

# Warwick Think Tank



Healthcare

December 6, 2023

## Preparing for the next Pandemic

by Saoirse Osborne, Harshini Tadepalli and William De Save

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# About the authors



**Saoirse Osborne**

Saoirse is a healthcare research mentor at Warwick Think Tank. She is a second-year Politics student interested in data analysis and policy research. She has previously undertaken an internship with CSES, a policy consultancy which sponsors Warwick Think Tank, working on a project with the EU to measure gender-based cyber-violence. However, her main research interests are homelessness and multiple exclusion.



**Harshini Tadepalli**

Harshini is a healthcare research mentee at the Warwick Think Tank. She is a first year PPE (Philosophy, Politics and Economics) student who is interested in and enjoys policy research and writing. She is also interested in economics and foreign affairs and has been involved with the IEA (Institution of Economic Affairs), where she has participated in their essay competitions in current global problems.

# Introduction

In 2020, the world was faced with a pandemic on a scale unseen since 1918. So far, Covid-19 has killed up to seven million people - and its economic and health effects are still being felt, especially in lower income countries.<sup>1</sup>

As Covid-19's effects begin to lessen, it is crucial that policymakers capitalise on the lived experience of Covid-19's effects and invest now in infrastructure to better prepare the world for the next pandemic - of which there is a 38% chance in our lifetime.<sup>2</sup> This report offers recommendations for this infrastructure, focussing on the areas in which failures were seen during Covid-19 (and previous pandemics). We affirm the need for international and inter-disciplinary cooperation when detecting and declaring pandemics, the development of testing capacity and contingency planning to ensure a response can be mounted rapidly to stop the spread of a virus, and the sharing of vaccine technology to eradicate disease worldwide.

While our recommendations are tailored to the UK, viruses do not respect national boundaries. International cooperation will be crucial to share information and resources to enable all nations to respond adequately.

This report will provide evidence that both the likelihood and effect of pandemics is high. Moreover, pandemics disproportionately affect less well-resourced countries – although even in wealthy countries like the UK their adverse impacts are considerable.

Subsequently, this report will examine the reasons for these high likelihoods and severe effects, concluding that, while it may be too late to reverse the macro-level global changes which have increased pandemic risks, the negative effects of pandemics is somewhat avoidable: they are due to governments' failure to prepare adequately and cooperate internationally. Finally, policy recommendations will be offered to resolve these failures of preparation and cooperation.

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<sup>1</sup> World Health Organisation, 2023, [WHO Coronavirus \(COVID-19\) Dashboard](#)

<sup>2</sup> Marani, M. et al., 2021, [Intensity and frequency of extreme novel epidemics](#)

# Healthcare briefing note

## Overview

**This briefing note warns of the rising risk of future pandemics, and recalls the key challenges faced during the most recent major pandemic, Covid-19.**

**Worldwide, macro-level anthropogenic trends have increased the likelihood of new diseases emerging, and of these diseases developing into pandemics or epidemics.**

**The health effects of pandemics (and inequalities therein) are exacerbated by states' failure to cooperate to distribute vaccines and other healthcare resources fairly.**

**Covid-19 and other pandemics and epidemics have been prolonged by individuals' vaccine hesitancy.**

**The UK serves as a case study to demonstrate the serious negative economic and wellbeing effects of lockdown policies.**

# Emerging Pandemic Risks:

## ***The “spark risk” of a global pandemic is increasing.*<sup>3</sup>**

- Global warming-related changes to weather patterns cause shifts in species' habitable areas.<sup>4</sup> The close proximity this causes humans and animals to live in raises the threat of zoonotic, or animal-borne, diseases spreading.<sup>5</sup>
- The risk of zoonotic transmission as a result of increased human-animal contact is further heightened by other human actions, including deforestation and intensive animal husbandry.<sup>6,7</sup>
- New diseases may also emerge from climate change-associated permafrost melt: in 2016, an outbreak of anthrax in Siberia which killed a child was attributed to melting permafrost which exposed an infected carcass.<sup>8</sup>
- Another potential pathogen source is a virology laboratory leak, given just one quarter of the 59 laboratories worldwide which work with deadly untreatable pathogens score highly on biosecurity indexes'<sup>9</sup>

## ***The “spread risk” of a pandemic has also risen.*<sup>10</sup>**

- At present, the annual likelihood of experiencing a pandemic on the scale of COVID-19 is 2%, which corresponds to a 38% likelihood of occurrence over a lifetime. This annual probability is also likely to increase threefold over the next few decades.<sup>11</sup>
- 68% of the world's population is projected to live in an urban area by 2050 (up from 55% in 2018).<sup>12</sup> Higher population densities are linked to greater passive person-to-person transmission, increasing infection rates.<sup>13</sup>

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<sup>3</sup> The “spark risk” is the risk of emergence of a pathogen with the potential to cause a pandemic. See Taylor, N. M. and Moji K., 2021, [Pandemics](#)

<sup>4</sup> Ka-wai, H.E., 2006, [Reasons for the increase in emerging and re-emerging viral infectious diseases](#)

<sup>5</sup> Smith, J. 2021, [Q&A: Future pandemics are inevitable, but we can reduce the risk](#)

<sup>6</sup> Ibid.

<sup>7</sup> Ka-wai Hui, E., 2006, [Reasons for the increase in emerging and re-emerging viral infectious diseases](#)

<sup>8</sup> Geddes, L., 2021, [Next pandemic may come from melting glaciers, new data shows](#)

<sup>9</sup> Lentzos, F. and Koblents, G., 2021, [Fifty-nine labs around world handle the deadliest pathogens – only a quarter score high on safety](#)

<sup>10</sup> The “spread risk” is the risk that a pathogen diffuses broadly through a human population. See Taylor, N. M. and Moji K., 2021, [Pandemics](#)

<sup>11</sup> Marani, M. et al., 2021, [Intensity and frequency of extreme novel epidemics](#)

<sup>12</sup> United Nations, 2018, [68% of the world population projected to live in urban areas by 2050, says UN](#)

<sup>13</sup> GAVI, 2020, [How has our urban world made pandemics more likely?](#)

- Regression analysis suggests a positive relationship between a nation's level of globalisation and its case fatality rate during Covid-19. The movement of people and goods around the globe facilitates the cross-border spread of disease, transforming an epidemic into a pandemic.<sup>14</sup>

***The impact of previous epidemics/pandemics was exacerbated by limitations in disease monitoring and surveillance.***

- Without intervention, pathogenic infection rises exponentially meaning early detection and reporting to enable this detection are both crucial.<sup>15</sup>
- In previous pandemics (such as H1N1 in 2009, Ebola in 2013, Zika in 2015 and Covid-19 in 2020), health authorities were able to rapidly identify the disease following the first index case.<sup>16, 17</sup>
- However, delays emerged in the process of declaring these diseases to be a public health threat - a necessary step in triggering a policy response.<sup>18</sup> The World Health Organisation did not designate Covid-19 a Public Health Emergency of International Concern until 30th January, despite the fact that it met the criteria to do so over a week earlier.<sup>19</sup>

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<sup>14</sup> Farzanegan, M.R., 2021, [Globalization and the Outbreak of COVID-19: An Empirical Analysis](#)

<sup>15</sup> Siegel, E., 2020, [Why 'Exponential Growth' Is So Scary For The COVID-19 Coronavirus](#)

<sup>16</sup> Hoffman, S.J. and Silverberg, S.L., 2018, [Delays in Global Disease Outbreak Responses: Lessons from H1N1, Ebola, and Zika](#)

<sup>17</sup> Singh, S. et al., 2021, [How an outbreak became a pandemic: a chronological analysis of crucial junctures and international obligations in the early months of the COVID-19 pandemic](#)

<sup>18</sup> Hoffman, S.J. and Silverberg, S.L., 2018, [Delays in Global Disease Outbreak Responses: Lessons from H1N1, Ebola, and Zika](#)

<sup>19</sup> The Independent Panel for Pandemic Preparedness and Response, 2021, [COVID-19: Make it the Last Pandemic](#)



# International Competition, Mistrust, and Healthcare Inequality:

## ***Vaccine nationalism threatens access to vaccines.*<sup>20</sup>**

- Currently, 2.2 billion individuals remain unvaccinated, with 89% residing in developing regions.<sup>21</sup>
- Global vaccine supply issues are acute in low- and middle-income countries (LMICs), while wealthier nations have overstocked. As a result, LMICs' populations may not reach full immunity until 2024.<sup>22</sup>
- Most vaccine production in 2020 and 2021 came from the US, India, China, the UK, Germany and South Korea. Pharmaceutical companies prioritised profits over equitable distribution, leaving many LMICs without access to vaccines. This vaccine inequality hinders the global push for widespread immunity against COVID.<sup>23</sup>
- COVAX initiative faced funding challenges, due to higher-income countries (HICs) independently securing unilateral vaccine deals, buying up a limited supply, increasing prices, and failing to uphold funding commitments, disrupting COVAX's goal of equitable vaccine distribution between rich and poor countries.<sup>24,</sup>  
<sup>25</sup>
- Vaccine nationalism is a recurring issue throughout history; it was evident in the 2009 H1N1 influenza pandemic when the first vaccine-producing country, Australia, prioritised its own needs and delayed vaccine exports. HICs were able to secure large quantities, leaving many LMICs to access the vaccine only after the worst of the pandemic had subsided.<sup>26</sup>

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<sup>20</sup> Bollyky, T.J. and Bown, C.P., 2022, [The Tragedy of Vaccine Nationalism](#)

<sup>21</sup> Schellekens P., 2023, [Mapping our unvaccinated world](#)

<sup>22</sup> Forman, R. et al., 2021, [Me-first vaccine nationalism makes the spread of dangerous new COVID variants more likely](#)

<sup>23</sup> Riaz, M.M.A. et al., 2021, [Global impact of vaccine nationalism during COVID-19 pandemic | Tropical Medicine and Health](#)

<sup>24</sup> COVAX (COVID-19 Vaccine Global Access) is an alliance of international healthcare bodies that ensure that poor countries receive vaccines as quickly as the rich. See Mueller and Robbins, 2021, [Where Covax, the Vast Global Vaccine Program, Went Wrong - The New York Times](#)

<sup>25</sup> Ducharme, J., 2021, [What Went Wrong with COVAX, the Global Vaccine Hub | Time](#)

<sup>26</sup> Aspinall, E., 2020, [The rise of vaccine nationalism - British Foreign Policy Group](#)



## ***Unequal Global Healthcare Financing Imperils Future Health.***

- Over 75% of global health spending is concentrated in the WHO Americas and Europe regions, with the Western Pacific at 19%, and South-East Asia, Eastern Mediterranean and Africa collectively at just 3%.<sup>27</sup>
- COVID-19 highlighted the urgent need for well-funded Primary Health Care (PHC) globally. However, the response has often favoured hospital care, vaccines, and silver-bullet solutions over essential public health measures like testing, contact tracing, and preventive strategies.<sup>28</sup>
- Global health agencies estimate a yearly shortfall of \$10 billion for pandemic preparedness.<sup>29</sup>

## ***Media's negative impact on past pandemics promoted vaccine hesitancy and misinformation worldwide.***<sup>30</sup>

- A September 2020 survey in the UK with 4,000 respondents discovered that exposure to COVID-19 vaccine misinformation caused a 6.2% decrease in those who said they would 'definitely' take the vaccine.<sup>31</sup>
- Analysis revealed people base their behaviour and beliefs on their social networks. Individuals often express a desire to observe the vaccine's impact on others before deciding to receive it, even if they generally favour vaccination. This overall increase in vaccine hesitancy has far-reaching consequences on global healthcare services.<sup>32, 33</sup>
- Up to 51% of vaccine related posts on social media include misinformation. This has heightened vaccine hesitancy, especially in the context of the pandemic, challenging efforts to achieve universal vaccine acceptance.<sup>34, 35</sup>
- In 2021, there was a reluctance in older adults to book vaccine appointments, even though they were among the most vulnerable, an attitude that may have

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<sup>27</sup> Santos, R., 2020, [COVID-19 Reveals Weakness Of Global Health Financing Systems](#)

<sup>28</sup> Hanson, K. et al., 2022, [The Lancet Global Health Commission on financing primary health care: putting people at the centre](#)

<sup>29</sup> Cullinan, K., 2022, [What about debt cancellation to help prevent future pandemics?](#)

<sup>30</sup> Anwar, A., et al., 2020, [Role of Mass Media and Public Health Communications in the COVID-19 Pandemic - PMC](#)

<sup>31</sup> Christie, L., 2021, [COVID-19 vaccine misinformation - POST](#)

<sup>32</sup> Wiss, Z.G., 2021, [The impact of fake news on social media and its influence on health during the COVID-19 pandemic: a systematic review - PMC](#)

<sup>33</sup> Caceres, M.M.F. et al., 2022, [The impact of misinformation on the COVID-19 pandemic - PMC](#)

<sup>34</sup> World Health Organisation, 2022, [Infodemics and misinformation negatively affect people's health behaviours, new WHO review finds](#)

<sup>35</sup> Zhou, L. et al., 2022, [Media attention and Vaccine Hesitancy: Examining the mediating effects of Fear of COVID-19 and the moderating role of Trust in leadership - PMC](#)

been influenced by their propensity to share and believe fake news on the topic.  
36, 37

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<sup>36</sup> Greenspan, R.L. and Loftus, E.F., 2020, [Pandemics and infodemics: Research on the effects of misinformation on memory - Greenspan - 2021 - Human Behavior and Emerging Technologies - Wiley Online Library](#)

<sup>37</sup> Cunningham, M., 2021, [Coronavirus: Vaccination hesitancy on rise among older people](#)

# The Effects of Lockdowns:

## ***In the UK, lockdowns during Covid-19 had a serious economic effect.***

- Across 2020-21, England was placed under strict 'stay-at-home' orders for a total of 138 days, and meetings were restricted to two people, outdoors, for a further 39 days. 2021's 'tier' system placed parts of the country into lockdown for even longer.<sup>38</sup>
- In September 2022, GDP was 0.2% lower than it was before the beginning of the pandemic: in effect, the UK had lost two years of potential economic growth.<sup>39</sup>
- It is difficult to disentangle the effect of lockdown on consumption and economic activity from the effect of the pandemic without lockdown, as it is likely that citizens would have altered their behaviour at least somewhat anyway due to fear of contracting the virus.<sup>40</sup>
- Lockdowns prevented full operation of areas of the economy reliant on social contact, such as hospitality and entertainment.
- Of UK public Covid-19 spending, 60% was related to measures to mitigate the effects of lockdown: £147bn was spent on supporting businesses (including job retention schemes).<sup>41</sup>

## ***The COVID-19 pandemic has significantly worsened educational outcomes overall as well as widening inequalities.***<sup>42</sup>

- The IFS gave scores for five 'domains of development' for two-year-old children. Falls were particularly steep in social and communication skills, with the proportion of children at the expected level declining by three percentage points during the pandemic. One in eight two-year-olds are unable to communicate at the level normally expected.<sup>43</sup>
- The share of pupils leaving primary school meeting literacy and numeracy benchmarks fell from 65% in 2018–19 to 59% in 2021–22.<sup>44</sup>
- There was no COVID-19 related learning loss in reading in Swedish primary school students (Sweden did not impose lockdowns as stringent as in the UK). The proportion of students with weak reading skills did not increase during the

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<sup>38</sup> Brown et. al., 2021, [Coronavirus: A history of English lockdown laws](#)

<sup>39</sup> Brien, P., et al., 2022, [The economic impact of Covid-19 lockdowns](#)

<sup>40</sup> Berry, C. et al., 2021, [Evaluating the effects of shelter-in-place policies during the COVID-19 pandemic](#)

<sup>41</sup> Brien, P., et al., 2022, [The economic impact of Covid-19 lockdowns](#)

<sup>42</sup> Farquharson, D., McNally, S. and Tahir, I., 2022, [Education inequalities](#)

<sup>43</sup> Ibid.

<sup>44</sup> Ibid.

pandemic, and students from disadvantaged socio-economic backgrounds were not especially affected.<sup>45</sup>

***The enforced isolation of lockdown had a serious negative effect on citizen wellbeing.***

- Depression and anxiety rose particularly steeply during periods of lockdown. A meta-analysis of 14 studies and over 46,000 participants found that, by the end of the first UK lockdown, 32% of Brits displayed indications of depression, and 31% anxiety.<sup>46</sup> In comparison, in 2017 the comparative prevalences for depression and anxiety were just 4.12% and 4.65% respectively.<sup>47</sup>
- It is difficult to isolate the effects of lockdown from the wider effects of the pandemic, which included economic insecurity, fear, bereavement, and, for those infected with Covid-19, post-traumatic stress symptoms.
- However, it is undeniable that lockdowns rendered Brits isolated and lonely. By October 2020, a full 39% of UK adults had not had a meaningful conversation with someone for a fortnight; 32% felt that if something happened to them no one would notice [N=2002].<sup>48</sup> Further, feelings of economic security were exacerbated by the economic effects of lockdown: UK unemployment rose by 400,000 between the first and last quarters of 2020.<sup>49</sup>

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<sup>45</sup> Hallin, A., Danielsson, H., Nordström, T. and Färth, L., 2022, [No learning loss in Sweden during the pandemic: Evidence from primary school reading assessments](#)

<sup>46</sup> Dettmann, L.M., 2022, [Investigating the prevalence of anxiety and depression during the first COVID-19 lockdown in the United Kingdom: Systematic review and meta-analyses](#)

<sup>47</sup> Institute for Health Metrics and Evaluation (IHME), 2018, [Global Burden of Disease Study 2017](#)

<sup>48</sup> British Red Cross, 2020, [Lonely and left behind](#)

<sup>49</sup> Francis-Devine, B. et al., 2022, [Coronavirus: Impact on the labour market - House of Commons Library](#)

# Insights

## Overview

This insight will firstly discuss the macro-level causes of the increased likelihood of pandemics: this increased likelihood means that it is no longer tenable to fail to prepare for epidemic risks.

Subsequently, it will examine how policy failures have exacerbated the effect of previous epidemics on health and the economy. These failures include delayed identification and response of health crises, including delays in implementing restrictions on movement when necessary. Furthermore, pandemics have been prolonged and exacerbated by a culture of national and individual mistrust, which hinders state coordination in the distribution of healthcare resources (including vaccines) and deters vaccine take-up on an individual level.



***The declaration of a pandemic, a crucial first step for pandemic response, is hindered by obstacles to effective information-sharing.***

A primary step in the response to any epidemic is the formal declaration of the event. Such a declaration, usually a declaration of a Public Health Emergency of International Concern (PHEIC) by the World Health Organisation, is necessary to trigger emergency policy and funding responses.<sup>50</sup> Yet, while disease detection is often fairly rapid, epidemic declaration suffers far longer delays, seriously affecting governments' effectiveness at limiting exponential spread. For example, during Covid-19, it is estimated that, in the 28 days after the Covid-19 genome was first decoded before a PHEIC was declared, the outbreak spread by a factor of 200.<sup>51</sup>

A PHEIC is declared by the WHO Director-General following the guidance of an expert Emergency Committee.<sup>52</sup> However, the Emergency Committee may be reluctant to declare a PHEIC until it can be entirely certain of the legitimacy of such a declaration because declaration is an extreme binary: although the only other option is inaction, PHEIC declaration may lead to significant travel and trade restrictions. Certainty is hindered by the vagueness of the terms of a PHEIC: a WHO review of the International Health Regulations (which govern PHEIC policy) concluded that the criteria used by the Emergency Committee for PHEIC declaration "leave much room for interpretation".<sup>53</sup> Hence despite evidence suggesting that Covid-19 met PHEIC criteria by 22 January at the latest, a PHEIC was not declared until 30 January.<sup>54</sup>

The Emergency Committee may also lack the information necessary for certainty. Information is passed from affected countries to WHO via each nation's National WHO Focal Point (NFP), whose role is to gather information from the relevant sectors. However, countries may be reluctant to release relevant information to the NFP given the potential negative effects of such a declaration on travel and trade.<sup>55</sup> There are

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<sup>50</sup> IHR Review Committee, 2021, [Report of the Review Committee on the Functioning of the International Health Regulations \(2005\) during the COVID-19 Response](#)

<sup>51</sup> The Independent Panel for Pandemic Preparedness and Response, 2021, [COVID-19: Make it the Last Pandemic](#)

<sup>52</sup> Ibid.

<sup>53</sup> IHR Review Committee, 2021, [Report of the Review Committee on the Functioning of the International Health Regulations \(2005\) during the COVID-19 Response](#)

<sup>54</sup> The Independent Panel for Pandemic Preparedness and Response, 2021, [COVID-19: Make it the Last Pandemic](#)

<sup>55</sup> IHR Review Committee, 2021, [Report of the Review Committee on the Functioning of the International Health Regulations \(2005\) during the COVID-19 Response](#)

inadequate incentives for countries to share information,<sup>56</sup> and NFPs lack the requisite authority to overcome these disincentives.<sup>57</sup> For example, during Covid-19, China engaged in obfuscation of the severity of the outbreak in Wuhan, initially failing to provide the WHO with the genetic sequence of the virus, and denying epidemic experts access to the outbreak's epicentre.<sup>58</sup>

In sum, the process of declaring a pandemic is hindered by formal information-sharing channels which prioritise confidentiality and due process over expediency, enabling states to protect their economic and public image interests at the cost of public health. PHEIC declaration aside, the WHO is not even able to release information about a potential disease until authorised to do so by the affected country.<sup>59</sup>

Since the International Health Regulations (IHR), the set of legally binding rules guiding the aforementioned information sharing processes, were adopted in 2005, digital technology has advanced significantly. Disease surveillance can now employ digital forums for scientific data-sharing, as well as analysis of social media platforms for recent reports or indicators of unusual disease. For example, during Covid-19 the WHO drew on the Epidemic Intelligence from Open Sources system, which trawls all publicly available online information for signals (for example, local news reports) of epidemic emergence.<sup>60</sup> Yet it was then unable to act rapidly on these signals, because the IHR require that it verify all information through more formal (slower) channels.<sup>61</sup>

Furthermore, even reform of the PHEIC declaration process will not be a silver bullet in improving epidemic responses. PHEIC declaration does not impose legal obligations on states to enact the WHO's recommendations,<sup>62</sup> and there is concern that the technocratic acronym "PHEIC" lacks the emotive power needed to shock states into actions - particularly since it is pronounced "fake".<sup>63</sup> This was evidenced in March 2020,

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<sup>56</sup> WHO, 2022, [Zero draft report of the Working Group on Strengthening WHO Preparedness and Response to Health Emergencies to the Seventy-fifth World Health Assembly](#)

<sup>57</sup> Wilson et al., 2021, [National focal points and implementation of the International Health Regulations - PMC](#)

<sup>58</sup> McCaul, M., 2020, [The Origins of the COVID-19 Global Pandemic. Including the Roles of the Chinese Communist Party and the World Health Organization](#)

<sup>59</sup> Wilson et al., 2021, [National focal points and implementation of the International Health Regulations](#)

<sup>60</sup> Togami, E. et al., 2022, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9732925/>

<sup>61</sup> The Independent Panel for Pandemic Preparedness and Response, 2021, [COVID-19: Make it the Last Pandemic](#)

<sup>62</sup> Villarreal, P.I., 2019, [Public International Law and the 2018-2019 Ebola Outbreak in the Democratic Republic of Congo](#)

<sup>63</sup> Kelland, K. and Nebehay, S. 2020, [WHO officials rethink epidemic messaging amid pandemic debate](#)



when the WHO was forced to declare Covid-19 a "pandemic" (a term which it does not normally employ) in response to "alarming levels of inaction".<sup>64</sup>

However, without a formal declaration of concern by an internationally reputed body like the WHO, it is unlikely that any sort of policy or funding response would be mustered. Therefore delays in declaration - due to the inefficiency of formal information-sharing mechanisms and uncertainty on the part of the experts responsible for declaration - remain a major concern for epidemic policymakers.

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<sup>64</sup> Cucinotta, D. and Vanelli, M., 2020, [WHO Declares COVID-19 a Pandemic](#)

***The negative effects of the UK's lockdowns were exacerbated by the last-minute nature of their implementation.***

The UK's Covid-19 lockdowns undoubtedly seriously impinged on national economic production, education, and citizen wellbeing. However, it can equally be argued that failing to lock down would have been just as problematic.

In May 2020, it is estimated that across 11 European countries, lockdowns saved three million lives.<sup>65</sup> This estimate fails to acknowledge the likelihood of behavioural changes whether or not stay-at-home orders were imposed.<sup>66</sup> Overall, however, there is indeed evidence that the stringency of containment policies is indeed inversely correlated with death rates, meaning stricter policies do save lives.<sup>67</sup> Arguably, without government policies such as lockdowns which signify to citizens the seriousness of the pandemic, citizens may fail to understand the importance of social distancing.<sup>68</sup>

Economic cost-benefit analyses, comparing the effect of restricted economic output during lockdown with healthcare costs and the long-term loss of productivity caused by worker illness and death due to higher infection rates, produce mixed results. In the USA, estimates of lockdown's economic effect have ranged from a monthly loss of \$65.3 billion to monthly savings of \$200bn.<sup>69</sup> Similarly, at the beginning of the pandemic, the UK's Covid-19 advisory group conducted quality-adjusted-life-year analysis, which estimates loss of life (weighting in favour of the life-years of young people) due to not only Covid-19 but lockdown effects such as reduced elective surgery. They concluded that QALYs lost would be three times higher without lockdown.<sup>70</sup>

In sum, there is limited consensus on the economic and health effects of lockdown and its alternatives - but there is adequate evidence to suggest that it is unfair to criticise the UK government for undertaking restrictions on movement during Covid-19. However, where the UK government can more legitimately be criticised is with respect to the method and timing of its lockdowns.

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<sup>65</sup> Lewis, D., 2022, [What scientists have learnt from COVID lockdowns](#)

<sup>66</sup> Berry, C. et al., 2021, [Evaluating the effects of shelter-in-place policies during the COVID-19 pandemic](#)

<sup>67</sup> Hale, T., 2021, [Government responses and COVID-19 deaths: Global evidence across multiple pandemic waves](#)

<sup>68</sup> Foad, C. et al., 2021, [The limitations of polling data in understanding public support for COVID-19 lockdown policies](#)

<sup>69</sup> Lewis, D., 2022, [What scientists have learnt from COVID lockdowns](#)

<sup>70</sup> Department of Health and Social Care et al., 2020, [Direct and Indirect Impacts of COVID-19 on Excess Deaths and Morbidity: Executive Summary](#)

It is estimated that locking down the UK just a week earlier in March 2020 could have halved deaths during the first wave.<sup>71</sup> As far back as 11th February, the UK government had evidence that the virus could be “catastrophic”.<sup>72</sup> However, there was no clear policy response to this warning, with the government even abandoning initial contact tracing in early March.<sup>73</sup> Further, the UK government did not appear to learn from the first wave: it again delayed locking down in December 2020 even as infection spread rapidly. It is estimated that locking down in early December when cases first started to rise could have saved up to 27,000 lives.<sup>74</sup> It is also plausible that allowing cases to escalate before locking down meant that belated restrictions had to be stricter and more prolonged in order to bring the virus under control - had the UK locked down earlier, the total length of restrictions could have been reduced.<sup>75</sup>

The government’s reluctance to lock down not only resulted in greater exponential spread (and, ultimately, longer lockdowns), but also meant that it was severely unprepared to mitigate the negative effects of lockdown. For example, despite the fact that a 2014 Department of Health review concluded that school closures could be a reasonable pandemic response, no plans had been put in place to mitigate educational disruption.<sup>76</sup> Consequently, there was no infrastructure in place to support online lessons, with 60% and 50% of parents of, respectively, primary, secondary and post-secondary students in England reporting their child was not provided with online lessons.<sup>77</sup> This is likely to be in part caused by the inability of some students to access online education: just 6% of teachers across the UK say that all their students have adequate access to devices and internet to work at home.<sup>78</sup>

Similarly, in its deployment of employment support schemes, the UK government had no pre-existing pandemic-specific plans for financial support. Instead, scheme design drew on contingency planning designed for financial crises such as that of 2007-08, despite drastic differences in how such financial crises affect the economy and employment.

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<sup>71</sup> Knock, E., 2020, [Report 41: The 2020 SARS-CoV-2 epidemic in England: key epidemiological drivers and impact of interventions](#)

<sup>72</sup> Monbiot, G., 2020, [The UK government was ready for this pandemic. Until it sabotaged its own system](#)

<sup>73</sup> British Medical Association, 2023, [The public health response by UK governments to COVID-19](#)

<sup>74</sup> Bell, T. and Brewer, M., 2021, [The 12-month stretch](#)

<sup>75</sup> Ibid.

<sup>76</sup> National Audit Office, 2021, [The government’s preparedness for the COVID-19 pandemic: lessons for government on risk management \(Summary\)](#)

<sup>77</sup> Howard, E., et al., 2021, [Learning during the pandemic: review of research from England](#)

<sup>78</sup> Teach First, 2021, [Just 2% of teachers in the most disadvantaged schools say all their pupils have adequate digital access](#)

***The lack of global cooperation, due to increasing health politics, have exacerbated the effects of the pandemic.***

Vaccine nationalism is one of the biggest reasons for perpetuating pandemics, since it slows down vaccine and medication rollout responses worldwide, preventing maximising herd immunity and reinforces the inequalities in global public health within and between countries.

Vaccine nationalism occurs due to vaccine hoarding, typically done by wealthier nations. With the emergence of COVID-19, numerous scientific teams initiated the development of vaccines. Simultaneously, several affluent nations globally were discreetly involved in negotiations with pharmaceutical companies to secure early access to these vaccines for their citizens. This was accomplished through pre-purchase agreements established between governments and vaccine manufacturers.<sup>79</sup> Therefore, global vaccine supply issues are acute in LMICs, while wealthier nations are overstocked, meaning LMICs' populations may not reach full immunity until 2024.<sup>80</sup>

The COVID-19 pandemic exposed the early breakdown of global health governance (GHG), with the WHO sidelined amid tensions between the US and China. The failure of cooperation led to uncoordinated and competitive measures by governments, disregarding WHO guidance and deviating from established regulations. The WHO's IHR proved ineffective, and states, prioritising sovereignty, implemented unprecedented measures like lockdowns. Two main explanations for GHG failure emerged: blaming powerful states for undermining WHO credibility and asserting that the WHO lacked the authority to enforce compliance due to states' reluctance to sacrifice sovereignty. The pandemic highlighted challenges in achieving global cooperation, with concerns about the dominance of national interests over international collaboration.<sup>81</sup>

Moreover, other global initiatives to reduce inequality between countries have been set up, but all have failed due to lack of commitment and funding. For example, the COVAX initiative faced funding challenges due to HICs independently securing unilateral vaccine deals, buying up a limited supply, increasing prices, and failing to uphold funding

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<sup>79</sup> Murhula, P.B.B. and Singh, S.B., 2022, [The Impact of COVID-19 Vaccine Nationalism on Global Health and Human Rights to Health Standards](#)

<sup>80</sup> Forman, R. et al., 2021, [Me-first vaccine nationalism makes the spread of dangerous new COVID variants more likely](#)

<sup>81</sup> Jones, L. and Hameiri, S., 2022, [Explaining the failure of global health governance during COVID-19 | International Affairs](#)

commitments, disrupting COVAX's goal of equitable vaccine distribution between rich and poor countries.<sup>82, 83</sup>

Vaccine nationalism is further fueled by existing national and international legal frameworks that prioritise patents and intellectual property (IP) over public health. The development and distribution of vaccines underscores how current international legal systems contribute to global health inequalities. Neocolonialism plays a part here, meaning the use of economic, political, cultural, or other pressures to control or influence other countries, especially former dependencies.<sup>84</sup> Neocolonial development models, driven by inequitable IP laws, result in vaccine manufacturing and stockpiling primarily in the Global North. Even when vaccines are produced in the Global South, vaccine nationalism and diplomacy perpetuate inequities among these nations.<sup>85</sup>

Additionally, International IP law, particularly the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), grants pharmaceutical companies significant rights but is criticised for prioritising profits over global health. Global IP rights, often influenced by powerful actors, contribute to global disparities by commodifying essential medicines. Despite past resistance, attempts to obtain a TRIPS waiver during the COVID-19 crisis have faced opposition, and we emphasise the need to prioritise health over IP rights for equitable vaccine access. The current approach, relying on charity and market purchases through initiatives like COVAX, is criticised for not aligning with human rights principles and the need for a decolonized perspective in global health. The reluctance of states to acknowledge obligations to employ TRIPS flexibilities further compounds the issue, reflecting a failure to address the underlying challenges of vaccine access.<sup>86</sup>

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<sup>82</sup> COVAX (COVID-19 Vaccine Global Access) is an alliance of international healthcare bodies that ensure that poor countries receive vaccines as quickly as the rich. See Mueller and Robbins, 2021, [Where Covax, the Vast Global Vaccine Program, Went Wrong](#)

<sup>83</sup> Ducharme, J., 2021, [What Went Wrong with COVAX, the Global Vaccine Hub](#)

<sup>84</sup> Public Health and Global Societies, n.d., [Section 1.5: Tracing Historical Determinants of Health: Intersections of Colonialism, Neocolonialism & Global Health Policies & Practices](#)

<sup>85</sup> Forsberg, B.C. and Sundewall, J. , 2023m, [Decolonizing global health—what does it mean for us?](#)

<sup>86</sup> Sekalala, S. et al., 2021, [Decolonising human rights: how intellectual property laws result in unequal access to the COVID-19 vaccine](#)

## ***Mistrust and vaccine hesitancy, due to misinformation and obstacles in information sharing, hinder pandemic response.***

Mitigating disease spread and preventing outbreaks relies significantly on timely administration of medications or vaccinations. Unfortunately, vaccine hesitancy is a growing concern globally, influenced by the pervasive impact of social media and political factors. Despite the crucial role of medications and vaccinations in disease prevention, widespread hesitancy, fueled by misinformation and scepticism, hampers the effectiveness of these preventive measures in various nations. The intricate dynamics of social media and political landscapes further contribute to this challenge.<sup>87</sup>

Social media, with its vast reach and instantaneous dissemination of information, has emerged as a potent influencer in shaping public opinions regarding vaccinations. The abundance of information, both accurate and misleading, circulating on these platforms can contribute to the creation of apprehensions and doubts among individuals. Studies have identified that up to 51% of vaccine-related posts promote anti-vaccination propaganda. This has heightened vaccine hesitancy, especially in the context of the pandemic, challenging efforts to achieve universal vaccine acceptance.<sup>88, 89</sup> A September 2020 survey in the UK of 4,000 respondents discovered that exposure to COVID-19 vaccine misinformation caused a 6.2% decrease in those who said they would 'definitely' take the vaccine. The study also revealed that misinformation using scientific imagery or references had a stronger negative impact on vaccination intent.<sup>90</sup>

Additionally, the politicisation of healthcare issues, including vaccination campaigns, has further complicated the landscape, leading to a scenario where public health measures are viewed through a political lens rather than a purely scientific and medical one.

The amalgamation of social media influence and political considerations has cultivated an environment in which vaccine hesitancy becomes entrenched in certain nations. Citizens, bombarded with a plethora of conflicting information, may develop reservations about the safety, efficacy, and necessity of vaccinations. Citizens are therefore more

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<sup>87</sup> Conger, K., 2021, [How misinformation, medical mistrust fuel vaccine hesitancy](#)

<sup>88</sup> World Health Organisation, 2022, [Infodemics and misinformation negatively affect people's health behaviours, new WHO review finds](#)

<sup>89</sup> Zhou, L. et al., 2022, [Media attention and Vaccine Hesitancy: Examining the mediating effects of Fear of COVID-19 and the moderating role of Trust in leadership](#)

<sup>90</sup> Christie, L., 2021, [COVID-19 vaccine misinformation](#)

likely to wait and see side effects of others before committing to taking relevant medication and/or vaccination.<sup>91</sup>

Currently, 2.2 billion individuals remain unvaccinated, with 89% residing in developing regions.<sup>92</sup> Although some of these numbers are caused due to vaccine nationalism, developing nations are also typically the nations with lower levels of education and lack of access to information, making it harder for herd immunity.

Perhaps the demographic significantly impacting vaccine participation appears to be medical staff, a group that has shown hesitancy towards vaccination. Concurrently, there is an issue of "unspoken vaccine hesitancy" prevalent among healthcare workers, identified as a priority group for COVID-19 vaccination due to their heightened exposure. Despite their pivotal role, a noteworthy proportion of healthcare professionals express reluctance about receiving the vaccine, a sentiment attributed to societal pressures, fear of stigmatisation, and the risk of being labelled as 'anti-vaxxers.' These factors create an environment where healthcare workers may hesitate to openly voice their concerns.<sup>93</sup>

The implications of this unspoken hesitancy reach beyond individual healthcare workers, posing a risk of diminishing public trust in COVID-19 vaccines. Given that healthcare professionals play a vital role in shaping public perceptions and decisions related to vaccination, their hesitancy becomes a matter of broader concern. The potential consequences include challenges in addressing anxieties, leading to increased difficulty in fostering public trust.<sup>94</sup>

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<sup>91</sup> Beleche, T., 2021, [COVID-19 Vaccine Hesitancy: Demographic Factors, Geographic Patterns, and Changes Over Time](#)

<sup>92</sup> Schellekens P., 2023, [Mapping our unvaccinated world](#)

<sup>93</sup> Heyerdahl, L.W. et al., 2021, [Doubt at the core: Unspoken vaccine hesitancy among healthcare workers - The Lancet Regional Health](#)

<sup>94</sup> Nomhwange, T. et al., 2022, [COVID-19 vaccine hesitancy amongst healthcare workers: An assessment of its magnitude and determinants during the initial phase of national vaccine deployment in Nigeria](#)



## ***Human activity is largely to blame for the rising risk of pandemics.***

While Covid-19 may have lessened in severity, such a pandemic may not be a once-in-a-lifetime event: the annual probability of a similar pandemic occurring is 2%, and this probability is likely to increase threefold in the next few decades.<sup>95</sup> Surface-level analysis suggests that animals are to be blamed for this threat: since 1900, every viral pandemic (including, most likely, Covid-19), has been the result of viral "spillover" from animals to humans. The most serious epidemics of the last few centuries can be attributed to cows, chickens, pigs, camels and bats.<sup>96</sup> However, to blame animals is to obscure the real reason for the growing likelihood of a pandemic. Even in 2006, it was recognised that "human factors are actually the most potent factors driving disease emergence".<sup>97</sup>

One means by which humans can be responsible for disease is through a laboratory leak, the theorised cause of the COVID-19 pandemic. However, evidence for this theory is limited,<sup>98</sup> and, in general, disease emergence is more likely to be caused by human-induced changes to species' habitats. Anthropogenic climate change has, by affecting temperatures and weather patterns, altered the geographical ranges which species can inhabit. Species which have never before come in contact with each other are now doing so, providing opportunities for "zoonotic spillover": the transmission of a virus or bacteria from one host to another. In turn, this may facilitate disease mutation, leading to the development of entirely new diseases.<sup>99</sup> Global warming of 2C is predicted to, by doubling the number of mammal species pairs in contact, lead to 4,000 new incidents of viral spillover by 2070 in mammals alone.<sup>100</sup>

Viral spillover among non-human species is of concern for human health because it enables new viral mutations and provides a stepping stone for wildlife-to-human jumps. For example, viruses may spill over from a "reservoir" species to a "vector" species which is able to transfer disease to humans.<sup>101</sup> This is particularly likely because as species' geographical ranges shift, new species are likely to come into closer contact with humans - a trend exacerbated by urban and agricultural expansion. Monkeypox, for example, spread to humans from rodents inhabiting forest-farmland margins.<sup>102</sup>

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<sup>95</sup> Marani, M. et al., 2021, [Intensity and frequency of extreme novel epidemics](#)

<sup>96</sup> Council on Foreign Relations, 2022, [Preventing and Preparing for Pandemics With Zoonotic Origins](#)

<sup>97</sup> Ka-wai, H.E., 2006, [Reasons for the increase in emerging and re-emerging viral infectious diseases](#)

<sup>98</sup> Reuters, 2022, [No direct proof Covid-19 stemmed from Wuhan lab leak, US intelligence says](#)

<sup>99</sup> Ellwanger, J.H. and Chies, J.A.B., 2021, [Zoonotic spillover: Understanding basic aspects for better prevention](#)

<sup>100</sup> Carlson, C., 2022, [Climate change increases cross-species viral transmission risk](#)

<sup>101</sup> Wang, L. and Anderson, D.E., 2019, [Viruses in bats and potential spillover to animals and humans](#)

<sup>102</sup> Ka-wai, H.E., 2006, [Reasons for the increase in emerging and re-emerging viral infectious diseases](#)

Once new diseases have emerged, human actions have also made them more likely to spread rapidly. As our briefing demonstrated, urbanisation and improvements in transport place humans in closer contact with each other, and make it easier for humans and goods - and disease - to move rapidly around the globe.<sup>103, 104</sup>

It is not clear whether it is still possible to reverse these macro-level trends to the extent required to reduce pandemic risk. For example, anthropogenic global warming has already passed 1°C, meaning "the majority of climate-related opportunities for novel viral sharing [as discussed above] may already have been realised".<sup>105</sup>

Moreover, there appears to be little policymaking appetite to prevent outbreaks at their source by monitoring potential animal-human viral jumps. Instead, pandemic policy tends to focus on responding to pandemics once they have occurred, rather than primary prevention (preventing outbreaks altogether),<sup>106</sup> with the WHO expressing concern that investing in prevention could "sap resources" from responding to existing threats.<sup>107</sup> Hence humanity is responsible both for having increased the risk of pandemics, and for failing to address this increased risk.

In sum, pandemics have become increasingly likely due to several macro-level trends for which humans are responsible: anthropogenic climate change, globalisation and urbanisation. It remains to be seen whether humans will be able to reverse these trends.

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<sup>103</sup> GAVI, 2020, [How has our urban world made pandemics more likely?](#)

<sup>104</sup> Farzanegan, M.R., 2021, [Globalization and the Outbreak of COVID-19: An Empirical Analysis](#)

<sup>105</sup> Carlson, C., 2022, [Climate change increases cross-species viral transmission risk](#)

<sup>106</sup> Council on Foreign Relations, 2022, [Preventing and Preparing for Pandemics With Zoonotic Origins](#)

<sup>107</sup> Vora, M. and Sizer, N., 2022, [New World Bank pandemic fund must prioritise prevention](#)

**Conclusion:**

- To some extent, without drastic macro-level reversals of climate change, urbanisation and globalisation, pandemics will remain inevitable.
- However, their effect has been exacerbated by delays in detection, declaration, and adequate responses - including test-and-trace systems, lockdowns, and distribution of key healthcare resources.
- The cause of these delays is two-fold: governments deny the seriousness of pandemic threats until it is too late, meaning that the eventual policy response is rushed and unprepared; and governments are unwilling to cooperate with each other, prioritising national sovereignty over global health.

# Policy Recommendations

## Overview

Working on the basis that further epidemics or pandemics are highly likely, we propose recommendations for permanent infrastructure which can be deployed rapidly when the next epidemic emerges.

Although our recommendations are tailored towards the UK, we acknowledge that viruses do not respect national boundaries, and pandemic infrastructure requires international cooperation in order to detect pandemics and distribute resources, including vaccines, where they are most needed.

**Action 1: Strengthen practical commitment to a “One Health” approach, particularly in lower-income countries.**

**Action 2: Increase national and WHO transparency and information-sharing during the PHEIC declaration process.**

**Action 3: Develop test-and-trace infrastructure to avoid blanket lockdowns - but acknowledge the possibility that lockdowns may be necessary.**

**Action 4: Design legislation promoting multilateral agreements to prevent global health inequality.**

***Action 1: Strengthen practical commitment to a “One Health” approach, particularly in lower-income countries.***

Zoonotic diseases (whose emergence and transmission is exacerbated by ecosystem changes caused by global warming,<sup>108</sup> deforestation and urbanisation<sup>109</sup>) pose a serious threat to human health and are the likeliest cause of future pandemics.<sup>110</sup> Therefore, the extent to which human, animal and environmental health is interlinked is clear. Any policy seeking to prevent pandemic threats will need to consider the natural environment in which humans exist, mitigating and monitoring disruption to this environment to reduce the likelihood of zoonotic disease emergence.

This argument drives growing support for a “One Health” approach. Although the term “One Health” was first used in 2003, the idea behind it - of a holistic approach to animal and human health - is by no means novel, but has a long legacy of practice by indigenous communities.<sup>111</sup> One Health already enjoys significant normative support from key stakeholders, including a “Quadripartite” of the Food and Agriculture Organization (FAO), United Nations Environment Programme (UNEP), WHO and the World Organisation for Animal Health (WOAH).<sup>112</sup> However, on the whole, investment in the One Health approach has been limited and fragmented.<sup>113</sup> We therefore propose policies of collaboration and awareness raising to translate normative support for One Health into practicable policy.

One Health is characterised by an interdisciplinary, inter-sectoral approach linking practitioners from the fields of policymaking, medicine, veterinary science and agriculture among many others. This approach has proved beneficial in previous instances of zoonotic disease emergence, such as during the 2017 monkeypox outbreak in Nigeria. A One Health approach justified the creation of an interdisciplinary operations centre which coordinated diagnoses of both humans and animals, ensuring that efforts to control the disease among humans were not undermined by its resurgence among animals.<sup>114</sup> In the case of emerging zoonotic epidemics, One Health can, by encouraging coordination between studies of human and animal disease, avoid duplication in the surveillance of zoonotic viruses.

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<sup>108</sup> Carlson, C., 2022, [Climate change increases cross-species viral transmission risk](#)

<sup>109</sup> Ka-wai, H.E., 2006, [Reasons for the increase in emerging and re-emerging viral infectious diseases](#)

<sup>110</sup> Council on Foreign Relations, 2022, [Preventing and Preparing for Pandemics With Zoonotic Origins](#)

<sup>111</sup> Mackenzie, J.S. and Jeggo, M., 2019, [The One Health Approach—Why Is It So Important?](#)

<sup>112</sup> Wolmuth-Gordon, H. and Mutebi, N., 2023, [Public health and climate change: a One Health approach](#)

<sup>113</sup> G20, 2022, [Annex: The Lombok G20 One Health Policy Brief](#)

<sup>114</sup> Eteng, W. et al., 2018, [Notes from the Field: Responding to an Outbreak of Monkeypox Using the One Health Approach — Nigeria, 2017–2018](#)

Inherent to a One Health approach is coordination between all disciplines, departments, and levels of government. For instance, detection of a virus in animals by local agricultural authorities should be rapidly communicated to national medical authorities and trigger preparations in healthcare services for potential human cases. However, data protection restrictions and siloed funding pots may undermine the transfer of information and resources between departments. We therefore recommend that governments establish specialised One Health centres or committees which can provide a central forum for intragovernmental communication.<sup>115</sup>

While One Health policy must be led by commitment from the central government, it is crucial to encourage a One Health approach at all levels of government as well as among relevant practitioners. This can be achieved by incorporating One Health ideas into training curricula for policymakers and practitioners - for instance, in medical school curricula to remedy the slowness of the medical community to fully engage with a One Health approach.<sup>116</sup>

Implementation of a One Health approach has proved particularly piecemeal in lower-income countries: 61% of global One Health interventions are headquartered in Europe or North America. Yet lower-income countries are most vulnerable to the negative effects of zoonotic epidemics, as seen during Covid-19. The One Health Quadripartite should support the setup of region-specific networks, consisting of existing local practitioners in relevant sectors who can share best practice to promote a One Health approach in the regional context. Inspiration can be drawn from international organisations' experience of setting up such networks for specific diseases, such as the Global Alliance for Rabies Control (GARC) set up regional rabies-centric networks such as the Pan-African Rabies Control Network.<sup>117</sup>

The World Bank estimates that an integrated international One Health approach could deliver US\$37bn in annual savings by reducing the impact of epidemics and pandemics.<sup>118</sup> While the holistic nature of a One Health approach - its greatest strength - also renders the concept unwieldy to operationalise and implement, it is necessary to undertake this challenge in order to prevent future pandemics before their emergence.

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<sup>115</sup> Government of the People's Republic of Bangladesh, 2018, [Strategic Framework and Action Plan for the Application of a One Health Approach in Bangladesh \(2017 – 2021\)](#)

<sup>116</sup> Mackenzie, J.S. and Jeggo, M., 2019, [The One Health Approach—Why Is It So Important?](#)

<sup>117</sup> Wolmuth-Gordon, H. and Mutebi, N., 2023, [Public health and climate change: a One Health approach](#)

<sup>118</sup> World Bank, 2017, [One health economics for healthy people, agriculture and environment](#)

## ***Action 2: Increase national and WHO transparency and information-sharing during the PHEIC declaration process.***

Covid-19 laid bare inefficiencies in the process of WHO declaration of a Public Health Emergency of International Concern (PHEIC): a PHEIC was not declared until 28 days after the virus was first genetically sequenced and at least eight days after evidence suggests the epidemic indeed met the criteria to be classified as a PHEIC.<sup>119</sup> Given that official recognition of an epidemic's severity is a crucial step in triggering a funding and policy response, clearly reform of the PHEIC declaration process is necessary to make the world better prepared for future pandemics.

One area for reform is the role and authority of National Focal Points (NFPs), who may lack the legal authority to extract information from the government organisations with which they are expected to liaise.<sup>120, 121</sup> State parties to the International Health Regulations should be required to grant NFPs appropriate resources and authority, including designating a formal NFP centre or office rather than allotting a single individual the NFP role, as is currently the case in some states. States should also ensure awareness of NFPs in other government organisations, for instance through training and networking events. It may be counter-productive to excessively specify where an NFP should be situated in relation to other government organisations, given the international diversity of government structures. However, one method of ensuring that the overall outcome - more effective NFPs - is achieved is to compel all states to report and justify to the WHO the means by which they have ensured that their NFP can rapidly access information from other government organisations. Such transparency requirements will help hold states accountable for the effectiveness of their NFPs.

While this reform would help break down technical barriers to information sharing, however, it cannot resolve political barriers: national governments may be reluctant to disclose information which could lead to international travel and trade restrictions.<sup>122</sup> Ultimately, the WHO has few sanctions with which to compel compliance. Introducing formal sanctions would likely require significant amendment of the IHR, resulting in a multi-year, resource-intensive negotiation process, and meet with significant political resistance on the grounds of national sovereignty.

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<sup>119</sup> The Independent Panel for Pandemic Preparedness and Response, 2021, [COVID-19: Make it the Last Pandemic](#)

<sup>120</sup> Wilson et al., 2021, [National focal points and implementation of the International Health Regulations](#)

<sup>121</sup> Packer et al., 2021, [A survey of International Health Regulations National Focal Points experiences in carrying out their functions](#)

<sup>122</sup> IHR Review Committee, 2021, [Report of the Review Committee on the Functioning of the International Health Regulations \(2005\) during the COVID-19 Response](#)



Despite this, we argue that the WHO is at present failing to utilise all resources at its disposal to encourage compliance with information-sharing regulations. It could encourage other states to, drawing on Article 56 of the IHR,<sup>123</sup> pursue arbitration procedures against noncompliant states - including, potentially, the International Court of Justice as a last resort.<sup>124</sup> We acknowledge that such means may prove time-consuming and cannot guarantee compliance. However, it would signal strong political commitment from the WHO and other states in favour of the IHR and against non-compliant states, creating political disincentives to deter future instances of information opacity and non-compliance.

Having proposed mechanisms to improve national transparency with regard to the process of PHEIC declaration, we affirm the need for comparable transparency on the part of the WHO. At present, PHEICs are declared following the deliberations of an Emergency Committee (EC) of epidemiological experts. However, EC proceedings are not publicised and public statements make only vague and inconsistent reference to the criteria on which PHEIC decisions should be based.<sup>125</sup> Inevitably, this creates an impression of PHEIC declarations as politicised, which likely contributes to governments' failure to respond adequately with funding and regulation.<sup>126</sup> The WHO should follow the example of the United Nations Security Council, which, despite dealing with highly sensitive topics, makes publicly available webcasts and verbatim transcripts of its meetings.<sup>127</sup>

In sum, it is crucial that the WHO demonstrates its commitment to transparency during the PHEIC declaration process: it should utilise all available avenues to pressure countries into sharing information (facilitated by a clearer role for WHO NFPs within national governments) as well as ensure its own proceedings are as transparent as possible. Only then will governments have access to the information necessary to implement evidence-based policy responses to pandemic threats in time to prevent their spread.

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<sup>123</sup> World Health Organisation, 2016, [International Health Regulations \(3rd Edition\)](#)

<sup>124</sup> Milbank, Q., 2016, [The International Health Regulations: The Governing Framework for Global Health Security](#)

<sup>125</sup> Mullen, L., 2020, [An analysis of International Health Regulations Emergency Committees and Public Health Emergency of International Concern Designations](#)

<sup>126</sup> Cucinotta, D. and Vanelli, M., 2020, [WHO Declares COVID-19 a Pandemic](#)

<sup>127</sup> Eccleston-Turner, M. and Kamradt-Scott, A., 2019, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6509695/>

***Action 3: Develop test-and-trace infrastructure to avoid blanket lockdowns - but acknowledge the possibility that lockdowns may be necessary.***

Preparing for the next pandemic requires implementing infrastructure to provide more targeted solutions than prolonged blanket lockdowns. In particular, we affirm the need for better test and trace infrastructure. The UK must draw on the experience of South Korea, whose Covid-19 death rate (as a share of population) was five times lower than the UK's<sup>128</sup> - despite never levying blanket stay-at-home orders.<sup>129</sup>

South Korea's success is due largely to both its testing and tracing infrastructure, which, following its traumatic experience of a 2015 MERS outbreak, were in place prior to Covid-19. With respect to testing, the UK should, like South Korea, invest in facilities for the manufacture and use of tests, including implementing private-public partnerships to draw on the resources of the private sector. South Korea's preparation in this regard enabled tests to be rapidly designed and manufactured after the virus was genetically sequenced, facilitating the daily production of over 100,000 tests by March 2020 (even as the UK struggled to produce 10,000).<sup>130</sup>

Testing must be accompanied with digital infrastructure to trace cases and warn potential viral contacts. The UK can again draw inspiration from South Korea, which had, following MERS, amended legislation to empower government surveillance and access to private data. Of course, this must be balanced with the need to respect privacy rights - indeed, South Korea had to adapt its own approach to protect privacy midway through the pandemic, censoring information in public notifications which could identify individuals.<sup>131</sup> Overall, however, it can plausibly be argued that potential privacy infringements are the lesser of two evils compared to the pernicious effects of blanket lockdowns on civil liberties. Public education campaigns to remind citizens of the importance of adhering to test and trace notifications will be key to generating public support for intrusions on privacy.

In sum, the UK must prepare for future pandemics by providing the financial and legal infrastructure to develop testing capacity and enable contact tracing. It is not tenable to delay construction of this infrastructure until the beginning of the next pandemic - delays

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<sup>128</sup> John Hopkins Centre, 2023, [Mortality Analyses](#)

<sup>129</sup> Woodward, A., 2020, [There's a demonstrated way to avoid lockdowns and still stop the coronavirus' spread. South Korea has been doing it for months.](#)

<sup>130</sup> Kim, J. et al., 2021, [Emerging COVID-19 success story: South Korea learned the lessons of MER](#)

<sup>131</sup> You, J., 2020, [Lessons From South Korea's Covid-19 Policy Response](#)

in test-and-trace technology will enable the spread of the disease until a lockdown may be the only solution remaining.

However, while we affirm the need for preparation to ensure the effectiveness of alternatives to blanket lockdowns, we believe that evidence for lockdowns' relative costs and benefits is too mixed to conclusively argue against their implementation in future pandemics. Therefore, while the scientific search for alternatives to lockdowns should continue, the UK government must prepare for learn from its experience of Covid-19, in which its refusal to contemplate the prospect of lockdown until the last minute enabled greater viral spread, leading to more deaths and, ultimately, longer lockdowns in order to bring the virus back under control. Furthermore, it meant that there were no contingency plans in place to mitigate the effects of lockdown - for example, schools were not adequately prepared or equipped to deliver online learning.

The UK government must, through a public and democratic process (ideally, via Parliament), set clear thresholds for the infection rates beyond which restrictions on movement can be triggered, so that when such a threshold is passed lockdowns can be implemented more rapidly, rather than being delayed by political debate. A broad range of hypothetical pandemic situations should be considered: previous pandemic planning had focussed almost exclusively on an influenza virus rather than a coronavirus which spreads more rapidly and is contagious for longer, and hence was rigid and inflexible in its policy proposals.<sup>132</sup> We do not suggest that restrictions on movement are desirable - but if they are necessary, the government must be prepared to implement them effectively.

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<sup>132</sup> Hilton, S., 2020, [The UK's prior preparedness for a pandemic: written evidence submitted by Sam Hilton](#)

***Action 4: Design legislation promoting multilateral agreements to prevent global health inequality.***

Preparing for the next pandemic requires preventing disparities in access to vaccines and in particular implementing infrastructure to provide a more targeted response for those who are the most vulnerable and in urgent need. The long-term success of pandemic preparedness hinges on a collaborative and inclusive international effort. Therefore, by refining the rules governing vaccine creation and distribution, the global community can work towards fostering a more equitable and efficient response to health crises, ultimately safeguarding the well-being of populations worldwide.<sup>133</sup>

Creating a system that ensures the fair distribution of financial, technological, and human resources (knowledge and research) to enhance global healthcare systems is crucial for containing diseases and preventing their further spread. This can become feasible through agreements between governments and independent research bodies, promoting the transfer of medical technology and knowledge from more developed nations to those in the developing world, thereby guaranteeing access to cutting-edge innovations. There have been some weak attempts previously by the The Medicines Patent Pool, which is an initiative that connects interested parties to promote the voluntary licensing practices of pharmaceutical companies.<sup>134</sup>

Licensing through patent pooling is an agreement between two or more patent holders to licence their patents to each other or a third party, enabling the shared use of intellectual property rights. It is easier for governments and other research bodies to access technology to help pandemic response as a result of such agreements.<sup>135, 136</sup> Although we acknowledge the potential issues of patent pooling such as lack of competition and therefore innovation, it is crucial for accelerated research and development, decreasing long run costs and prices, allowing LMICs to afford them, and decreasing global health inequality.

Patent pooling is not a new concept or idea, it has been implemented and studies have proved its effectiveness in bringing down prices for vaccines and medication. For example during Covid-19, Both Pfizer and Merck's treatments, which require a 5-day pill course, are priced at \$530 and \$712 per treatment course, respectively, in the US.

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<sup>133</sup> Reuters, 2021, [COVAX scheme needs rules to prevent vaccine hoarding - WHO advisor | Reuters](#)

<sup>134</sup> Carmona, J. and Harris, E. 2021, [Improving access to COVID-19 treatments: how IP makes it possible](#)

<sup>135</sup> ZeusIP Advocates, 2020, [Patent Pooling: A boon amidst COVID-19 Pandemic - Lexology](#)

<sup>136</sup> Malkawi, B., 2020, [Patent Pools and the Pandemic—A Renewed Debate | Think Global Health.](#)

However, recognizing the high cost for much of the world, both companies have joined the Medicines Patent Pool (MPP). The MPP, established in 2010, encourages pharmaceutical companies to make deals allowing generic manufacturers to produce and sell patented drugs or vaccines at significant discounts in specific regions, aimed at increasing global access to treatments by making them more affordable. This move with generic manufacturers was expected to reduce the cost of the treatments to as low as \$20 per course. While Pfizer and Merck will continue selling the treatments at market prices in wealthy countries, this initiative proved to be a significant step toward improving accessibility to COVID-19 treatments globally.<sup>137</sup>

In conclusion, cultivating collaboration through initiatives like patent pooling is vital for an effective global pandemic response. International organisations and governments play a crucial role in fostering such cooperative frameworks. Accessing a comprehensive array of resources is essential for swift and efficient pandemic responses, limiting further contagion. Actively endorsing patent pooling allows nations and organisations to contribute to a shared foundation of knowledge, technology, and treatments, building a robust defence against emerging health crises. This collaborative approach not only ensures equitable access to crucial resources but also strengthens the collective resilience of the global community. It facilitates a coordinated response to mitigate the impact of future pandemics, representing a strategic investment in global health security. This proactive encouragement of patent pooling sets the stage for a more interconnected and resilient world in the face of pandemics.

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<sup>137</sup> Cohen, J., 2021, [Once a 'crazy idea,' patent-pooling nonprofit will help bring COVID-19 pills to world's poor | Science](#)

# Conclusion

Covid-19 has been called a “once-in-a-lifetime” pandemic. Yet, unfortunately, this is increasingly inaccurate: the risk of epidemics and pandemics has increased significantly, and there is a significant (38%) chance of another pandemic on the scale of Covid-19 occurring in our lifetime.<sup>138</sup>

Fortunately, future pandemics do not need to have the same devastating effects as Covid-19 on economies and health. Covid-19’s impact was exacerbated by policy failures - namely, a failure to comprehend its seriousness and implement an adequate policy response (including test-and-trace systems or lockdowns) in time to stop its spread, as well as later - ongoing - failures to distribute vaccines equitably.

It is crucial that we implement the political and administrative infrastructure to ensure that the mistakes of Covid-19 are not repeated in the next pandemic when (not if) it comes. On a national level, countries must maintain national testing capacity so test-and-trace systems can be implemented rapidly, and develop more comprehensive plans for their response if a virus cannot be effectively contained, so that lockdowns do not take policymakers by surprise. On an international level, cooperation is necessary to expedite detection (using a One Health approach to focus on zoonotic diseases) and declaration (using existing WHO PHEIC processes) of epidemics as well as to share crucial vaccine technology.

These policy recommendations will require political commitment and financial investment. However, it is no longer tenable to dismiss pandemic preparations as a niche policy area focussing on the worst-case scenario. The increasing likelihood of future pandemics means that investment now is worthwhile to save lives and economies in the future.

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<sup>138</sup> Marani, M. et al., 2021, [Intensity and frequency of extreme novel epidemics](#)

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