guidelines as being 'death panels'. There are important ethical issues to be explored, but the media and political climate mitigates against public reason.

These problems are fundamental rather than generated by COVID-19 itself. However, they radically undermine the modes of rational deliberation that public ethics has assumed. The relative impotence of governments to control information is a structural feature of the information age in which states' power is diluted by 'political multi-agent systems'.⁹⁹ Corporations are economically bigger and more powerful than most countries. Thus, during COVID-19, an alliance between Google and Apple has prevented national governments developing smartphone-based contact tracing apps that would have generated epidemiological information and datasets that would permit the effectiveness of the apps to be monitored.^{100, 101} Geographical borders are increasingly irrelevant to information flows when most of the world's population can access Wikipedia and share information on peer-to-peer platforms. The autonomy of national states has been undermined by the development

of global market.¹⁰² Global health governance has shifted from intergovernmental institutions to public-private partnerships,¹⁰³ and the hierarchical structures of nation-state governance are being overtaken by unaccountable and substantially uncontrolled networks that history suggests are unsustainable and eventually collapse into anarchy.¹⁰⁴ It is, therefore, unsurprising that public ethics during COVID-19 has presented governance problems that existing institutions have proved poorly able to solve.

Some see the degradation of public reason as the epitome of democratisation. They suggest that it has taken power from the technocratic elite and given it to the 'people'. The privileged backgrounds of leaders, such as President Trump in the USA and Boris Johnson in the UK, have been forgotten as their populist communication skills have enabled them to persuade disadvantaged and disenfranchised groups that they speak for them. With this, we see a reluctance of politicians to be upstaged. In the early months of the UK's outbreak, daily press briefings were held in Downing Street with politicians setting the tone and scientists providing the briefings. However, the partnership began to crumble as the government sought to defend a key adviser from criticism for disregarding the public health messages to stay at home. For the media reported that England's Chief Nursing Officer was dropped from the public briefings for refusing to adopt the politicians' line. In the USA, President Trump has been accused of sidelining the Director of the National Institute of Allergy and Infectious Diseases for fear that he was gaining more respect for the exposure at the President's expense. Such media-driven politics has obscured public ethical deliberation.

COVID-19 has exposed the way in which such developments have altered our notions of governance and our expectations of Governments. It has been the source of profound challenge to the systems of governance in democratic states. The presidential election cycle has seen partisan responses to public health measures in which political affiliations have dominated. Mask-wearing has become a statement of political identity rather than a health intervention and questions of effectiveness have been crowded out of public discourse.

This failure of effective public reason exacerbates the challenges that we identified as arising from the fact we have no commonly accepted way of thinking about the difficulties that face us. The decisions that Governments must make are irreducibly political because they involve trade-offs, uncertainties and risk assessments that natural and human sciences can inform but not determine. The dynamics of power and accountability link only very loosely and unstably with the concerns of public ethics as we have presented them. This presents formidable challenges in ensuring that politics and the wellbeing of the people come together. We, therefore, turn to consider how governance has worked during the pandemic.

GOVERNANCE AND CO-ORDINATION PROBLEMS

Here too, we find that major problems are apparent in the USA and UK responses. Global coordination has been undermined by nationalist separatism. Anticipatory governance has been exposed as inadequate. Structures had been set in place for a specific bioethics governance. They have largely given way to broader politics. Failures of Government responses have led to ethical matters becoming subsumed into partisan politics, market forces, and subjected to the threat of judicial determinations. The weaknesses of our processes for co-ordination of society for the common good have been exposed.

This disintegration of governance responses to COVID-19 has parallels to the way in which public debate has developed away from expertise into anarchy. At the time of writing (5 March 2021) the USA has seen the highest number of cases in the world at 28.8 million (representing approximately 8.7% of its population) and approximately 6.3% (4.2 million people) of the UK is known to have been infected. The Johns Hopkins Coronavirus Resource Center reports that among the most affected countries (each with >1,000,000 cases) the UK has the second highest rate of deaths (186.5 per 100,000) and the USA stands fourth (158.4 per 100,000). It has been suggested that one feature of the COVID-19 pandemic is the way it has exposed the hubris of those who regard themselves as exceptional and able to 'go it alone' rather than collaborate on a co-ordinated global response. This seems apparent in the contrast between the way governance was supposed to work and how it has actually been implemented. In this domain, the USA and UK look to have abandoned their planned approaches. As we show in the next section, they have also diverged from the global blueprint.

How It Was Supposed to Work

Viral pandemics have been on national risk registers for decades. Claims that no one anticipated the challenge are patently false. The International Health Regulations of 2005 specifically provide for 'public health emergencies of international concern' (PHEIC). While earlier rules of this kind had been concerned primarily with health aspects of trade activities, ¹⁰⁷ this iteration focused on health security and, therefore, public health risks. ^{108, 109} Although under protracted discussion since 1995, it was the challenges of SARS in 2003 that prompted the agreement of the new Regulations. ¹¹⁰ Further learning from H1N1 and Ebola prompted the WHO to assert the idea of a shared global sovereignty to better protect the world from threats of pandemic diseases. ¹¹¹ Scholars identified the opportunities for 'adaptive governance' to be developed in which reflexive learning from pluralist approaches to grappling with challenges could enhance the ability of health policy to deliver outcomes that respond to the values, interests and concerns of stakeholders. ¹¹² Problems were modelled in late 2019 during a simulation exercise convened by the John Hopkins Bloomberg School of Public health, the World Economic Forum and the Gates Foundation. ^h Responses to COVID-19 should have been able to build on this learning from earlier global public health emergencies.

h https://www.centerforhealthsecurity.org/event201/about

The World Health Organization declared that COVID-19 met the criteria for a PHEIC on 30 January 2020 when 98 cases had been identified outside China across 18 countries, of which four had seen local human-to-human transmission (Germany, Japan, Viet Nam and the United States of America). Since that period, it has issued regular briefings and developed materials to support states in responding. The international experience shows that the bioethics governance could operate as anticipated. By February 2020, the World Health Organization had established a Working Group on Ethics and COVID-19, which has published on resource allocation, various aspects of research ethics and on digital contact tracing. 113, 114, 115 An ethical statement from the UNESCO Bioethics Committee in April, a body charged with advancing a shared understanding of global bioethics that transcends cultural differences, ¹¹⁶ stressed the vulnerabilities that COVID-19 was exposing. 117 In a number of countries, the mechanisms for bioethics governance worked as anticipated. The French standing advisory Comite Consultatif National d'Ethique (CCNE) was able to produce an opinion on ethical issues by 13 March 2020.¹¹⁸ An opinion on solidarity and responsibility in COVID-19 was published by the German ethics committee towards the end of March and another on immunity certification in September 2020. 119, 120 In Italy, the national bioethics committee published opinions on triage criteria in early April, 121 and matters of public health, freedom and solidarity in June 2020. 122

How It Happened

However, this pattern was not seen in the countries on which we have focused. According to the Global Health Security Index, the two best prepared countries in the world were the United States of America and the United Kingdom. Both have long traditions of public health and bioethical leadership. Both have extensive resources. The UK had undertaken a careful review of learning from the H1N1 epidemic. It convened a Moral and Ethical Advisory Group, as a successor to the Committee on the Ethical Aspects of Pandemic Influenza, and reaffirmed its commitment to the Ethical Framework that had been drawn up in 2009. The Nuffield Council on Bioethics, the nearest the UK has to a national bioethics committee, published a very timely report on *Research in Global Health Emergencies*.

The United States has many universities with bioethics departments, centers for bioethics (e.g., Hastings Center), bioethics societies and bioethics journals. ^{125, 126} Important bioethical work has been done during the COVID pandemic by the National Academies, by academic centres, ¹²⁷ and by individual ethicists. ^{3, 5, 93, 94, 96} Ethics is embedded within hospitals and agencies; the CDC has the Public Health Ethics Unit (PHEU) and Public Health Ethics Committee (PHEC). The United States had a series of federal ethics commissions between 1974 and 2017. ¹²⁸ The (Obama) Presidential Commission for the Study of Bioethical Issues had reviewed learning from the Ebola outbreak and articulated a 'vision for ethic preparedness' to 'set the stage for policies formulated and justified before the need to implement them during public health emergencies'. ⁶⁷ However, President Trump did not establish a Presidential bioethics commission. There was no active bioethicist who served on his White House

Coronavirus task force, although Ben Carson, Secretary of Housing and Urban Development, had previously served on President George W. Bush's Council on Bioethics.

In the UK, statements of principle were issued for Scotland and Wales. 129, 130 However, the Moral and Ethical Advisory Group (MEAG), set up to support the four countries' Chief Medical Officers, has discussed a number of issues with officials but has published no specific opinion. In part, this reflects a divergence of views and approaches within the group that made it hard to reach a consensus in the time available. However, it is also a consequence of lack of transparency, with the existence of the group being announced many months after its first meeting, which, in turn, seems to be connected with a concern about expert advice being used to criticise the Government. This is not unrealistic. We have already seen how work on prioritisation, to which MEAG had contributed views, was affected by media scrutiny. A similar pattern was seen in relation to the work of the Ethics Advisory Board to the UK's work on a contact tracing app. The media did not report the substance of the advice given to the Secretary of State on the principles that should be considered. 131 There was, however, considerable interest in whether the group was recommending that there should be a 'U-turn' towards the Google-Apple platform for such apps and whether it was being denied information by the Government. In practice, the nature of the scrutiny made it impossible to continue giving advice. Despite the resources of the UK, the expected mechanisms for bioethics governance failed to inform the government response effectively. 132, 133

The interplay between public health analysis and political imperatives can be seen in relation to travel restrictions. The WHO has produced guidance on factors to be taken into account in making decisions about travel restrictionsⁱ and has noted how detrimental unwarranted travel bans were to vulnerable countries in previous international public health emergencies. On 24 January 2020, it advised that the situation in Wuhan did not suggest travel bans should be imposed, but on 31 January, the USA barred entry to certain categories of people who had been in the People's Republic of China within the previous 14 days (even though infections were tiny outside Wuhan).k The fact that USA federal travel restrictions were not reassessed during the Trump administration strongly suggests that they were driven by political rather than public health concerns. State level restrictions have been more nuanced, but no change was made to the Presidential proclamation to reflect changing infection risks over time. The UK's frequent variation of countries subject to quarantine restrictions, based on prevalence of the virus, has led to political criticism, but it makes more scientific sense as it relates more closely to the probability of the virus being transferred by travellers. The observation that political pressures easily supersede science and that this can be economically harmful to vulnerable countries has been seen in relation to previous disease outbreaks. It was something

https://www.who.int/news-room/articles-detail/public-health-considerations-while-resuming-international-travel https://www.who.int/news-room/articles-detail/updated-who-advice-for-international-traffic-in-relation-tothe-outbreak-of-the-novel-coronavirus-2019-ncov-24-jan/

https://www.federalregister.gov/documents/2020/02/05/2020-02424/suspension-of-entry-as-immigrantsand-nonimmigrants-of-persons-who-pose-a-risk-of-transmitting-2019.

the international health regulations were intended to control through a form of global social contract. However, in relationship to COVID-19, once again, public health ethics has been subsumed by global and domestic political dynamics.

In both countries, there has been tendency to resist legitimatising existing bodies in favour of new ones. In the USA, the CDC established a dedicated 2019-nCoV Incident Management Structure on 7 January 2020 and activated an Emergency Operations Center on 21 January to co-ordinate both domestic and international response efforts. However, within days, the White House had convened the President's Coronavirus Task Force, which first met on 27 January 2020. This was initially headed by the Health and Human Services Secretary but, within a month, it was announced that Vice President Pence would take charge. In the UK, rather than building on the existing body, Public Health England (PHE), a new Joint Biosecurity Centre was established and in, the midst of the pandemic, it was announced that PHE would be disbanded, sand a new National Institute for Health Protection established. Despite the UK's long-established public health services, the Government was quick to seek private sector involvement in PPE procurement, data analysis, testing, and contact tracing.

This interplay between science and politics is now working through in the context of vaccine delivery and in particular the question of whether to prioritise first doses for many over the twin doses recommended by the manufacturers. In the UK, a detailed scientific review led to an independent recommendation by the Joint Committee on Vaccination and Immunization to take this step in order to increase the short-term impact of vaccination in the face of a rapidly escalating wave of infections.^m However, as our analysis would lead us to expect, this decision has been politicised. It was raised in an intervention by former Prime Minister Tony Blair prior to the data being clear,ⁿ and attacked by French President Macron, who in turn was attacked in an outbreak of vaccine nationalism. ¹³⁴ An apocalyptic post on Twitter, said to be the 'Musings of an anonymous, pissed off virologist' suggested that the UK was doing exactly what the virus needed to create resistance to vaccines. ^o Vaccine diplomacy has become as much a political tool rather than a public health measure. ¹³⁵

CONCLUSION

Two broad responses might be made to the situation that we have analysed in this article. One would be to suggest that, if only the preparatory work that the USA and UK had been doing had been properly implemented, their responses to COVID-19 would have been more effective. The second would be to argue that the pandemic has exposed the weaknesses of

¹ (Initial Public Health Response and Interim Clinical Guidance for the 2019 Novel Coronavirus Outbreak — United States, December 31, 2019–February 4, 2020 https://www.cdc.gov/mmwr/volumes/69/wr/mm6905e1.htm?s_cid=mm6905e1_w)

m https://www.gov.uk/government/publications/prioritising-the-first-covid-19-vaccine-dose-jcvi-statement

https://committees.parliament.uk/oralevidence/1456/html/Q1603.

[°] https://twitter.com/PaulBieniasz/status/1345195420033691648

the planning assumptions and requires a radical re-assessment of how we should think, deliberate and act in response to future global disease outbreaks.

We suggest that the second approach better describes the experience of the UK and USA. Despite the election and inauguration of President Biden, we must continue to fear the power of nationalist protectionism. Global co-operation on health security has proved fragile and, irrespective of decisions from any future US President, cannot be relied upon as the basis for future resilience. Collaboration is the obvious ethical response. President Biden's Covid Commission includes a leading bioethicist. There is a strong case for the USA to return to the tradition of Presidential bioethics commissions. ¹³⁶ However, it is far from certain that the global political tide has turned back towards a more collaborative and deliberative rules-based world order.

There are reasons to think that some countries have fared better in fostering sound public ethics. However, it is possible that this is little more than a matter of respite. COVID-19 has shown us that we lack an accepted conceptual approach to balance and mediate the competing demands that the pandemic has made on states. The failure of clinical, public health and bioethics to provide such an analytical framework has meant that US and UK Governments have been unable to articulate the rationales for their responses – lurching, consequentially, between health and economic perspectives. As the pandemic continues, this may become a more pressing problem even for those governments that have adopted traditional public health responses and relied on established bioethical governance mechanisms.

The problems that we have discussed about suspicion of expertise and the degradation of public discourse are global. As the impact of COVID-19 increases across the world, we may find that faith in science is rekindled. Arguably, there is some evidence for this from the levels of uptake of the vaccines in the UK despite proposals to adapt regulatory structures to the need to deploy vaccines swiftly being used by conspiracy theorists as fuel. But it is also possible that rising mortality is blamed on failure of science. Some social media platforms are beginning to recognise the damage that they have done to the common good by failing to address misinformation and allowing the algorithms that drive targeted dissemination to stoke conspiracy theories. Yet, the power that populist leaders have discovered can be wielded through social media and gives them a vested interest in resisting fundamental change. During the US Presidential election in 2020, political rhetoric about vaccination in the USA bore all the hallmarks of partisan politicisation.

The pandemic has exposed the weaknesses of our collective thinking, our readiness to discuss the issues rationally and effectively, and our ability to act effectively in the public good. Rebuilding effective public ethics in its wake will present a monumental challenge. We must

attempt it, but it is imperative that we do not underestimate the task if we are to respond better to future pandemics than we have to COVID-19.

REFERENCES

- 1. Coggon J, Syrett K, Viens AM. Public Health Law: Ethics, Governance and Regulation. Routledge, 2017.
- 2. Montgomery J, Williams R. Public health values and evidence-based practice. In Social Scaffolding: Applying the Lessons of Contemporary Social Science to Health and Healthcare (eds R Williams, V Kemp, A Haslam, C Haslam, K Bhui, S Bailey): 227-243. Cambridge University Press, 2019.
- 3. White DB, Lo B. A framework for rationing ventilators and critical care beds during the COVID-19 pandemic. *JAMA* 2020; **323**(18):1773-1774. Available at: doi:10.1001/jama.2020.5046
- 4. Arie S. Covid-19: Can France's ethical support units help doctors make challenging decisions? *BMJ* 2020;**369**:m1291. Available at: doi: 10.1136/bmj.m1291 (Published 2 April 2020).
- 5. Emanuel E, Persad G, Upshur R, Thome B, Parker M, Glickman A, et al. Fair location of scarce medical resources in the time of COVID-19. *N Engl J Med* 2020; **382**:2049-2055. Available at: doi: 10.1056/NEJMsb2005114.
- 6. Intensive Care Society. Clinical Guidance: Assessing Whether COVID-19 Patients Will Benefit from Critical Care, and An Objective Approach to Capacity Challenges. Republished as Montgomery J, Stokes-Lampard H, Griffiths M, Gardiner D, Harvey D, Suntharalingam G. Assessing whether COVID-19 patients will benefit from critical care, and an objective approach to capacity challenges during a pandemic: An Intensive Care Society clinical guideline. Journal of the Intensive Care Society. August 2020. Available at: doi:10.1177/1751143720948537.
- 7. Ranney ML, Griffeth V, Jha AK. Critical supply shortages The need for ventilators and personal protective equipment during the COVID-19 pandemic. *N Engl J Med* 2020; **382**:e41. Available at: doi 10.1056/NEJMp2006141.
- 8. Grill K, Dawson A. Ethical frameworks in public health decision-making: Defending a value-based and pluralist approach. *Health Care Analysis* 2015; **25**: 291–307.
- 9. Beauchamp TL, Childress JF. *Principles of Biomedical Ethics* 8th ed. Oxford University Press, 2019.
- 10. Rendtorff JD. European perspectives. In *Handbook of Global Bioethics* (eds ten Have, AMJ Henk, B Gordijn):293-310. Springer, 2014.
- 11. UK Faculty of Public Health. *Tackling the Social, Professional, and Political Challenges of COVID-19: The Crucial Role of Public Health Ethics.* UK Faculty of Public Health, 2020. (https://www.fph.org.uk/media/2922/fph-statement-of-public-health-ethics-and-covid-19.pdf [accessed 18 January 2021]).
- 12. Ortolani C, Pastorello EA. Hydroxychloroquine and dexamethasone in COVID-19: who won and who lost? *Clin Mol Allergy* 2020 Sep 9; **18**:17. Available at: doi: 10.1186/s12948-020-00132-7. PMID: 32922210; PMCID: PMC7480203
- 13. Schwartz JL, Caplan AL. Vaccination Ethics and Policy. The MIT Press, 2017.

- 14. Harmon SHE, Faour DE, MacDonald NE, Graham JE, Steffen C, Henaff L, Shendale S, Global NITAG Network 2018 Survey Correspondents. Immunization governance: Mandatory immunization in 28 Global NITAG Network countries. *Vaccine* 2020 Sep 25:S0264-410X(20)31223-8. doi: 10.1016/j.vaccine.2020.09.053. Epub ahead of print. PMID: 32988691; PMCID: PMC7519394
- 15. Cassimos DC, Effraimidou E, Medic S, Konstantinidis T, Theodoridou M, Maltezou HC. Vaccination programs for adults in Europe, 2019. *Vaccines* 2020 Jan 20;8(1):34. Available at: doi: 10.3390/vaccines8010034. PMID: 31968652; PMCID: PMC7157239.
- 16. Thompson AK, Faith K, Gibson JL, Upshar REG. Pandemic preparedness: An ethical framework to guide decision-making. *BMC Medical Ethics* 2006; **7**: 12.
- 17. Daniels N. Accountability for reasonableness. BMJ 2000; 321:1300–1301.
- 18. Daniels N. Just Health: Meeting Health Needs Fairly. Cambridge University Press, 2008.
- 19. Faust HS, Upshur R. Public health ethics. In *Cambridge Textbook on Bioethics* (eds P Singer P, AM Viens): 274-280. Cambridge University Press, 2009.
- 20. Buccieri K, Gaetz S. Ethical vaccine distribution planning for pandemic influenza: Prioritizing homeless and hard-to-reach populations. *Public Health Ethics* 2013; **6**: 185–196.
- 21. Kaposy C, Bandrauk N. Prioritizing vaccine access for vulnerable but stigmatized groups. *Public Health Ethics* 2012; **5**:283–295.
- 22. Lee C, Rogers WA, Braunack-Mayer A. Social justice and pandemic influenza planning: The role of communication strategies. *Public Health Ethics* 2008; **1**: 223–224.
- 23. Gostin L. *Public Health Law Power, Duty, Restraint*, 2nd ed. University of California Press, 2008.
- 24. Kass N. An ethics framework for public health. *American Journal of Public Health* 2001; **91**:11: 1776-82.
- 25. Childres J, Faden R, Gaare R, Gostin L, Kahn J, Richard B, et al. Public health ethics: mapping the terrain. *Journal of Law, Medicine and Ethics* 2002; **30**:2 169-77.
- 26. Nuffield Council on Bioethics. *Public Health Ethics*. Nuffield Council on Bioethics, 2007.
- 27. Upshur R. Principles for the justification of public health interventions. *Canadian Journal of Public Health* 2002; **93**:2 101-3.
- 28. Coggon J. What Makes Health Public? Cambridge University Press, 2012.
- 29. Department of Health and Cabinet Office. *Responding to Pandemic Influenza: The Ethical Framework for Policy and Planning*. Department of Health, 2007.
- 30. Nozick R. *Anarchy, State and Utopia*. Basic Books, 1974.
- 31. Rawls J. A Theory of Justice. Harvard University Press, 1971.
- 32. Rawls, J. Justice as Fairness: A Restatement. Harvard University Press, 2001.
- 33. Marmot M, Wilkinson R, eds. *Social Determinants of Health* 2nd ed. Oxford University Press, 2005.
- 34. Wilkinson R, Pickett K. *The Spirit Level: Why More Equal Societies Almost Always Do Better*. Allen Lane, 2009.
- 35. Murray CJ. Quantifying the burden of disease: the technical basis for disability-adjusted life years. *Bull World Health Organ* 1994; **72**(3):429-45. PMID: 8062401; PMCID: PMC2486718.
- 36. Donohue JJ, Levitt SD. *The Impact of Legalised Abortion on Crime Over the Last Two Decades*. Working Paper 25863. National Bureau of Economic Research, 2019. (https://www.nber.org/papers/w25863.)

- 37. Hart HLA. Between utility and rights. In *Essays in Jurisprudence and Philosophy* (ed HLA Hart): 198-222. Oxford University Press, 1983.
- 38. Kaufman KR, Petkova E, Bhui KS, Schulze TG. A global needs assessment in times of a global crisis: world psychiatry response to the COVID-19 pandemic. *BJPsych Open* 2020; **6**(3):e48.
- 39. Centers for Disease Control and Prevention. *COVID-19 In Racial and Ethnic Minority Groups*. Centers for Disease Control and Prevention, 2020.(https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html). Last accessed 9 June 2020.
- 40. Public Health England. *COVID-19: Review of Disparities in Risks and Outcomes*. Public Health England, 2020. (https://www.gov.uk/government/publications/covid-19-review-of-disparities-in-risks-and-outcomes accessed 9 June 2020).
- 41. Office of National Statistics. Deaths Involving COVID-19 by Local Area and socioeconomic Deprivation: Deaths Occurring between 1 March and 17 April 2020. Office for National Statistics, 2020. (https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages /deaths/bulletins/deathsinvolvingcovid19bylocalareasanddeprivation/latest accessed 9 June 2020).
- 42. King ML. Why Can't We Wait? Harper & Row, 1963.
- 43. King ML. Where Do We Go from Here: Chaos or Community? Harper & Row, 1967.
- 44. Logstrup KE. *The Ethical Demand*. University of Notre Dame Press, 1956 tr. 1997.
- 45. Logstrup KE. *Beyond the Ethical Demand*. University of Notre Dame Press, 1961-82, tr. 2007.
- 46. Bennet B, Carney T. Vulnerability: an issue for law and policy in pandemic planning? In Law and Global Health (eds M Freeman, S Hawkes S, B Bennett B): 121-132. Oxford University Press, 2014.
- 47. Venkatapuram S. *Health Justice: An Argument from the Capabilities Approach*. Polity Press, 2011.
- 48. Wolff J. *The Human Right to Health*. WW Norton, 2012.
- 49. Tasioualas J. *Minimum Core Obligations: Human Rights in the Here and Now*. World Bank Research Paper, 2017. (https://openknowledge.worldbank.org/handle/10986/29144)
- 50. More T. *Utopia*. Cambridge University Press, 1516 tr 1989.
- 51. European Group on Ethics in Science and New Technologies. European Group on Ethics in Science and New Technologies Statement on European solidarity and the Protection of Fundamental Rights in the COVID-19 pandemic. European Group on Ethics in Science and New Technologies, 2020. (https://ec.europa.eu/info/sites/info/files/research_and_innovation/ege/ec_rtd_ege-statement-covid-19.pdf)
- 52. Bache G, Flear ML, Hervey TK. The defining features or the European Union's approach to regulating new health technologies. In *European Law and New Health Technologies* (eds ML Flear, AM Farrell, TK Hervey TK): 7-45. Oxford University Press, 2013.
- 53. Rawls J. The Idea of Public Reason Revisited. In *The Law of Peoples* (ed J Rawls): 129-180. Harvard University Press, 1999.
- 54. Moreno J. *The Body Politic: The Battle Over Science in America*. Bellevue Literary Press, 2011.
- 55. Wolfe A. Freedom's Laboratory: The Cold War Struggle for The Soul of Science. John Hopkins University Press, 2019.

- 56. Pfeffer N. *Insider Trading: How Mortuaries, Medicine and Money Have Built a Global Market in Human Cadaver Parts.* Yale University Press, 2017.
- 57. Collins H, Evans R. Rethinking Expertise. University of Chicago Press, 2007.
- 58. Taleb N. Skin in the Game: Hidden Asymmetries in Daily Life. Allen Lane, 2018.
- 59. IPSOS-Mori. *IPSOS Thinks Trust the Truth?* Ipsos-Mori, 2019. (https://www.ipsos.com/ipsos-mori/en-uk/ipsos-thinks-trust-truth)
- 60. Wellcome Trust. *Wellcome Global Monitor: How Does the World Feel About Science and Health?* Wellcome Trust, 2019.
- 61. Blastland M. *Coronavirus and Public Trust*. Winton Centre for Risk and Evidence Communication, University of Cambridge, 2020. (https://medium.com/wintoncentre/coronavirus-and-public-trust-e156c89be5d4)
- 62. Newton K. Government communications, political trust and compliant social behaviour: The politics of COVID-19 in Britain. *Polit Q* 2020 Aug 26: 10.1111/1467-923X.12901. Available at: doi: 10.1111/1467-923X.12901 [Epub ahead of print].
- 63. Homeland Security Council. *National Strategy for Pandemic Influenza*. Homeland Security Council, 2005 (https://www.cdc.gov/flu/pandemic-resources/pdf/pandemic-influenza-strategy-2005.pdf.)
- 64. Homeland Security Council. *National Strategy for Pandemic Influenza Implementation Plan 2006*. Homeland Security Council, 2006. (https://www.cdc.gov/flu/pandemicresources/pdf/pandemic-influenza-implementation.pdf?fbclid=IwAR0L2Mdh6-pwWYpDQ_pcvSRWRM6T772WNTqGflp2pk9G2nm6ahP2d-2VsOc.)
- 65. National Security Council. Playbook for Early Response to High-Consequence Immerging Infectious Disease Threats and Biological Incidents 2016. National Security Council, 2016. (https://assets.documentcloud.org/documents/6819268/Pandemic-Playbook.pdf.)
- 66. US Department of Health and Human Services. *Pandemic Influenza Plan 2017 Update. US Department of Health and Human Services, 2017.*(https://www.cdc.gov/flu/pandemic-resources/pdf/pan-flu-report-2017v2.pdf)
- 67. Presidential Commission for the Study of Bioethical Issues. *Ethics and Ebola: Public Health Planning and Response*. Presidential Commission for the Study of Bioethical Issues, 2015.
- 68. Nuffield Council on Bioethics. *Research in Global Health Emergencies*. Nuffield Council on Bioethics, 2020.
- 69. Carrieri D, Paeccatori F, Boniolo G. The ethical plausibility of the 'right to try' Laws. *Critical Reviews in Oncology/Hematology*, 2018; **122**:64-71.
- 70. Raus K. 60. An analysis of common ethical justifications for compassionate use programs for experimental drugs. *BMC Medical Ethics*, 2016; **17**:60. Available at: doi: 10.1186/s12910-016-0145-x
- 71. Goodman JL, Borio L. Finding effective treatments for COVID-19: Scientific integrity and public confidence in a time of crisis. *JAMA* 2020; **323**(19):1899-1900. doi:10.1001/jama.2020.6434.
- 72. Food and Drugs Administration. *Coronavirus (COVID-19) Update: FDA Revokes Emergency Use Authorization for Chloroquine and Hydroxychloroquine*. FDA 15 June 2020. (https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-revokes-emergency-use-authorization-chloroquine-and#:~:text=Today%2C%20the%20U.S.%20Food%20and,clinical%20trial%20was%20un available%2C%20or.)

- 73. LaFraniere S, Weiland N. White House Blocks New Coronavirus Vaccine Guidelines. New York Times 5 October 2020. (https://www.nytimes.com/2020/10/05/us/politics/coronavirus-vaccine-guidelines.html.)
- 74. US Department of Health and Human Services. Food and Drug Administration Center for Biologics Evaluation and Research. *Emergency Use Authorization for Vaccines to Prevent COVID-19: Guidance for Industry*. US Department of Health and Human Services October 2020. (https://www.fda.gov/media/142749/download.)
- 75. Mazzetti M, Weiland N, LaFraniere S. *Behind the White House Effort to Pressure the CDC. on School Openings.* New York Times 28 September 2020. (https://www.nytimes.com/2020/09/28/us/politics/white-house-cdc-coronavirus-schools.html.)
- 76. Lancet. Reviving the US CDC. *Lancet* 2020 May 16; **395**(10236):1521. Available at: doi: 10.1016/S0140-6736(20)31140-5.
- 77. Arendt H. The Origins of Totalitarianism. Penguin 1951, Classics edition, 2017.
- 78. Schauer F. Free Speech: A Philosophical Enquiry. Cambridge University Press, 1982.
- 79. Society of Professional Journalists. *Code of Ethics*. Society of Professional Journalists, 2014. (https://www.spj.org/pdf/spj-code-of-ethics.pdf)
- 80. Pomerantsev P. *This is Not Propaganda: Adventures in the War Against Reality*. Faber & Faber, 2019.
- 81. Culliford E. Twitter, Facebook flag Trump post on US election eve. Reuters 2 November 2020. https://www.reuters.com/article/us-usa-election-t%20rump-twitt/twitter-facebook-flag-t%20rump-posts-on-u-s-election-eve-idUSKBN27J051. Accessed 26 February 2021.
- 82. Lynas M. *COVID Top 10 Conspiracy Theories*. Cornell Alliance for Science, 2020. (https://allianceforscience.cornell.edu/blog/2020/04/covid-top-10-current-conspiracy-theories/)
- 83. Vosoughi S, Roy D, Aral S. The spread of true and false news online. *Science* 2018; **359**:1146-51. Available at: doi: 10.1126/science.aap9559
- 84. Allington D, Duffy B, Wessely S, Dhavan N, Rubin J. Health-protective behaviour, social media usage and conspiracy belief during the COVID-19 public health emergency. *Psychological Medicine* 2020. Available at: https://doi.org/10.1017/S003329172000224X
- 85. Freeman D, Waite F, Rosebrock L, Petit A, Causier C, East A, et al. Coronavirus conspiracy beliefs, mistrust, and compliance with government guidelines in England. *Psychological Medicine* 2020; 1-13. Available at: https://doi.org/10.1017/S0033291720001890
- 86. Science Media Centre. Best Practice Guidelines on Conveying Scientific Findings to the Public in the Era of Preprints. Science Media Centre, 2019. (https://www.sciencemediacentre.org/wp-content/uploads/2019/11/Best-practice-guidelines-on-preprints-and-publicity.pdf)
- 87. Fox F. What Should Press Officers Advise on Preprints During a Pandemic? Science Media Centre Blog 2 July 2020. (https://www.sciencemediacentre.org/what-should-press-officers-advise-on-preprints-during-a-pandemic/)
- 88. Service RF. Coronavirus antigen tests: Quick and cheap, but too often wrong? *Science*, 22 May 2020. (https://www.sciencemag.org/news/2020/05/coronavirus-antigen-tests-quick-and-cheap-too-often-wrong;). Available at: doi:10.1126/science.abc9586

- 89. US Food and Drug Administration. *Coronavirus (COVID-19) Update: FDA Revokes Emergency Use Authorization for Chembio Antibody Test*. US Food and Drug Administration, 16 June 2020. (https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-revokes-emergency-use-authorization-chembio-antibody-test.)
- 90. Deeks JJ, Brookes AJ, Pollock AM. Operation Moonshot proposals are scientifically unsound. *BMJ* 2020; **370**:m3699.
- 91. Calabresi G, Bobbitt P. *Tragic Choices*. WW Norton, 1978.
- 92. Hursthouse R. On Virtue Ethics. Oxford University Press, 1999.
- 93. Liddell K, Skopek J, Palmer S, Martin S, Anderson J, Sagar A. Who gets the ventilator? Important legal rights in a pandemic. *Journal of Medical Ethics* 2020. Available at: http://dx.doi.org/10.1136/medethics-2020-106332
- 94. Newdick C, Sheehan M, Dunn M. Tragic choices in intensive care during the COVID-19 pandemic: on fairness, consistency and community. *Journal of Medical Ethics* 2020. Available at: http://dx.doi.org/10.1136/medethics-2020-106487
- 95. Age UK. Joint Statement on the Rights of Older People in the UK to Treatment During This Pandemic. Age UK, March 2020. (https://www.ageuk.org.uk/latest-press/articles/2020/03/rights-of-older-people-during-pandemic/)
- 96. Popescu D, Marcoci A. *Coronavirus: Allocating ICU Beds and Ventilators Based on Age is Discriminatory.* The Conversation, 22 April 2020. (https://theconversation.com/coronavirus-allocating-icu-beds-and-ventilators-based-on-age-is-discriminatory-136459)
- 97. Intensive Care National Audit and Research Centre. *ICNARC Report on COVID-19 in Critical Care*. Intensive Care National Audit and Research Centre, 24 July 2020. (https://www.icnarc.org/DataServices/Attachments/Download/af7be2d4-bdcd-ea11-9127-00505601089b)
- 98. Luthi S. Trump administration steps in as advocacy groups warn of Covid 'death panels'. *Politico*, 10 August 2020. (https://www.politico.com/news/2020/08/10/coronavirus-treatment-death-panels-392463)
- 99. Floridi L. *The Fourth Revolution: How the Infosphere is Reshaping Human Reality*. Oxford University Press, 2014.
- 100. Ilves I. Why are Google and Apple Dictating How European Democracies Fight Coronavirus? Guardian 16 June 2020. (https://www.theguardian.com/commentisfree/2020/jun/16/google-apple-dictating-european-democracies-coronavirus.)
- 101. Veale M. *Privacy is Not the Problem with the Apple-Google Contact-tracing Toolkit*. Guardian 1 July. 2020. (https://www.theguardian.com/commentisfree/2020/jul/01/apple-google-contact-tracing-app-tech-giant-digital-rights.)
- 102. Bobbitt P. The Shield of Achilles: War, Peace and the Course of History. Penguin, 2002.
- 103. Clinton C, Sridhar D. *Governing Global Health: Who Runs the World and Why?* Oxford University Press, 2017.
- 104. Ferguson N. *The Square and the Tower: Networks, Hierarchies and the Struggle for Global Power*. Allen Lane, 2017.
- 105. Montgomery J. Bioethics as a governance practice. *Health Care Analysis* 2016; **24**(1): 3–23.
- 106. Lincoln M. A special self-image is no defence against COVID-19. *Nature* 2020; **585**: 325.

- 107. Fidler, D. *International Law and Infectious Diseases*. Oxford University Press, 1999.
- 108. Fidler D. From international sanitary conventions to global health security: the new International Health Regulations. *Chinese Journal of International Law* 2005; **4**(2) 325-392
- 109. Gostin L. Global Health Law. Harvard University Press, 2014.
- 110. Fidler D. SARS, Governance and the Globalisation of Disease. Palgrave Macmillan, 2004.
- 111. World Health Organization. *Report of the Ebola Interim Assessment Panel*. WHO, 2015. (https://www.who.int/csr/resources/publications/ebola/report-by-panel.pdf)
- 112. Onzivu W. Reinforcing global health normative frameworks and legal obligations: Can adaptive governance help? In *Global Health and International Community: Ethical, Political and Regulatory Challenges* (eds J Coggon, S Gola): 233-248. Bloomsbury, 2013.
- 113. World Health Organization. Ethics and COVID-19: Resource Allocation and Priority-setting. World Health Organization, 2020. (https://www.who.int/ethics/publications/ethics-and-covid-19-resource-allocation-and-priority-setting/en/)
- 114. World Health Organization. Ethical Standards for Research During Public Health Emergencies: Distilling Existing Guidance to Support COVID-19 R&D. World Health Organization, 2020. (https://www.who.int/publications/i/item/WHO-RFH-20.1)
- 115. World Health Organization. Ethical Considerations to Guide the Use of Digital Proximity Tracking Technologies for COVID-19 Contact Tracing. World Health Organization, 2020. (https://www.who.int/publications/i/item/WHO-2019-nCoV-Ethics_Contact_tracing_apps-2020.1)
- 116. Bagheri A, Moreno J, Simplici S. *Global Bioethics: The Impact of the UNESCO International Bioethics Committee*. Springer International Publishing Switzerland, 2016.
- 117. International Bioethics Committee and World Commission on the Ethics of Scientific Knowledge and Technology. *Statement on COVID-19: Ethical Considerations from a Global Perspective*. UNESCO, 2020. (https://unesdoc.unesco.org/ark:/48223/pf0000373115)
- 118. Comite Consultatif National d'Ethique. *Ethical Issues in the Face of a Pandemic*. Comite Consultatif National d'Ethique, 2020. (https://www.ccneethique.fr/en/publications/contribution-french-national-consultative-ethics-committee-covid-19-crisis-ethical)
- 119. Deutsher Ethikrat. *Solidarity and Responsibility During the Coronavirus Crisis*. Deutsher Ethikrat, 2020. (https://www.ethikrat.org/en/publications/publication-details/?tx_wwt3shop_detail%5Bproduct%5D=135&tx_wwt3shop_detail%5Baction%5D=index&tx_wwt3shop_detail%5Bcontroller%5D=Products&cHash=a37377aedcc6b8b131fce9a9146f9095)
- 120. Deutsher Ethikrat. Immunity Certificates During the COVID-19 Pandemic. Deutsher Ethikrat, 2020. (https://www.ethikrat.org/fileadmin/Publikationen/Stellungnahmen/englisch/opinion-immunity-certificates.pdf.)
- 121. Comitato Nazionale per la Bioetica. *COVID-19: Clinical Decision-making in Conditions of Resource Shortage and the 'Pandemic Emergency Triage' Criterion*. Comitato Nazionale per la Bioética, 2020. (http://bioetica.governo.it/en/opinions/opinions-responses/covid-19-clinical-decision-making-in-conditions-of-resource-shortage-and-the-pandemic-emergency-triage-criterion/.)

- 122. Comitato Nazionale per la Bioética. *COVID-19: Public Health, Individual Freedom, Social Solidarity*. Comitato Nazionale per la Bioética, 2020. (http://bioetica.governo.it/en/opinions/opinions-responses/covid-19-public-health-individual-freedom-social-solidarity/.)
- 123. Global Health Security Index: *Building Collective Action and Accountability*. Global Health Security Index, 2019. (https://www.ghsindex.org/)
- 124. Hine D. *The 2009 Influenza Pandemic: An Independent Review of the UK Response to the 2009 Influenza Pandemic*. Cabinet Office, 2010.
- 125. Jonsen AR. The Birth of Bioethics. Oxford University Press, 2003.
- 126. Evans JH. *The History and Future of Bioethics: A Sociological View*. Oxford University Press, 2012.
- 127. Kahn J, John Hopkins Project on Ethics and Governance of Digital Contact Tracing Technologies. *Digital Contact Tracing for Pandemic Response: Ethics and Governance Guidance*. John Hopkins University Press, 2020. Available from: doi:10.1353/book.75831.
- 128. Presidential Commission for the Study of Bioethical Issues. *History of Bioethics Commissions*. (https://bioethicsarchive.georgetown.edu/pcsbi/history.html/)
- 129. Rutter A, Bell D, Cole S. *COVID-19 Guidance: Ethical Advice and Support Framework*. Scottish Government, 2020. (https://www.gov.scot/publications/coronavirus-covid-19-ethical-advice-and-support-framework/)
- 130. Welsh Government. Coronavirus: Ethical Values and Principles for Healthcare Delivery Framework: Guidance for Healthcare Services When Making Decisions During the Coronavirus Outbreak. Welsh Government, 2020. (https://gov.wales/coronavirus-ethical-values-and-principles-healthcare-delivery-framework-html)
- 131. Montgomery J. Report on the Work of the Ethics Advisory Group to NHSX on the COVID19 Contact Tracing App. NHS Test and Trace, 2020. (https://covid19.nhs.uk/pdf/ethicadvisory-group-report.pdf)
- 132. Whittall H. *COVID, Transparency and Trust*. Nuffield Council on Bioethics, 2020. (https://www.nuffieldbioethics.org/blog/covid-transparency-and-trust.)
- 133. Gadd E. *Is the Government Using its Own Ethical Framework?* Nuffield Council on Bioethics, 2020. (https://www.nuffieldbioethics.org/blog/is-the-government-using-its-own-ethical-framework.)
- 134. Hawker, L. Take that, Macron! French President's 'ludicrous' Oxford vaccine claims brutally backfire. Daily Express 3 February 2021. (https://www.express.co.uk/news/world/1392542/Emmanuel-macron-news-covid-Vaccine-oxford-AstraZeneca-jab-coronavirus-uk.)
- 135. Safi, M. Vaccine diplomacy: west falling behind in race for influence. *The Guardian*. 19 February 2021. (https://www.theguardian.com/world/2021/feb/19/coronavirus-vaccine-diplomacy-west-falling-behind-russia-china-race-influence.)
- 136. Capron AM. Building the next bioethics commission. *Hastings Cent Rep.* 2017 May-Jun; 47(Suppl 1):S4–S9.