

Reflections from the COVID-19 pandemic in Germany: lessons for global health

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The COVID-19 pandemic had a detrimental impact on the world affecting every level of society. It aggravated existing health inequalities and the social determinants that underlie them.¹ In Germany, too, socially disadvantaged communities were hit hardest.²

In early 2020, public health recommendations based on scientific evidence became crucial to the public health response. Not all the scientific evidence needed at the time was available, more importantly, the acquired evidence changed with time. This inevitably caused undercurrents not harmony, between science, politics and society. The public health response will invariably require a thorough evaluation, however, in this comment, we briefly reflect on what the response looked like in Germany and the lessons one might draw for global health.

Germany responded quickly and decisively at the outset³; however, this success was not replicated through subsequent waves. The population-wide implementation of interventions, such as physical distancing, mask wearing and testing regimens restored public life and offered protection by reducing individual risk for severe COVID-19.⁴ These public health measures led to behavioural changes and had a direct effect on pandemic management. Particularly in schools and nursing homes, guidelines were published for an optimised functioning of these essential facilities, which simultaneously resulted in restrictive obligations. By July 2021, more than 50% of the population in Germany had protective immunity following vaccination.⁵ Prior to the availability of vaccines, a position paper for vaccination prioritisation was published, initially focusing on protecting vulnerable groups due to limited availability of vaccines.⁶ Even though vaccination remains one of the best forms of infection prevention, vaccination presupposes the informed and voluntary consent of every individual whose autonomy

SUMMARY BOX

- ⇒ Trust is crucial to handling any global health crisis; the expertise and sustainability of National Public Health Institutions is the basis for trust building.
- ⇒ Public health requires citizens to make the right individual choices that have a positive domino effect on the general population. Communication, therefore, plays an essential role.
- ⇒ Public health systems must be strengthened and stronger public health systems must assist weaker ones in an act of global solidarity.
- ⇒ Digitalising healthcare and public health will play a fundamental role in strengthening public health systems and thus in handling future crises.

acts as a starting point.⁶ Discrimination that resulted out of restrictive regulations is an aspect that is principally unintended from the public health and ethical perspective. Having said that, one fact remains: the availability of vaccines was a luxury not enjoyed by every country. The pandemic highlighted unequal distribution of vaccines globally. High-income and middle-income countries achieved relatively high vaccination rates quickly while in low-income countries only around 37% of healthcare workers had been vaccinated twice by late 2022.⁷

Germany's strategy was to prevent the healthcare system from becoming overburdened and reduce fatalities. The main guidance during the pandemic was to protect oneself in order to protect others—a message of solidarity.^{8,9} The Robert Koch Institute, Germany's National Public Health Institute (NPHI), was tasked with coordinating the pandemic response. It was only because of years of networking with federal and local health authorities prior to the pandemic that this interaction which was based on trust, contributed to a good response.³ However, even a high-performing healthcare system is

vulnerable under extreme pressure. There is no magic bullet and the successful handling of an epidemic wave depends on different factors and circumstances.

To summarise, what have we learnt from our experience?

1. Trust is crucial to handling any global health crisis. Globally, some governments enjoyed more public trust than others.¹⁰ Going forward, it is essential to better understand human behaviour and for populations to have confidence in the decisions of their scientists and local public health authorities and to be empowered to make equally good choices. Human behaviour is driven not just by education, but by living conditions too. That said, one is not compelled to trust the decisions taken by authorities and trust needs to be built. Every individual has the freedom to discern, think critically and question the reliability and expertise of scientists as well as the decisions of authorities. In a public health crisis, scientists, health authorities and governments must, therefore, do everything in their power to lay all the facts on the table, in a transparent and coherent manner. Scientists are obliged to recognise the limitations of their expertise, continue to seek strong evidence and communicate uncertainties transparently, while governments are obliged to implement measures and regulations that follow a logical pattern based on evidence. Scientific dissent in a crisis does not make a strong case for trust, and scientists must take responsibility for the recommendations they make. In Germany, the NPHI, which presented technical guidelines but had no legal mandate to implement these (as this lies within the mandate of the federal state governments), enjoyed the highest level of trust by the general population as compared with government and other institutions, though with time some of this trust declined.¹¹ While most NPHIs are normally embedded within a governmental structure, which provides them with a legal mandate and framework, the science behind the public health recommendations comes from an interdisciplinary team of scientists and is independent of governmental influence. It is essential this remains so. While governments come and go and their policies change, public health institutions remain true to basic public health concepts. This stability is important towards trust building.
2. Public health communication: Trust is built with dialogue and transparent communication. However, experts faced many communicative challenges. The COVID-19 pandemic was the first pandemic in history where technology and social media dominated communication. This same technology also amplified infodemics.¹² The communication triad—political, scientific and media communication—often resulted in incoherent public messages, which can be extremely challenging for society. In a global crisis, the public seeks order and stability while scientists adapt methods based on new findings. Public health often requires citizens to make the right individual choices that have

a positive domino effect on the general population. Communication must, therefore, be strengthened, but it cannot be a one-way street. Especially when dealing with a pluralistic and democratic society, it is imperative to maintain the delicate balance between information and persuasion, without drifting into the manipulative or coercive territory.¹³ Furthermore, communication must be aligned with the aim of serving the common good. The role of behavioural scientists and ethics professionals is crucial to this important task. In future it might also be helpful to make better use of trusted spaces for the purpose of crisis communication, such as public museums, educational institutions and houses of worship which could present the best opportunity for engagement and dialogue.

3. Public health systems must be strengthened. This requires expertise and professionals, cooperation between public health actors, transparent and barrier-free exchange of information and data, and modern equipment and technology. In Germany, the government invested in a pact for public health since the first year of the pandemic. This bold move strengthened local health authorities and thus supported the work of the NPHI. Achieving health for all is a sustainable goal and it involves strengthening healthcare and public health everywhere, not just in countries with good health systems in place. Stronger public health systems must assist weaker ones in an act of global solidarity.¹⁴
4. Digitalising healthcare and public health: Evidence-based recommendations are made possible by an expert's ability to process and analyse large quantities of data rapidly. In Germany, it is difficult to source data from a single source because such a system does not yet exist. In contrast, the German healthcare system is so siloed, that information barriers are particularly high. In a crisis, however, essential data must be made available to decision-makers and advisors quickly. The full potential of secondary data for health intelligence needs to be tapped better.¹⁵ The role of artificial intelligence (AI) in public health is just beginning to take shape. However, while some countries are optimising existing systems and thinking about the benefits of AI, many lack a basic system for data collection, validation and analysis. There is an urgent need to build capacity and create systems and structures that enable decision-makers globally to act in the interest of global health.
5. Finally, we have to prepare for the next crisis. Not every country has the same ability to respond to a crisis. Pandemic preparedness is a central task of every NPHI and every public health system needs to optimise its ability to respond to future crises. Reducing Public Health Institutes to Health protection Agencies, therefore, is a strategic misconception. We require global coordination and structures that aid this process and which can be addressed at a local, national and international level, while strengthening our surveillance and warning systems, protecting vulnerable communities and improving tailored health information. Countries

must aim for health in all policies and NPHIs whose work covers the essential public health operations. We require treaties and regulations that bind nations towards certain responsibilities and duties.^{16 17} Member states must commit to strengthening the WHO while aiming for better sharing of resources, whether commodities or intellectual property.

COVID-19 is not the last public health crisis. Having only a few strong countries and health systems is not enough—we simply descend into the essential problem we faced during the pandemic, namely health inequality. While grappling with the complexities and needs of individuals and societies, it is vital we leave self-interest behind and work together for the greater good.

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