

1 Abstract

2 The COVID-19 pandemic is a catastrophe. It was also preventable. The potential impacts of a novel
3 pathogen were foreseen and for decades scientists and commentators around the world warned of
4 the threat. Most governments and global institutions failed to heed the warnings or to pay enough
5 attention to risks emerging at the interface of human, animal, and environmental health. We were
6 not ready for COVID-19, and people, economies, and governments around the world have suffered
7 as a result. We must learn from these experiences now and implement transformational changes so
8 that we can prevent future crises, and if and when emergencies do emerge, we can respond in more
9 timely, robust and equitable ways, and minimize immediate and longer-term impacts.

10 In 2020-21 the Pan-European Commission on Health and Sustainable Development assessed the
11 challenges posed by COVID-19 in the WHO European region and the lessons from the response. The
12 Commissioners have addressed health in its entirety, analyzing the interactions between health and
13 sustainable development and considering how other policy priorities can contribute to achieving
14 both. The Commission's final report makes a series of policy recommendations that are evidence-
15 informed and above all actionable. Adopting them would achieve seven key objectives and help
16 build truly sustainable health systems and fairer societies.

17 Introduction

18 A catastrophe on the scale of the COVID-19 pandemic was preventable. For decades scientists and
19 commentators around the world have urged governments and global institutions to prepare for the
20 emergence of new diseases at the interface of human, animal, and environmental health (1) – but
21 such warnings went unheeded. The potential impact of a novel airborne pathogen was known, yet
22 we were still not ready. Global and national policy responses were inadequate; many countries have
23 paid a heavy health, societal and economic price. We must learn the lessons from this pandemic (2),
24 acting now to minimize its consequences, and to prevent another.

1 Over the past year, members of the Pan-European Commission on Health and Sustainable
2 Development (3), an independent multidisciplinary group of experts, reviewed lessons from the
3 pandemic, identifying ways that society might change and address future threats to health, with a
4 particular focus on the European Region of the World Health Organization (WHO). The Commission
5 took a broad approach to health that went beyond pandemics to analyze the interactions between
6 health and sustainable development and the position of health in relation to other policy priorities.
7 Adopting a 'One Health' approach, the Commissioners reviewed evidence that embraces humans,
8 animals, micro-organisms and the natural environment to consider the many proximal and distal
9 determinants of health and the policies that impact on them (4).

10 Recommendations

11 The Commission's final report(5) recommends a series of evidence-informed policy
12 recommendations designed to achieve the seven objectives it identified as key to building
13 sustainable health systems and resilient societies (Table 1). Below, we briefly summarize each of
14 these objectives and its associated recommendations in turn.

15 [INSERT TABLE 1 HERE]

16 1. Operationalize the concept of One Health at all levels

17 COVID-19 is a tragedy we must lament, but we can also seize it as an opportunity to rethink our
18 existing global health architecture (6). Many threats to health arise at the intersection of human,
19 animal and environmental health – not least, the increase in antimicrobial resistance (AMR) that
20 may yet reverse the achievements of modern medicine (7). The inordinate effects on the planet of
21 human (in)action are recognized in the naming of a new era, the Anthropocene (8). The danger that
22 the planet has reached an irrevocable tipping point is real: human activities have caused global
23 warming and loss of habitat and biodiversity, and we know that exacerbating feedback between
24 these phenomena is increasing the risks of food insecurity, conflict, mass migration and more.

1 Despite the intrinsic links between their areas of work, those engaged with the different aspects of
2 One Health frequently work in silos (Figure 1). From now on, we must instead operationalize an
3 integrated, holistic One Health approach (9,10), which acknowledges the complex interconnections
4 between its various elements, and convenes and aligns stakeholders wherever relevant.

5 [INSERT FIGURE 1 HERE]

6 Challenges to operationalizing One Health have been described in the past (11,12), including a lack
7 of surveillance capacity, siloed thinking and actors, unequal representation of disciplines and
8 stakeholders, difficulties in engaging actors from a diverse set of backgrounds, lack of evidence on
9 the benefits of One Health, including problems generating and obtaining access to relevant and
10 accurate One Health data and other information (13). We need to address these challenges with
11 solutions that promote equitable engagement and collaboration between diverse stakeholders and
12 enhanced monitoring and evaluation of One Health initiatives so that continued improvements can
13 be made based on lessons learned through an increasingly comprehensive evidence-base.

14 The COVID-19 pandemic has revealed the importance of effective joint working by national and
15 regional governments, supported by timely access to high quality comparable data. Structures,
16 incentives and a supportive policy environment are needed to establish whole-of-government One
17 Health strategies. Mechanisms for strengthening coordination and collaboration (14) amongst
18 relevant existing international agencies (including the WHO, Food and Agriculture Organization, the
19 World Organisation for Animal Health, and the United Nations Environment Programme), grassroots
20 movements, and community groups must be prioritized. This will require better metrics to be
21 developed to enable the measurement of progress in all aspects of One Health so that policies,
22 resource allocation and projects can be assessed and strengthened.

23 2. Take action at all levels of societies to heal the fractures exacerbated by the
24 pandemic

25

1 COVID-19 continues to shine a light on the intersecting inequalities that characterize our societies
2 and their interacting consequences for health (15). Those who were disadvantaged before COVID-19
3 often suffer the worst consequences, both from the effects of the virus and from the policy
4 responses required to tackle it. Pre-existing differences in wealth and income and unequal
5 opportunities have left many people facing precariousness in employment, wages, and housing, and
6 even food supplies have been exacerbated by inadequate social protection (16). An ambitious
7 approach must be taken to heal these fractures. This requires a renewed commitment to the
8 Sustainable Development Goal (SDG) of universal health coverage (UHC) and to joint procurement
9 initiatives such as COVAX and Gavi. But it also demands access to appropriate information that can
10 make these fractures visible (17), capturing all the characteristics that place people at increased risk.
11 In particular, data on ethnicity and migration status is required, which is at present collected in only
12 a few European countries, with the consequence that factors such as racism go unrecognized as a
13 determinant of health (18). It is also important to better understand the concept of precariousness,
14 whereby people may be coping at a particular time while facing constant insecurity (19). COVID-19
15 has also highlighted the importance of tackling the divisions encouraged by disinformation spread
16 through social media – including anti-vax messaging (20,21). As lives move increasingly into the
17 digital space it will be necessary to develop novel methods of addressing the growing number of
18 online threats, working across sectors to design and implement policies that make the online world
19 safe. As the role of technology and social media continues to increase in our daily lives,
20 governments must work together with tech leaders and companies and civil society, and they must
21 effectively regulate social media platforms to ensure users are exposed to information backed by
22 evidence and science, and to guarantee disinformation is promptly addressed.

23 Recognizing the particular consequences that the pandemic has had for women and the vital role
24 they have played in the COVID-19 response (22), it is essential that their input into decision-making
25 is equal to that of men and that their involvement goes beyond the tokenistic. This same call was

1 made more than 20 years ago in the Beijing Declaration, endorsed by the international community
2 at the Fourth World Conference of Women in 1995 (23,24) – it must be acted on now.

3 3. Support innovation for One Health

4 COVID-19 vaccines were developed, distributed and deployed in under a year – a remarkable success
5 and a clear demonstration of the importance of support for innovation. The experience has shown
6 what rapid mobilization of financial resources, collaboration, partnership between public, private
7 and third sector organizations, and accelerated procedures for evaluating and approving innovative
8 products can do to support One Health. Building on this momentum, governments must develop and
9 support innovation strategies that proactively identify and address needs that are not otherwise
10 being met. We must also learn the negative lessons from the experience of innovation during the
11 pandemic. In particular, we must ask why so much risk is borne by the public sector (through
12 research funding), while most of the returns flow to the private sector (25). Governance and
13 accountability mechanisms must be employed to ensure that incentives for discovery, development
14 and implementation align with interventions that improve One Health, based on true public–private
15 partnerships where risks and rewards are shared (26).

16 It is vital, too, to plan and prepare for the potential unintended or negative consequences of
17 innovations – for example, in light of the growing influence of social media and the extension of the
18 digital delivery of health care during the pandemic, what such changes mean for those for those who
19 are susceptible to disinformation campaigns; for those who are digitally excluded; or for those who
20 might be further disadvantaged by the use of algorithms that replicate the discrimination already
21 afflicting so many societies (27).

22 4. Invest in strong, resilient and inclusive national health systems

23 We must invest in healthy and resilient societies for the future. Historically, calls for expenditure on
24 health, social care, education and research have often been left unanswered because of difficulties
25 in convincing spending ministries that these investments in human and intellectual capital are

1 necessary to achieve progress in a knowledge-based economy (28). We need to change this mindset,
2 and foster international recognition of the economic arguments for investing in population health
3 and wellbeing (29). Fortunately, we are seeing increasing evidence that opinion leaders from the
4 financial sector are acknowledging this. Policies to increase health system resilience must include the
5 physical and human elements, including health facility design and the leveraging of digital
6 innovations, and health workforce capacity and the greater flexibility arising from new approaches
7 to task shifting (30). Coordination of health and social care also needs to be strengthened.
8 Investments in health systems must be increased, but especially in those areas that traditionally
9 attract fewer resources such as primary care and mental health. Looking ahead, the experience of
10 the pandemic, which created high levels of health worker burnout, has emphasized the importance
11 of measures that can attract, retain and support healthcare workers throughout their careers (31).
12 Finally, the need for increased investment in public health capacity and the prevention of
13 communicable and noncommunicable diseases remains essential.

14 5. Create an enabling environment to promote investment in health

15 Investments in health may have short-term costs but, if planned well, they often bring higher long-
16 term financial benefits. Past failures to invest in health have been fuelled by short-termism, and
17 failure to recognize the wider benefits that health systems bring to society. We cannot afford to
18 continue in this manner; changes to the information, incentives and norms that govern the
19 allocation of resources are needed. A clearer distinction should be made between health
20 expenditure for consumption and frontier-shifting investments in disease prevention and
21 improvements in the efficiency of care delivery. Additionally, the economic benefits of better health
22 (and the converse) should be incorporated into macroeconomic forecasting (32) and greater
23 investments should be made in measures to reduce health threats, provide early warning systems
24 and improve crisis response. These measures will require increased global and international
25 collaboration. By their nature, health threats cut across borders and responses often have the
26 characteristics of public goods (33,34). Therefore, the share of development finance spent on global

1 public goods and long-standing cross-border externalities must be increased. The WHO's health
2 system surveillance powers must also be strengthened, enabling the organization to conduct
3 periodic assessments of countries' preparedness, which can then feed into monitoring by the
4 International Monetary Fund, development banks, and technical institutions.

5 6. Improve health governance at the global level

6 The COVID-19 pandemic occurred despite the fact that most nations in the world were States Parties
7 to the International Health Regulations (IHR) (2005) and had agreed in principle to combat health
8 threats through joint action. This failure demonstrates the weaknesses and gaps in this system.
9 Echoing many others who have already expressed support (35) for an international legal framework
10 for pandemics, the Commission supports the establishment of a pandemic treaty which is truly
11 global. It must include as many countries as possible; be flexible yet also enforceable; and be feasible
12 in terms of its scope. It needs to incentivize governments and foster willingness to pool sovereign
13 decision-making in the case of pandemics.

14 We also need ways to hold countries to account for contributions towards the global public goods
15 discussed above. Drawing on insights from experiences following the global financial crisis, a Global
16 Health Board under the auspices of the G20 could be established to promote a better assessment of
17 the social, economic and financial consequences of health-related risks. This could largely be based
18 on the Financial Stability Board (FSB) which has demonstrated its value during the pandemic in
19 preventing a global liquidity crisis.

20 Despite the most efficient vaccine development accomplishments in history, challenges still remain
21 with COVID-19 vaccines (36,37) and therapeutics. Huge inequalities in the availability of and access
22 to COVID-19 vaccines persist at a global level, while manufacturing and supply chain problems
23 continue. To prepare for future pandemics, we need a comprehensive global vaccine policy which
24 sets out the rights and responsibilities of all parties involved in the vaccine process to ensure the

1 availability and distribution of safe, effective, affordable, high quality vaccines for all those who need
2 them.

3 7. Improve health governance in the pan-European region

4 COVID-19 has highlighted the world's interconnectedness and both the benefits and the risks that
5 this brings. Europe is vulnerable to any health threat that emerges anywhere in the world and,
6 equally, the world is vulnerable to any health threat that emerges in Europe (38). As a region with
7 some of the most interconnected countries anywhere, Europe faces particular challenges not least
8 because reducing connectedness carries enormous potential consequences for the functioning of
9 societies and economies of countries in the region. The WHO European Region is very diverse, and
10 there are large differences across countries in wealth, population size and demographics, political
11 systems, cultures and health. This diversity is inevitable, but it creates challenges in emergency
12 responses when coordinated efforts are needed. COVID-19 has highlighted these competing forces –
13 the pros and cons of interconnectedness, the value of diversity, and the importance of collaboration
14 in crisis response.

15 COVID-19 has exposed the fragmentation of governance in the WHO European Region (as it has
16 globally), with competing priorities, agendas and strategies being pursued by different agencies,
17 countries and organizations. Health governance in the pan-European region must be reinforced and
18 the role of and funding for WHO strengthened. Complementing the work of the European Centre for
19 Disease Control and Prevention (ECDC), a Pan-European Network for Disease Control convened by
20 the WHO Regional Office for Europe could help to strengthen early warning systems,
21 epidemiological and laboratory capacity, and interoperability of data systems (39). As a secretariat,
22 the WHO Regional Office for Europe could use this platform to convene technical counterparts in
23 Member States, and health emergency and surveillance agencies in the region to boost cooperation
24 and harmonization of efforts in the region and beyond.

1 A Pan-European Health Threats Council convened by the WHO Regional Office for Europe could
2 support an early warning system and mechanisms to track and respond to changes in pathogens and
3 disease symptoms across the region. The body should be regionally representative and serve to
4 enhance political commitment to pandemic and health threat preparedness using a One Health
5 approach, and to ensure that complementarity and cooperation across the pan-European region is
6 maximized at all levels.

7 The pandemic has also shed light on the need for an interoperable health data network based on
8 common standards developed by the WHO Regional Office for Europe to enable better coordination
9 of crisis response efforts across the region. Multilateral development banks and development
10 finance institutions can also play a role and prioritize investments in these fields.

11 Of course, to support all these measures above, and to better manage and coordinate health
12 security and preparedness across the WHO European Region and globally, the WHO needs more
13 sustainable and flexible financing at all levels of the organization – headquarters, regional office and
14 country offices. Increased financing for WHO alone is not enough though. We need to address
15 existing challenges in the operationalization of One Health, with realization of commitments to
16 improve population health and enhancement of health systems resilience. We also need stronger
17 governance at national and international levels with effective leadership, transparent
18 communication, coordinated activities across stakeholder groups, stronger surveillance systems and
19 improved organizational learning (40,41).

20 Conclusions

21 We, as a global community, have our work cut out for us – but, with a shift in attitude and policy
22 priorities, our goals are within reach. It is imperative that we implement the concept of One Health
23 in all settings and proactively adopt prevention and resilience measures in the settings where
24 threats to sustainable health are most likely to occur (42). We cannot allow the conditions that
25 created the catastrophe that is the COVID-19 pandemic to continue. We owe it to all those who have

1 suffered in its wake to strengthen governance, transparency and accountability, and to make
2 smarter investments now to achieve more resilient and equitable societies and health systems, and
3 so prevent similar crises occurring in the future. The recommendations of the Pan-European
4 Commission have drawn light from the catastrophe to illuminate the way forward. Now, we must
5 take the steps to get there – together: only by collaborating in a powerful joint effort can we
6 succeed in implementing the changes required.

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