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COVID-19 Health System Response



➤ Health system responses to COVID-19

- The Health System Response Monitor
- Health systems resilience
- The economic and health financing crisis
- Evidence-informed policymaking
- Successful find-test-trace-isolate-support systems
- Supporting health workers during COVID-19
- How to protect care homes
- Compensating health care professionals for income losses
- In and out of lockdowns
- Centralisation within and between governments

:: Special Issue ::

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EDITORIAL

As this *Eurohealth* goes to press many countries across the European region and beyond face a steep surge in transmissions and a renewed challenge from COVID-19.



As we head into winter, health care systems are again coming under significant pressure. There is still a window of opportunity, albeit one that is closing rapidly, to avert the kinds of problems seen in the Spring. There is also a chance, although again a slim one, for Europe to use this crisis to tackle the profound underlying problems that beset our health systems.

This special issue of *Eurohealth*, with its focus, on health system responses to COVID-19 is particularly timely. It reviews some of the innovative practices across our region and outlines policy lessons for the future. All the papers draw on the COVID-19 Health System Response Monitor (HSRM) platform, a major initiative led by the WHO Regional Office for Europe, the European Commission and the European Observatory on Health Systems and Policies. Neither the HSRM nor this special issue would be possible without an exceptional network of experts and centres of excellence. The Observatory's Health Systems Policy Monitor (HSPM) network which includes the whole European Union, the WHO country offices and other experts have together managed to cover almost every country in the European region. A huge debt of gratitude is owed to them. Thanks are due also to the Observatory staff who have been running this initiative and who have pulled together such an effective platform. The HSRM and the articles that follow demonstrate how much countries have learned.

Collectively we are armed with much better evidence. Lessons on preventing transmission are being acted on through improved testing and tracing and through progressive scaling of physical distancing measures tailored to epidemiological surveillance. Flexibility in care pathways and the embedding of digital technology point the way to more effective health care delivery. There have also been rapid advances in clinical protocols and treatments. Progress in the best use of intensive care therapies and the early

management of complications; the development of new drugs; and the 'new' use of existing drugs such as Dexamethasone, have reduced case fatality ratios. Yet, the pace of implementation, particularly of prevention measures, needs to pick up sharply in many Member States if we are to succeed in flattening the curve.

Countries are equipped with better evidence but also with examples of how others have tackled the issues. We have seen a burst of innovation and transformation in many countries and the papers here attest to the dynamism and ingenuity of many health systems. The fast track introduction of digital and telemedicine tools (developments which had been in the pipeline for years); the rapid mobilisation of additional human resources via recruitment and training of volunteers and through health professionals adapting roles and taking on new skills; the shift to multidisciplinary team work, have all shown what is possible. Similarly, the transformation of hospital and primary care delivery with new care pathways and more flexible organisational arrangements, supported by new purchasing arrangements and payment systems demonstrate how health systems are able to re-engineer in the face of crisis. Importantly too, the experience shows how strong a commitment our health systems can count on: from a dedicated workforce and from the community and NGOs.

Overall, the analysis of COVID-19 responses collected in this issue, constitutes a powerful testimony to efforts across Europe. It is also a stark reminder of the many unresolved structural problems in our health systems. This pandemic has been a particularly dramatic health systems shock, and (as with all shocks) it uncovers and highlights the chronic existing weaknesses of the system. The observed failures in some systems to protect vulnerable and underprivileged populations are a strong reminder of the failings of the past decade, for example in dealing

with the economic and refugee crises. Shortcomings in preventing transmission or in addressing the mortality crisis in nursing homes are simply a reflection of the low priority given to public health and long-term care over the years – and of our failure to invest. The pandemic then throws a spotlight on the well understood realities and the governance shortcomings of health systems.

The central challenge for policy makers now, as a second wave takes shape, must of course be dealing with the immediate consequences using the evidence and experience of recent months, but this cannot be entirely separated out from what this implies for the future of Europe's health systems. Policy makers need to both harness and sustain stakeholders' commitment – not least to new practices; gear up innovations that work, and, perhaps most importantly, strengthen governance mechanisms to support the degree of transformation required. This is key to our ability to cope – as Sagan and colleagues argue in the paper on resilient health systems, good governance is the “mortar binding everything else together” and crucial for an effective response. It is also key in the longer term. Other papers in this issue pick up on governance practices that enable appropriate implementation, including the piece by Williams et al. on the role of multidisciplinary advisory groups in translating evidence to policy. It clearly flags the challenges around independence and transparency as we try to bridge the science-policy (and politics) gap. Clearly, transparency in communicating the evidence (even when it is equivocal) and in political decision-making is crucial and perhaps the single most powerful tool for generating trust (and compliance) in the population. Again, the lessons for the second wave resonate with the long term challenges.

It is too easy to fall back on clichés in times of crisis but there are two somewhat hackneyed concepts that really are pertinent here. Firstly, ‘we are stronger’ together. In the first stage of the crisis, in many countries, collaboration and solidarity across borders took second place in the rush to protect national citizens and health systems but countries have quickly realised the importance of working together to tackle this pandemic. The WHO and the European Commission have put together a large set of interventions to support Member States and strengthen coordination between them. In many of these they are working closely together, for example on access to vaccines (Greer et al.) or in surveillance, together with the ECDC. The HSRM has been a truly joint undertaking, again between WHO, the European Commission and countries – but this time with the Observatory as the enabler, to share evidence and to understand what countries are doing in practice and

what works (better and worse) in different settings. It recognises that transparency and sharing are the best way to learn and strengthen our individual efforts and to achieve common goals. It also models collaborative and cooperative ways of working that bode well for governance in the future, although there is much more to be done to instil collaborative approaches.

Secondly, you should ‘never let a good crisis go to waste’. All too often challenges to health systems have been met with commitments to improve and collaborate that melt away as soon as the crisis subsides. There are both real and fundamental challenges to health systems and real hope for sustainability. This *Eurohealth* flags some of the very clear lessons from COVID-19 on how we might move forward. We hope therefore that this crisis will be different and that out of the pandemic will come tangible progress – in innovation, in agility, and in governance and transformation – so that a more transparent, more collective and more international approach to health and health systems emerges.

**Hans Kluge, Sandra Gallina
and Josep Figueras**

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LESSONS FROM THE FIRST WAVE: THE COVID-19 HEALTH SYSTEM RESPONSE MONITOR (HSPM) AN EVIDENCE RESOURCE AND A SOURCE OF ANALYSIS

By: Sherry Merkur, Anna Maresso, Jonathan Cylus, Ewout van Ginneken and Suszy Lessof

Summary: COVID-19 has posed huge challenges for Europe's health systems but also for European solidarity. The WHO Regional Office for Europe and the European Commission have worked to maintain an international perspective and, as part of their efforts, called on the European Observatory on Health Systems and Policies. Its response was the HSRM platform. HSRM helps countries systematically capture how they are tackling COVID. It allows policy makers to see immediately how others are 'governing' transmission, resources and service delivery. They can identify common issues and share practice. HSRM has also provided the raw material for cross-cutting analysis of key policy questions. This combination of information and analysis has generated learning. What's more, it has helped assert the importance of countries coming together in the face of an international health emergency.

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The HSRM platform is an information tool that has also helped bring countries together

COVID-19 was declared a pandemic on 11 March 2020.¹ It has posed huge challenges for countries, who have struggled to contain the spread of the disease, protect health systems from

collapse, and cope with economic shutdown. It has also proved hugely challenging for international solidarity.

Countries across the European Region mounted complex and aggressive responses to the virus which extended to closing borders and competing for masks and ventilators. The World Health Organization Regional Office for Europe

(EURO) and the European Commission (EC) have sought both to support countries and to foster the ties between them.

The European Observatory on Health Systems and Policies (Observatory) was asked to provide help by establishing a monitoring tool to equip policy makers across the Region with a systematic picture of how every country was responding. The Observatory is a WHO hosted partnership of governments, international organisations, academic and other institutions. It generates evidence for decision-making and is used to working with others and responding rapidly to policy demands. It built the HSRM initiative (see Box 1) on the back of the Health Systems and Policy Monitor (HSPM) model but convened an even broader network of country collaborators and informants to track the constantly changing situation. A mix of leading academics, WHO Country Office teams, policy makers and researchers have combined forces to record how health system responses have evolved and to detail emerging initiatives. The EURO Emergencies team shared data; the Division of Country Health Policies and Systems and its public health and health systems specialists sought synergies with other initiatives, and its Country Offices worked directly with ministries to understand the reality for Member States. DG SANTE was also on hand with information and insights into Commission and country actions.

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generates
evidence for
decision-making

HSRM helps countries to reflect on their own performance

The platform was set up as the first wave of the pandemic rolled across the European Region. It recognised that countries were acting at a remarkable pace and across sectors, health system ‘building blocks’ and authorities. Responsibilities

Box 1: What is HSRM?

The COVID-19 Health System Response Monitor platform is a publicly available online resource (www.covid19healthsystem.org) that collects and organises information on how health systems are responding to COVID-19 across Europe and beyond. It is structured and updated to help policy makers review what is happening country by country and issue by issue. It offers links to core sources of data and delivers cross-cutting analysis of key challenges and how they are being handled and enables countries to learn from each other.

Although the focus is primarily on health systems, HSRM also captures wider public health initiatives on preventing transmission as well as relevant responses in other sectors. It gathers reliable evidence (via publicly available information) through a network of country experts from academia and WHO Country Offices. The network taps into vast national knowledge and links to multiple, complimentary international networks. Observatory analysts work with the country experts to check and cross-reference, edit and update posts.

that had sat at the sub-national level (in Länder, provinces or cantons) were being centralised in some cases while in others local authorities were taking on tasks that had previously been organised at national level. The Observatory wanted to facilitate comparison but understood that a clearly structured, clearly signposted description of national experience was not just central to making comparisons, but useful in and of itself.

It developed a template – a series of headings and questions – to guide how country experts should describe what was happening. The template looks at key health system functions related to the pandemic and the context in which these functions operate, including prevention measures and the actions of other sectors. It is detailed in Table 1 (see overpage) and seeks to reflect the multifaceted ways countries have responded to COVID-19 and to be sufficiently flexible to incorporate emerging issues.

The template and the platform itself cover 52 countries. Figure 1 shows the country page for Slovenia but the model ‘works’ from Albania to Uzbekistan and from San Marino to the Russia Federation, and Malta to Finland. It can be used however big or small, densely or sparsely populated a country is and whether the system is largely tax or insurance based, well-resourced or underfunded.

The structure helps policy makers to navigate through the different blocks of information (on paying for services or on providing them) and to drill down into the detail (to explore infrastructure or workforce, entitlement or regulation). It also highlights the latest updates and provides links to contextualise the health system responses (to international data sources and to the HiT – the standard health system description for ‘normal’ times).

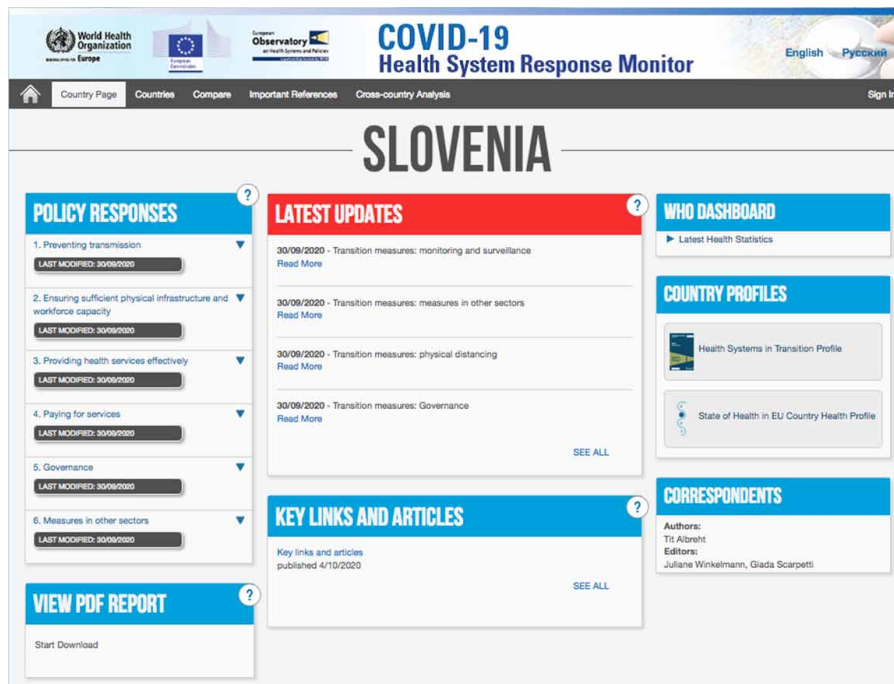
It has proved really useful to country policy makers in practice as they try to take stock of their own efforts and to reflect on how the different strands of their national responses fit together.

HSRM lets countries compare their own approach with other countries' efforts

Policy makers have found it just as useful to be able to set their own actions in the wider European context. Although it is too early still to be clear on best practices and, although context is always different and always important, ministries of health want to know how key challenges are being tackled elsewhere.

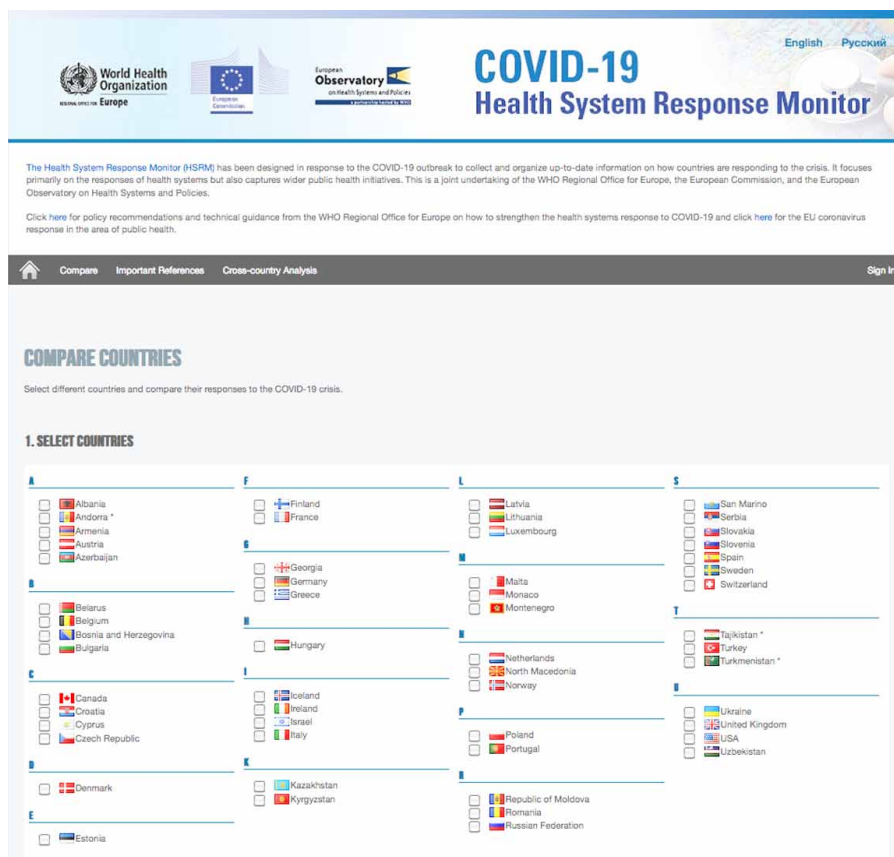
They have asked WHO and the Observatory for examples and news and the HSRM has helped to provide that information. Users of the site can simply go to the compare country function

Figure 1: Slovenia's country page captures core information and gives immediate access to the latest updates



Source: ³

Figure 2: Users can easily pull together the information on the countries and the health system responses that are most relevant to them



Source: ⁴

(see Figure 2) select the countries and the issues they are interested in and generate a pdf that contains all the relevant sections and updates, and thousands have done just that. Wanting to know what similar (or contrasting) health systems are doing is not the same as expressing solidarity with them but it has helped reassert the importance of sharing information and sharing learning.

HSRM's cross-country analysis builds on basic comparisons to generate policy relevant insights

The platform compares country evidence to analyse key themes (<https://analysis.covid19healthsystem.org/>) and offer concise comparative 'policy snapshots'. These are developed in response to policy makers' questions from countries, WHO and the EC and address the topical, the important and the interesting. Policy snapshots look at context and pull out narrative threads so that the analysis is useful. They also pick up on patterns and trends and explore emerging issues, offering examples of innovative or promising practices. Again, the Observatory recognises how many others are working in the area and provides links to key references and linked articles.

The cross-country analysis tool responds to real decision-makers and new snapshots are developed as policy and practice in countries evolves, assessing the ways countries are responding and setting their policy initiatives in context. The initial snapshots have been expanded and updated for this special issue of Eurohealth. The articles that follow offer more in-depth reflections on what Europe has learned so far from COVID-19.

HSRM reflections on the first wave can help inform responses to the second wave

New challenges are emerging but reviewing experience to date will stand countries in good stead as they ready themselves for winter.

Preventing transmission, for example, is again at the forefront of thinking. The snapshots developed as lockdown restrictions were first eased, give some

useful insights for the next wave. The notion that progress (in testing, contact tracing, and isolating) is fraught with complexity is captured by the ‘snakes and ladders’ analogy used by Rajan and colleagues. They show that policy makers taking steps forward – implementing public health measures and enhancing capacity (climbing the ladders) – must also proactively guard against the bottlenecks and setbacks (avoiding the snakes) that can so rapidly undo the progress made. The way over 30 countries have chosen to manage the ‘find, test, trace, isolate, support’ process has been mapped by Hernández-Quevedo et al. They drill down into contact tracing and identify whether it is being led by one national agency or at a more local level as well as flagging where contact tracing apps are being used. It is too early to draw conclusions about how the different levels of success across countries relates to their different approaches, but decision-makers are looking across at countries like their own in considering their options. In the same way policy makers are interested in how their mortality rates compare with others. Karanikolos and McKee consider differences in mortality recording across Europe and over time, to help countries assess whether the data are meaningful for them and explore whether counting COVID-related mortality or alternative metrics, such as excess deaths, is a more appropriate tool for country comparisons.

Initiatives on health workforce are captured in articles drawn from the **infrastructure and workforce capacity** section of HSRM and of this Eurohealth. Williams and colleagues report on how 45 countries have sought to increase the surge capacity and flexibility of health professionals so that they can sustain the COVID-19 response. They look at the immense challenges of looking after severely ill COVID patients while meeting requirements for personal protection, social distancing and lockdown. A further article describes in detail the range of interventions – from provision of childcare, free accommodation, transport or parking to financial rewards, as well as the support for mental health and wellbeing – which will all be applicable again as cases continue to rise.

There are also abiding lessons on **providing health services** including on how to effectively adopt a dual track system that manages the COVID-19 response in parallel to the delivery of essential and routine health services. Jakab et al. look at the health system enablers needed to ensure a well-resourced and functioning system. Webb and colleagues explain how hospital services have been restarted as lockdowns were eased, so that patients can access non-urgent treatment. They flag lessons on adapting ways of working to limit the spread of infection while Richardson et al. explain how some countries have kept services going by offering remote consultations. The uptake of teleconsultations has not just increased but appears to have established that this is an important delivery mode going forwards. There are also clearly, lessons for the future to be derived from the suffering in long-term care settings and Langins et al. identify the measures taken to protect care homes and the opportunities to strengthen systems and protect vulnerable people.

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recording policy
makers’ choices
as the situation
evolves

There is a dynamic relationship between service provision and **paying for services** but many (unsalaried) health professionals lost income in the early stages of the pandemic (with decreased demand). Waitzberg and colleagues show how countries have compensated providers through special health sector measures or through general support for the self-employed and have encouraged tele/e-health solutions to mitigate shortfalls. Payment for hospital inpatient services has also been disrupted and Quentin and colleagues detail how countries have tried to cover the costs of COVID-19 and/or compensate for revenue shortfalls. They capture entirely new payments (in the form of fees, per diems or cash advances)

as well as a mix of modifications to current payment systems all of which may prove useful to other policy makers trying to protect their health institutions from financial collapse.

The **governance** aspects of all the above are captured in the platform but this Eurohealth focuses in particular on the leadership and governance dimensions around managing lockdown and reopening economies. The resonances of this are more than evident. Hardman et al. flag the different demands of transitioning between stages including the data and indicators for decision-making, involving key stakeholders, and communicating decisions, not least the communications strategies for explaining guidance to populations. They find that pinpointing the level of decision-making, whether centralised or decentralised, and understanding intersectoral collaboration, helps explain the different way countries have responded. As countries across Europe impose new local lockdowns to protect populations, there are a range of lessons from past practice.

Finally an article from Greer addresses perhaps the ‘final’ challenge of the COVID-crisis – developing and ensuring access to a vaccine. It looks at European and global solidarity in vaccine development and suggests that even when a safe and effective vaccine has been developed, challenges will continue with risks of vaccine hesitancy and public backlash.

HSRM tracking of country responses will help policy makers to continue learning

In advance of any vaccine many European countries face increases in infections and hospital admissions. Their experience so far and the lessons generated will be important in informing responses.

It is just as important to go on recording policy makers’ choices as the situation evolves. HSRM will monitor how they tackle transmission, the provision of COVID care and essential services and will capture their strategies to protect workforce, providers and people over the coming months. It will support WHO,

the EC and countries with evidence and country trends whether on expanded testing, contact tracing, localised outbreaks in workplace settings, digital health or resilience.

The platform matters because health systems decision-making is better when it has the evidence to draw on. It also matters that countries acknowledge that they have much to learn from each other. Sharing information and experience reinforces European solidarity and reminds us all of the value of a region wide response to a truly global challenge.

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Table 1: HSRM guides users through the evidence so they can review their own situation and garner insights from other countries

Section	Core information	Sub-sections	Aims
Preventing transmission	<ul style="list-style-type: none"> • Key public health measures • Measures in place to test and identify cases, trace contacts, and monitor the scale of the outbreak 	<ul style="list-style-type: none"> • Health communication • Physical distancing • Isolation and quarantine • Monitoring and surveillance • Testing 	To share how countries are preventing the spread of the disease including by offering details of how they are advising the general public and people who (might) have the disease.
Ensuring sufficient physical infrastructure and workforce capacity	<ul style="list-style-type: none"> • Physical infrastructure • Measures to address shortages • Steps to maintain or enhance workforce capacity • Workforce skill-mix and responsibilities • Training and HR initiatives 	<ul style="list-style-type: none"> • Physical infrastructure • Workforce 	To detail the practices developed in countries to fill infrastructure gaps and they ways they are trying to protect and support health workers.
Providing health services effectively	<ul style="list-style-type: none"> • Planning and patient pathways for COVID-19 cases • Maintaining essential services 	<ul style="list-style-type: none"> • Planning services • Managing cases • Maintaining essential services 	To explain approaches to service delivery and explore how countries are balancing COVID and non-COVID care.
Paying for services	<ul style="list-style-type: none"> • How countries are paying for COVID-19 services 	<ul style="list-style-type: none"> • Health financing • Entitlement and coverage 	To explore the different challenges of paying for care in insurance, tax-based and mixed systems.
Governance	<ul style="list-style-type: none"> • Pandemic response plans • Steering of the health system • Emergency response mechanisms • Regulation of health service provision to affected patients 	—	To understand how governance seeks to ensure the continued functioning of health systems and how information is being communicated to that end.
Measures in other sectors	<ul style="list-style-type: none"> • Actions taken and advice provided in sectors beyond the health system 	<ul style="list-style-type: none"> • Border restrictions • Transport advice • The economy • State aid • Civil protection • Cross-border collaboration 	To set health system responses in the wider policy environment.

Source: Authors' own

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COVID-19: REFLECTING ON EXPERIENCE AND ANTICIPATING THE NEXT STEPS

A perspective from the WHO Regional Office for Europe

By: Hans Henri P. Kluge, Dorit Nitzan and Natasha Azzopardi-Muscat

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Nine months into the COVID-19 pandemic, devastation and disruption across much of the European Region continues unabated. A sharp and sustained increase in cases is forcing governments to navigate complex response tactics as they seek to control disease transmission, while also seeking to avoid the negative consequences associated with lockdowns.

At this juncture we are dealing both with the aftermath of the initial stages of the pandemic while grappling with a growing and concerning surge in cases, all the while in the midst of a looming economic recession. The WHO Regional Office for Europe has been working on the ground within countries to support policy makers and health authorities to increase response effectiveness, save lives and protect livelihoods, while also strengthening health systems to improve their preparedness for the challenges that lie ahead. At the Regional level, we have tried to synthesise the lessons learned and build policy considerations to support countries as they move along the various scenarios of the pandemic. This is in spite of the rapidly evolving situation and the emergent, incomplete scientific knowledge, which are both hallmarks of navigating in uncharted and uncertain territory. The COVID-19

Health Systems Response Monitor which was established at the request of the WHO Regional Office for Europe in the early days of the pandemic, has provided invaluable experience in a timely fashion. This has allowed policy considerations and technical/operational guidance to be developed in a rapid response manner.

In our view, there are three key lessons that should form the foundation of the evolving COVID-19 response and long-term recovery efforts:

1. Even the best health systems were not sufficiently prepared: building resilient health systems
2. There is not a competition between health and the economy: moving towards an economy of well-being
3. We will only get out of this if we work together: solidarity, innovation and a multisectoral response.

Resilient health systems

COVID-19 has ‘unmasked’ critical health system gaps and deficiencies. Health workforce shortages, broken supply chains, fragmented services and silo information systems are a few of the problems that hindered the response in the early days. The pandemic has

forced our health systems to adjust with unprecedented speed. Central to these efforts was our health workforce. We must first and foremost prioritise their well-being including providing adequate mental, physical and financial support, and continuous training and education. If we do not care for them, we will have no health system to depend on.

Health care systems need to operate a dual track service delivery. Disruption to essential health services in the European Region is having a significant impact in terms of delayed (missed) preventive measures, like vaccination and diagnoses and lack of services provision. The duration of the pandemic is storing up health problems for the future both as a result of pent up demand as well as due to increased diseases, e.g. mental illness. Primary health care services are instrumental in enabling this dual track response where routine health services need to be provided in parallel to services focused on the pandemic response as well as providing aftercare to those persons who are suffering from the ‘long COVID’ syndrome. Public health services need to be better equipped and capable of timely detect, isolate, test, trace and quarantine.

For us to enable health systems to respond in the way we need, we must also take advantage of alternative service delivery platforms. The new frontier of digital and remote services should be scaled up to reduce barriers to seeking care and complement the efforts of the scarce human resources for health.

As we explore new frontiers, we must also double down on responding to persistent challenges that have been exacerbated by the crisis. We need greater investment in mental health care, care for older people, and a renewed commitment to immunisation programmes including efforts to tackle vaccine hesitancy.

“Investing in health and preparedness yield above and beyond the input

Overall, the pandemic has only strengthened for us what we already knew, which is that health systems are central to the well-being of people and their communities. For these systems to be resilient to shocks they must have strong governance structures driven by adequate and effective leadership that engages with the communities, listens and adjusts to their needs. These structures will support health system preparedness in the face of rapidly changing scenarios and population needs.

The need for an economy of well-being

The COVID-19 pandemic has illustrated the futility of the debate between life and livelihood; without health, there can be no economy or social cohesion. Health is an important determinant for development, and yet investment decisions that are concerned with health system strengthening have been considered as a cost and a burden on society. However, the

pandemic has shown us once again that investing in health and preparedness yield above and beyond the input. Investing in the economy of well-being would help reduce lives lost, morbidity and stress among the population as well as promote economic growth. The COVID-19 pandemic has also illustrated the impact of political decision-making on health services in a way that is immediate and highly visible.

It is patently clear that keeping COVID-19 under control is necessary for a solid and sustained economic recovery. The mantra, there is no wealth without health, has been amply demonstrated in a harsh way.

Here it is important to learn lessons from the financial and economic crisis of the previous decade. In order to avoid accentuating catastrophic expenditure on health, it will be necessary to find ways to sustain health spending within a situation where fiscal space is limited. Cognisant of the necessity to think up solutions that may be well outside of the tried and tested ground, WHO Regional Office for Europe has set up the **Pan European Commission on Health and Sustainable development** chaired by Mario Monti. This Commission has the remit to:

- **Rethink policy priorities** in the light of pandemics drawing lessons from the ways in which different countries' health systems have responded to the COVID-19 pandemic
- Make **recommendations on investments and reforms** to improve the **resilience and further integration** of health and social care systems
- **Build consensus** on these recommendations and bringing them to the attention of **the highest political level** within the government
- Make health and social care as **political priorities in governments' political and fiscal agendas**.

New approaches to persistent and growing challenges

COVID-19 has shown us that we need an integrated, cross-sectoral approach if we are going to achieve the structural change needed to protect communities.

It is vital that we continue to explore all possible response mechanisms, particularly ones that bring together sectors and technical expertise to help us move beyond the biomedical (including through behavioural insights) to build health system resilience while also tackling persistent inequalities in our communities.

Frameworks for the future

To facilitate the utilisation of lessons learned so far from COVID-19, WHO Europe has developed several frameworks and tools:

1. An evolving lessons learned catalogue: [1](#) Although it is too soon for a comprehensive and critical evaluation this document provides a starting point for regional discussions on how to improve preparedness for and response to future events, and “build back better.”
2. Transition Framework: [2](#) key considerations for Member States to help them to decide on the modulation of large-scale restrictive public health measures, while at the same time strengthening core public health service capacities together with personal protective measures.
3. Framework for the reopening of schools: [3](#) guidance to ensure the safety and well-being of children, their families and communities as schools are reopened. The framework is guided by the best interests of the child and overall public health considerations, informed by cross-sectoral and context-specific evidence.
4. A framework for responding to pandemic fatigue: [4](#) key considerations for the planning and implementation of national and subnational strategies to maintain and reinvigorate public support to prevent COVID-19.

We are at a pivotal point in the biggest public health crisis of our lifetimes

There is an opportunity to take the set of lessons that had to be learned with unprecedented speed and reduce the burden this pandemic continues to have on communities. Responses must be nuanced to meet the specific needs of every

population group from older people in care homes to young people at universities and in schools. Targeted responses must also be designed to cope with the new challenges brought by the winter months. Policy considerations to prepare for an autumn/winter season where COVID-19, influenza and influenza-like respiratory illnesses coincide have been prepared.⁵

Going forward we must examine the impact of COVID-19 on our ability to make significant progress towards the Sustainable Development Goals. Whilst it is clear that progress will be hindered as a result of this pandemic, setbacks should only serve to sharpen our appetites to achieve our ambitions.

A multi-sectoral approach is paramount, but the true way through this crisis is through bridging the divide between policy makers and the public. Solutions need to be created together, the input of communities needs to rapidly be elevated.

Despite its hardships, COVID-19 is offering an opportunity to rapidly create societal and policy changes on scale that has not been done before. Necessity, courage, innovation and collaboration are the attributes needed to see us through.

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EUROPEAN SOLIDARITY DURING THE COVID-19 CRISIS

A perspective from the European Commission

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The pandemic shows how closely health is linked to the economy, employment and wider issues. The EU works across all these areas and has tried to respond accordingly

In just a few months, COVID-19 has fundamentally changed our world. It has triggered a public health, economic, and social crisis on an unprecedented scale. 6.3 million Europeans have been diagnosed with the virus, more than 200,000 have lost their lives and no country has been spared.

At the onset of the crisis, countries rushed to protect their citizens. Vital medicines and medical equipment ran short and supply chains broke down. The pandemic also demonstrated the huge impact health has on European life in its widest sense and on national economies. It took time and immense multilevel efforts for European countries to begin to support each other and work together. The European Union (EU) has been an important part of rebuilding this solidarity which is so critical to Europe's response.

The EU mobilised all means at its disposal to help Member States (MS) tackle the pandemic and mitigate the socio-economic impact. It has implemented measures to support employment, businesses and society. In the specific area of health, it is helping strengthen national health system responses, in collaboration with the

European Centre for Disease prevention and Control (ECDC) and the European Medicines Agency (EMA) through close coordination and cooperation with MS, through the Health Security Committee and other coordination bodies.

The European Commission (EC) works in close coordination among all different services to align health and other perspectives: testing and distancing measures are a case in point

As cases again increase rapidly, MS are taking steps to scale-up national test and trace capabilities – measures that are pivotal to reducing the spread of COVID-19. They are also re-implementing stringent non-pharmaceutical interventions (physical distancing, mask wearing, hand hygiene, limiting social contacts) and revisiting travel restrictions.

The Commission has agreed a **Recommendation on COVID-19 testing strategies**,^[1] including the use of rapid antigen tests, that sets out key considerations for national, regional or local testing strategies including scope, priority groups, and issues around testing capacity and resources. The EC is also seeking to support improved **contact tracing**, working with MS to ensure the tracing apps being launched by several EU countries are interoperable on a cross border level. National apps

developed in Germany, Ireland and Italy are the first to be linked through the European interoperability gateway. Contact tracing is also facilitated by the Early Warning and Response System, which enables direct communication between MS and relevant EC services.

The Commission is also working with MS and across Directorates to arrest the increase in local transmission and sub-optimal adherence to the non-pharmaceutical measures. Its July Communication on Early Detection, Rapid Response & Protection of Vulnerable Groups,^[2] aimed to address the risk of new waves of the disease. On 24 September, the ECDC published further guidance reinforcing these essential measures.^[3]

No one in the Commission has any doubt – these measures are disruptive to the general well-being of people, the functioning of society, and the economy. They are being encouraged nevertheless as key to halting further widespread transmission and more, generalised lockdowns.

The EU has also worked with MS and other European agencies to facilitate a coordinated approach to travel measures by developing a common framework for mapping COVID-19 risk across countries (**see Box 1**).

The EC is also leveraging its ties to other European agencies to accelerate work on new treatments and therapeutics

The EC has worked very closely with the ECDC and the EMA to ensure a coordinated response across Europe and to accelerate work on new treatments and therapeutics for COVID-19. Together they seek to tackle bottlenecks, to better anticipate future shortages, and to assist in adapting of production.

In response to national lockdowns, the EC exploited pre-existing Trans-European Transport Network crossings to introduce “Green lanes”. These facilitate the uninterrupted flow of goods across borders. The Commission has also worked with non-European countries to address export bans and to ensure the continued supply of vital pharmaceuticals.

No specific treatment for COVID-19 exists yet and the development of anti-viral treatments is typically lengthy and complex. The EMA and EC have put mechanisms in place to support the rapid development, assessment and authorisation of new medicines and vaccines. These accelerate the mandatory steps that determine whether and how fast one can move forward, while making sure that efficacy and safety is assessed using sufficiently robust data.

The Commission is also fostering the exploration of different approaches to therapeutics, such as repurposing existing, approved medicinal products; using antibody-rich blood plasma; and developing completely novel treatments. EMA has also provided scientific advice for more than 40 developers of potential treatments. Once new therapies have been established, the next challenges will be manufacturing capacity, production and large-scale procurement.

The EC has used its position to foster joint procurement initiatives which have proved vital in enabling MS to access Personal Protective Equipment, ventilators and laboratory supplies

The March 2020 peak in the pandemic saw a massive surge in demand for medical supplies and vital equipment and shortages

Box 1: Travel is just one area where the EU has used its position to support cross-sectoral efforts

Sector specific containment measures have been implemented, including in transport. At the beginning of the outbreak, most countries restricted travel and in some cases closed borders. As travel in the EU restarted, the Commission and relevant agencies have offered technical guidance..

- **Aviation Health Safety Protocol:** The European Aviation Safety Agency and the ECDC worked together on the production of measures that can be implemented by airlines and airports to protect passengers and crew. Similar guidance has been produced for other sectors.
- **Lifting travel restrictions:** MS discuss constantly, at the Council level, the epidemiological indicators and update the list of third countries for which travel restrictions should be lifted.
- **The Council Recommendation** adopted by Ministers on 13 October established common criteria and a common framework on travel measures in response to COVID-19. This is a step towards a more coordinated, predictable and transparent MS approach to travel restrictions. It is crucial to safely rebuilding the EU economy and creating the clarity and predictability needed for the smooth functioning of the internal market, while protecting citizens' health.

across Europe. This was a major area of concern for the European Council* which tasked the Commission with providing an overview of stocks, production and imports and accelerating efforts to ensure medical equipment was available. A number of initiatives have been launched in response.

The Commission established the rescEU medical equipment reserve. The reserve is hosted by several MS (currently Denmark, Germany, Greece, Hungary, Romania and Sweden) which are responsible for procuring and stockpiling common European stocks of vital medical equipment for distribution during emergencies. The initiative, including transport and storage, is financed by the EC, with the distribution of equipment organised by the Emergency Response Coordination Centre.

The EC plays a coordinating role in terms of Joint Procurement initiatives, launching Joint Procurement procedures for Medical Countermeasures including for masks, gloves and gowns, as well as for laboratory equipment and ventilators, and intensive care unit (ICU) medicines and remdesivir. These initiatives have proved successful, with 36 countries participating

so far and four framework contracts in place, allowing MS to place orders and purchase goods.

There is also the Emergency Support Instrument (ESI) – a financing instrument, which the EC has used to buy 10 million masks for health care workers, 34 000 courses of remdesivir, rapid tests and disinfection robots. The ESI has also enabled transport of medical supplies, patients and medical teams – as well as covering training for health professionals on intensive care skills, increase in MS testing capacities.

The ESI has also been used to ensure the production and supply of vaccines in the EU. In August, a first agreement was reached with the pharmaceutical company AstraZeneca to purchase 300 million doses of a potential coronavirus vaccine (with the option for 100 million more), with provision to donate or re-direct vaccines to other European or low and middle-income countries. Two more agreements with Sanofi-GSK and Johnson and Johnson were signed in September and October. In addition, the Commission confirmed its participation in the COVAX Facility contributing €400 million to support equitable access to affordable COVID-19 vaccines everywhere, for everyone who needs them. The EU's

* Video conference of the members of the European Council: [10 March 2020](#), [17 March 2020](#) and [26 March 2020](#).

work in the area of COVID-19 vaccines is explored further in the article by Greer, later in this issue.

The Commission has established a Clearing House for medical equipment to facilitate timely availability of medical supplies

In addition to the efforts above, the Commission has set up a COVID Clearing House for medical equipment (see Table 1). It gathers information on supply and monitors how supply matches demand from MS. The Clearing House serves as a platform for MS dialogue and information sharing and is a means to overcome shortages and build capacity, complementing EC work on joint procurement and stockpiling of medical equipment via rescEU.

It works closely with national authorities across the EU, the European Economic Area (EEA), Switzerland and the United Kingdom. It also encourages continuous dialogue with manufacturers and other stakeholders both at the level of industry associations and individual companies. This exchange of information is essential for a better understanding of the challenges faced by industry; to monitoring potential shortages of medical equipment; and to facilitate the matching of supply and demand. The Clearing House has provided legal, technical and regulatory support to industry, especially to new actors with no previous exposure to such a regulated area and has helped manage technical and regulatory obstacles and potential bottlenecks.

The Clearing House also monitors imports, export restrictions put in place by third countries, production capacity, and supply chains, including transport and logistics bottlenecks.

An ambitious new EU4Health programme has been proposed to respond to COVID-19 and help build resilient and sustainable health systems

The Commission proposed the EU4Health Programme (2021–2027) as part of an ambitious package in May. This new, stand-alone Health Programme responds

Table 1: The Clearing House: mission, clusters and key EC collaborators

The Clearing house aims to:
<ul style="list-style-type: none"> • Give an overview of MS essential needs for medical equipment • Facilitate the matching of supply and demand for medical equipment at EU level • Support MS, companies and other stakeholders in managing information flows and possible blocks to the supply chain • Help provide information on the Emergency Support Instrument selection actions and their implications • Contribute to Commission thinking on possible revision in Export Authorisation Regulations • Encourage the exchange of best practices among MS
It has 5 product-related clusters:
<ol style="list-style-type: none"> 1. Personal protective equipment (PPE) 2. Medical devices (including ventilators) 3. Other hospital supplies 4. Tests 5. Medicines (including ICU therapeutics and vaccines)
It brings together expertise and those fighting COVID-19 from across the EC:
<ul style="list-style-type: none"> • SANTE • GROW • JRC • TRADE • ECHO

to calls from EU citizens to have a more active role in health. It was intended to address the COVID-19 pandemic and its economic consequences, to tackle many of the challenges the pandemic uncovered and to be future-proof. Negotiations with the Council and the Parliament are ongoing. Key initiatives are on:

- Health crisis readiness and cross-border threats
- Cancer
- Health systems strengthening, including health workforce training
- A European Health Data Space and digital improvements, and
- European Reference Networks

In addition to developing the EU4Health Programme, the European Council took bold action in July, reaching a landmark political agreement on a €1.82 trillion package for a sustainable and green recovery. The Next Generation EU and the Multiannual Financial Framework will address the dramatic costs of the pandemic, whilst making Europe greener, more digital and more resilient. The package includes €672.5 billion for the **Recovery and Resilience Facility** that

will allow MS to mitigate the economic and social impact of the crisis and frontload reforms and investment around employment policies, skills development and social inclusion. It also has €47.5 billion for 2020/21 under **REACT-EU** which can support youth employment and social cohesion.

The EU will continue to promote solidarity and unity across MS and beyond to meet the challenges posed by COVID-19 and to future-proof our health systems

Epidemiological trends are worrying and there is already tangible evidence of infection rates spiralling out of control. EC actions so far have increased short term preparedness,² but many challenges remain including the threat of a double epidemic (“twindemic”) of COVID-19 and influenza which would challenge health care providers even further. The EC is encouraging risk reduction including through promoting seasonal flu vaccination and is of course working for cooperation on potential COVID-19 vaccinations.

It is also using the crisis to learn more widely and to lever attention to improve crisis preparedness and to manage cross-border threats more effectively at both EU and MS level. The EU will continue to address the pandemic with extreme care and responsibility, with a view to:

- **Making sure health is a central part of Europe's path to recovery:** The forward-looking EU4Health programme is a clear signal that the health of EU citizens is a priority. It reflects aspirations for a real step forward in how the EU deals with health. The Commission has the potential to help MS make their health systems more resilient so that high-quality health care is available to all.
- **Future proofing health systems and programmes and making the recovery agenda health-proof:** The EC will propose a stronger health threats framework and strive to reinforce and empower the EMA and ECDC – Europe's centre for disease prevention and control – so that the EU is prepared for new health threats.
- **Promoting unity amongst citizens, MS and across agencies:** Continuing engagement and communication with citizens is ever more important as “isolation fatigue” threatens adherence to containment measures. People's behaviour remains key in controlling the pandemic and the EC will endeavour to foster a sense of mutual commitment and unity. It will also work with MS to foster collective and collaborative responses. It will also align its Directorates and agencies and continue to work with the World Health Organization because the fragmentation of efforts makes all of Europe more vulnerable.

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COVID-19 AND HEALTH SYSTEMS RESILIENCE: LESSONS GOING FORWARDS

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Summary: From the early days of the pandemic policy analysts have been trying to understand what constitutes a resilient health systems response. This article takes stock of the national responses over the past ten months and distils strategies and general lessons for enhancing health systems resilience. Among health systems functions, effective governance, while not easy to pinpoint or secure, has been key to a resilient response, constituting a mortar binding everything else together. The pandemic has also highlighted the importance of solidarity, both within and between countries – bringing us to a realisation that we cannot be truly safe until everybody is safe. Over the course of the pandemic, the focus in studying resilience has broadened towards a more holistic recovery that extends beyond the health system.

Keywords: *Health Systems Resilience, Preparedness, COVID-19*

Introduction

On 23 January, the Chinese government imposed a lockdown on the city of Wuhan and other cities in Hubei province in an unprecedented effort to halt the spread of COVID-19. By the time the World Health Organization (WHO) declared the novel coronavirus outbreak a pandemic on 11 March, Italy was already in a national lockdown and many more countries in Europe and beyond quickly followed suit, imposing wide ranging measures to break the transmission of infection. These have been termed non-pharmaceutical interventions (NPIs).

Six months later, the accumulating social, economic and health consequences of prolonged lockdowns have compelled governments to find ways in which they can release some of the restrictions without allowing infections to resume their initial exponential growth. And so, we have been learning to live with the virus as initial public health measures have been relaxed, and countries try to contain the virus with NPIs that are sustainable, watching the movements of the epidemic curve and implementing matching responses to tackle any outbreaks. At the same time, countries have been trying to restore health services for those with non-COVID-19 related conditions as

well as preventive services (including vaccinations) that, in many countries, have been severely affected.

While we wait for an effective vaccine (or cure) to become widely available, policy analysts have been trying to draw lessons from national responses so far, identifying those that appear to have been the most effective, and in what circumstances, at containing transmission and allowing socioeconomic activity to recover as much as possible.¹

“
governance is
key to a resilient
response

This article and the accompanying European Observatory on Health Systems and Policies' policy brief on COVID-19 and resilience contributes to these efforts by seeking to understand the characteristics of responses that can enhance resilience of health systems in the face of the coronavirus pandemic. In doing so, we draw heavily on our conceptual policy brief on resilience 'Strengthening health systems resilience: Key concepts and strategies'² and the evidence collected through the [COVID-19 Health Systems Response Monitor](#) (HSRM).

What do we mean by health systems *resilience*?

Resilience is commonly understood to be the capacity to recover quickly from a shock or, in reference to materials, the ability of an object to bounce back into shape (elasticity). This concept has been applied in many different fields and, especially over the past 20 years, in relation to major societal shocks, including those causing health emergencies.

Most definitions of health systems resilience in the literature focus on health system preparedness and the ability to respond to a severe and acute shock. Efforts to understand resilience looked at how the system can absorb,

adapt, and transform to cope with new circumstances. However, as the literature on health systems resilience has evolved, definitions have expanded to also consider how to minimise exposure to shocks (i.e. managing risks) and to identify measures that address more predictable and enduring system strains or stresses, such as population ageing.

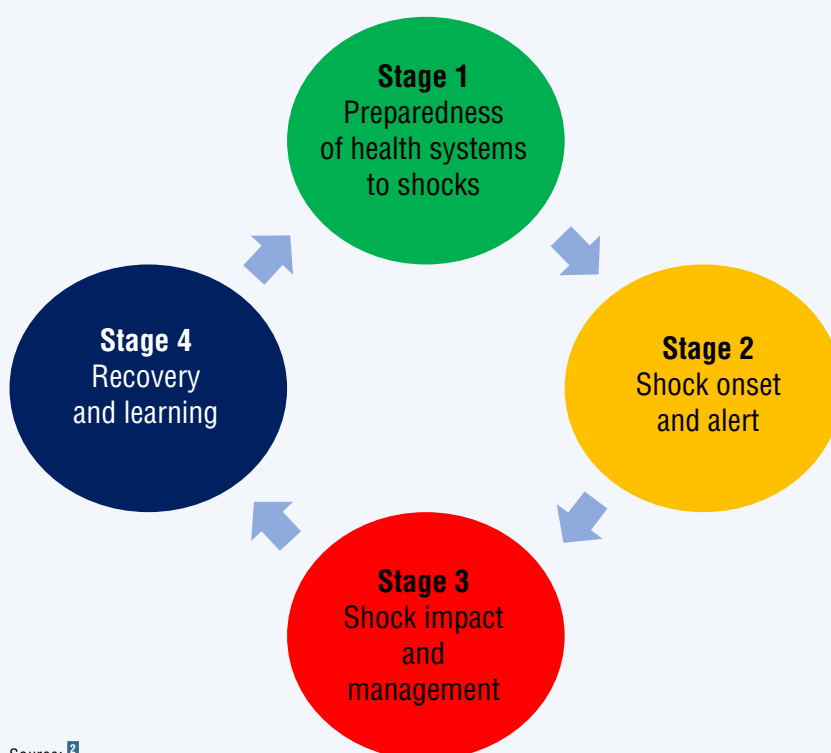
For this work, we have adopted a narrower definition, defining health system

resilience as **the health system's ability to prepare, manage (absorb, adapt and transform) and learn from shocks**, whereby we understand **shocks to be sudden and extreme disturbances**, such as epidemics, natural and other disasters, and financial crises. We think of a shock in a dynamic way – a cycle that consists of four stages (see **Box 1**), with interlinkages between the recovery from a shock and preparedness for the *next* shock cycle, as we go through the loop again. Following

Box 1: Understanding the four stages of the shock cycle

The response to a shock can be seen as a cycle consisting of the following four stages:

- **Stage 1 Preparedness** is related to how vulnerable a system is to various disturbances (limiting exposure) and how ready it is for when a shock hits (e.g. by having practiced and resourced systems of response).
- In **Stage 2 Shock onset and alert**, the focus is on timely identification of the onset and type of the shock.
- During **Stage 3 Shock impact and management** the system absorbs the shock and, where necessary, adapts and transforms to ensure that health system goals are still achieved.
- Finally, in **Stage 4 Recovery and learning** there is a return to some kind of normality but there may still be changes as a legacy of the shock. In this stage, it is important to recognise what these legacy components are and how they will continue to impact on the system and on its performance.



this definition, and from the perspective of health system performance, resilience goes beyond how a system bounces back to what it was before, but also addresses its ability to transform and evolve – ideally into something better, i.e. how it improves its performance. It has to be noted here that an experience of a shock is not a necessary precondition for a health system to be judged as resilient: a resilient health system may be one that is *prepared* for the occurrence of a shock, but this shock may not necessarily happen.

Identifying key strategies for enhancing resilience: what have we learned from responses to the pandemic so far?

Based on country experiences so far, we have distilled a list of responses to the pandemic that enhance health system resilience. These strategies and the associated examples of best practice will be described in detail in the forthcoming policy brief. **Table 1** gives a first look at the key strategies and their elements, grouping them according to the relevant health system function: governance, financing, resources and service delivery. However, we recognise that such distinctions are not clear-cut and there are inevitable overlaps.

General lessons emerging from the national responses to the pandemic

Governance is key to a resilient response, but it is not something that is easy to achieve

The key aspects of resilient responses to COVID-19 are (simplistically) twofold: 1) having appropriate and effective governance and 2) having technical capacity to respond. Of the two, governance dominates and is the *necessary* condition for any effective response. Given the complexity of the COVID-19 shock and the complexity of the response it necessitates, we mean here governance in the broader sense, i.e. going beyond the governance of the health system alone. While undeniably important, technical capacity has proven not to be enough, which became apparent from the poor performance of countries that topped the global health security

index*. Countries with much less technical capacity, but with leaders who listened to the science and acted fast, have been much more successful in containing the virus and saving lives. Governance has also been identified as ‘the mortar that binds all other components together’, rather than a standalone function. It creates *trust* in the system. As such, it enables the other functions to work properly and contributes to the strengthening of the system as a whole.⁸

Some of the worst hit countries were those that had populist leaders, where there was a difficult political environment, where there was state-sponsored disinformation or where there was secrecy and censorship such as silencing of scientific and medical professionals.⁹ Going forward, there will be no easy or quick fixes to these problems and there may be no way, at least in the short term, to avoid poor leadership. Given the risk that will be posed to others by countries that fail to combat the pandemic, there is likely to be a debate about the role of the international community, perhaps drawing on existing principles of humanitarian intervention or the Responsibility to Protect. This has led to calls to rethink the role of WHO, including its organisation and financing.⁸ But there are things that we can do more easily to strengthen governance now. For example, within the health system, coordination channels could be put in place and plans drawn (and kept up to date) to ensure an effective response. Beyond the health systems, meaningful relationships between communities and providers should be nurtured to ensure sustainable and inclusive participation.⁸

A chain is as strong as its weakest link, i.e. leave no one and no country behind

The pandemic has exposed national differences in vulnerability to COVID-19, with the most disadvantaged groups bearing the greatest health, social, and economic burden. Vulnerable population groups, such as workers without access to paid sick leave or in facilities with poor working conditions (e.g. slaughterhouses and meat-packing plants (now seen as

essential workers), garment factories, agricultural workers, etc.), homeless people, people in institutions (e.g. in care homes or prisons, migrants in reception centres, etc.), were at higher risk of infection.¹⁰ Population groups with higher prevalence of non-communicable diseases (NCDs) (which are socioeconomically patterned) have had higher hospitalisation and death rates.¹¹ Countries with strong social safety nets, such as in Scandinavia, have generally fared better. The pandemic has shown that we are not safe until *everybody* is safe.

Although the pandemic has shown that some degree of self-sufficiency is desirable, e.g. having national stocks of medical supplies and production capacity, ultimately, countries need to cooperate to ensure resilience in the face of global shocks such as COVID-19. European Union (EU) Member States have benefited from common surveillance systems, joint procurement initiatives, and targeted funding, among others. We can all benefit from better global surveillance and notification systems; more cooperation in procurement; stronger cooperation in medical research (for example vaccine development and treatment, including ensuring that as many patients as possible are entered into clinical trials coordinated across Europe); sharing best practice (with European professional societies and the WHO having a role); and better global governance. A resilient response thus means ‘leaving no country behind’ and ensuring that vulnerable and worst hit countries get the support they need. No country is safe until all countries are safe.

Conclusions

From the onset of the pandemic, policy analysts have been trying to understand how a country develops resilience.¹² The focus of these efforts has evolved over time from how to best manage the pandemic in the short to medium term to what constitutes a resilient response in the longer term, in line with the notion of ‘building back better’ so that we emerge from the pandemic stronger and better prepared in future.¹³ The notion of a resilient recovery underpins many national and international recovery plans

* The global health security index (<https://www.ghsindex.org/>) gives a sense of countries' technical capacity to fight health threats such as pandemics.

Table 1: Resilient strategies in response to the COVID-19 pandemic and relevant elements

Strategy	Elements
Governance	
(1) Adequate and effective leadership	Having a clear vision; Reliance on best available evidence but adopting the precautionary principle where evidence is uncertain; Culture of learning; Ability to act fast; Effective and transparent communication (esp. about uncertainty); Community participation; Participation in the international community (e.g. joint procurement, clinical networks, etc.)
(2) Effective coordination	Presence of a clear and widely understood strategy; Coordination within government (horizontal and vertical); Coordination between the government and key stakeholders including civil society; Measures taken at the appropriate organisational tier, balancing local knowledge with economies of scale; Coordination with international partners and supranational bodies
(3) Effective communication systems and flows	Having (or establishing) well-functioning communication channels linked to lines of accountability, incl. hard and soft infrastructure
(4) Surveillance enabling timely detection of shocks and their impact	Having effective and well-integrated surveillance systems (see under 'Resources' below); Surveillance systems that follow a 'one health' approach and generate timely and accurate data
Financing	
(5) Ensuring sufficient monetary resources in the system and flexibility to reallocate and inject extra funds into the system	Ability to increase and deploy monetary resources quickly and where needed, subject to safeguards to prevent fraud and corruption
(6) Purchasing flexibility and reallocation of funding within the system to meet changing needs	Ability to quickly adapt procurement and payment systems while maintaining transparency, timeliness, and quality, including measures to prevent corruption ⁴
(7) Comprehensive health coverage with effective access	Having a comprehensive and evidence-based package of services that is properly resourced, organised and distributed; Monitoring changes in access to services and eliminating financial and other (e.g. technological, physical) barriers to access; Identifying vulnerable population groups (ensuring that appropriate data are collected) ⁴ and ensuring adequate access to services
Resources	
(8) Appropriate level and distribution of human and physical resources	Having strong (or strengthening) public health capacity (with a system to Find, Test, Trace, Isolate, and Support ⁵); Having strong (or strengthening) primary health care (key role in maintaining non-COVID essential services to populations); Ensuring adequate hospital capacity, including intensive care units and step down facilities (and contingency plans to increase them); Ensuring sufficient supply of personal protective equipment
(9) Motivated and well-supported workforce	Ensuring mental health (e.g. psychological counselling), family (e.g. childcare), physical (e.g. respite breaks) and financial support for health care workers
(10) Ability to quickly increase capacity to cope with a sudden surge in demand	Ability to increase physical capacity if needed (e.g. via repurposing of wards, reallocating patients to lower levels of care (as appropriate), developing new wards or hospitals, using all available capacity irrespective of ownership, etc.); Ability to mobilise additional human resources including via training of existing workforce or adapting their roles, recruiting and training volunteers (e.g. to take samples)
Service delivery	
(11) Alternative and flexible approaches to deliver care	Flexibility to implement new care pathways across the health systems and within facilities; Using digital technologies to deliver health services safely; Ensuring support systems for vulnerable people especially those in isolation
(12) Ability to deliver services safely	Mechanisms in place to ensure effective implementation of infection prevention and control in health care settings
(13) Ability to share best practice	Two-way sharing of best practice: from policymakers to clinicians and from clinicians to policymakers

Source: Authors drawing on the COVID-19 resilience policy brief (forthcoming) to be published at:
<https://www.euro.who.int/en/about-us/partners/observatory/publications/policy-briefs-and-summaries>

and instruments (e.g. the Recovery and Resilience Facility, REACT-EU and other EU instruments),¹⁴ and is being investigated through undertakings such as the Lancet COVID-19 Commission¹⁵ and the Pan-European Commission on Health and Sustainable Development initiated by

WHO Regional Office for Europe.¹⁶ These efforts take a holistic approach, going beyond strengthening health systems and incorporating social, economic, green and other dimensions as well as ongoing major trends, some of which have been accelerated by the pandemic, such as

digitalisation. This holistic approach is important as the world is a collection of complex interconnected systems, of which the health system is just one. Strategies to enhance health systems resilience therefore need to be part of such broader, multi-sectorial approaches.

We have long known about the risk of epidemics from zoonotic viruses, yet we were ill prepared for a pandemic like COVID-19. Now, retrospectively, we are trying to learn from what has happened to prepare for the next pandemic. There are other risks that we know (the 'known knowns' in the words of Donald Rumsfeld), such as antimicrobial resistance, but we seem to wait for them to come to fruition before we act.¹⁷ This is clearly not enough. To be truly resilient, beyond looking back for lessons learned we also need to look forwards, with foresight, and do more to address the known risks.

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Strengthening health systems resilience: Key concepts and strategies

By: S Thomas, A Sagan, J Larkin, J Cylus, J Figueras, M Karanikolos

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Why have some health systems coped better than others during the COVID-19 pandemic? Some answers might become clear if we could assess how resilient health systems are in response to crises or shocks, such as the current pandemic and other emergencies, including financial ones, or how well health systems were prepared for such events in the first place. This new policy brief includes a framework to help policymakers understand health system resilience and how to strengthen it. It highlights the key features of resilience and provides examples of strategies which have been applied in different countries.

While policymakers are often consumed by the urgent day-to-day stresses of running a health system, the COVID-19 pandemic has reminded everyone of the importance of longer-term planning and preparedness. With this awareness comes the need to better understand health systems' strengths and vulnerabilities and how to respond resiliently to the outbreak.

The authors reviewed the literature on strategies for strengthening health system resilience and for responding to system shocks, as well as emerging evidence from national responses to the COVID-19 pandemic. They mapped those strategies to the key health system functions: governance, financing, resources and service delivery. They also indicated in which stages of a shock cycle these resilience-enhancing strategies are likely to be the most effective. Which strategies should be pursued depends on the type of shock (e.g. financial crash, pandemic, climate event), its severity, the stage in the shock cycle, and the specific country context.



HOW TO RESPOND TO THE COVID-19 ECONOMIC AND HEALTH FINANCING CRISIS?

By: Jonathan Cylus and Ewout van Ginneken

Summary: While the initial response to the COVID-19 pandemic was focused on preventing and mitigating a public health crisis, it has rapidly spiraled in many countries into a full blown economic and public finance crisis. We describe this evolution and consider how health financing, as well as population health, are likely to be affected by the economic crisis. We find that countries have applied a variety of measures which include making extra financial allocations available to the health sector, supporting workers experiencing job loss, and compensating health professionals for lost income and extra expenses.

Keywords: Health Financing, Economy, Public Finance, Unemployment, COVID-19

Background

In response to the COVID-19 pandemic, the majority of countries around the world were forced to “lockdown” in an ultimate effort to reduce exponential growth in transmission rates. Among other actions, this has involved closing schools, businesses with perceived high risk of transmissions (restaurants, retail, shopping centres, hairdressers), sports activities, large social gatherings (churches, concerts, conferences) and travel routes, effectively shutting down entire societies. These interventions have proven effective at ‘flattening the curve’ and preventing health systems from becoming overloaded by COVID-19 patients. However, they have caused a number of unintended consequences; among others, they have led to many people forgoing much needed care and, as we focus primarily on in this article, they have resulted in a severe global economic slowdown.

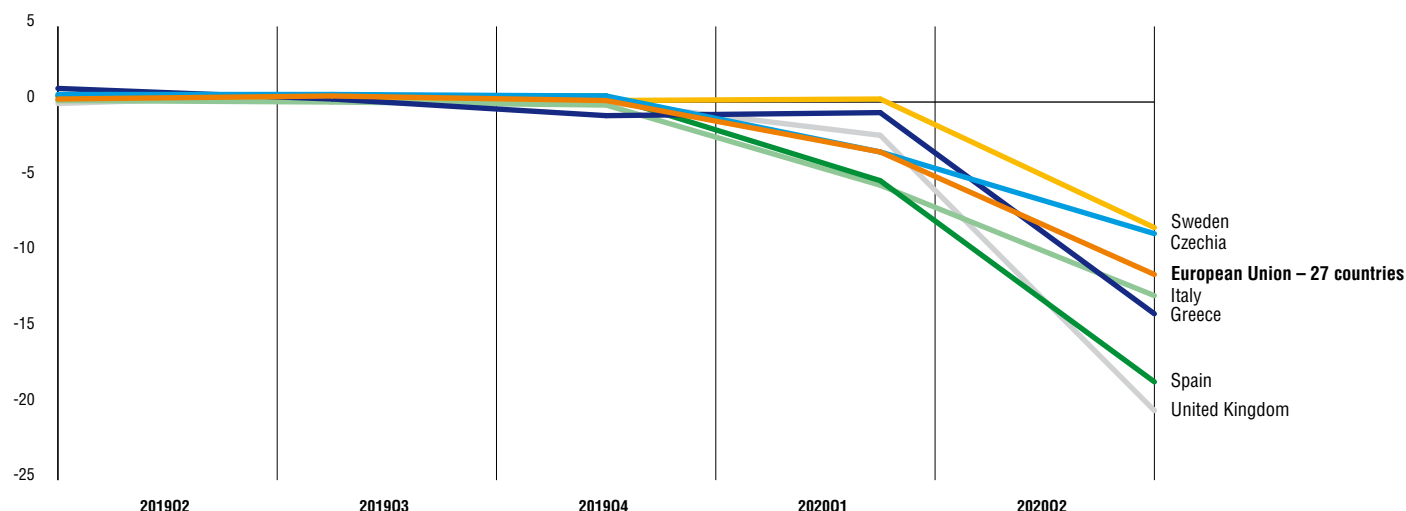
The economic impact of the crisis becomes clear

The magnitude of the economic impact varies substantially across countries and within countries across sectors. Hospitality and tourism have been devastated as one might expect, but even the broader health care sector has faced huge losses in many countries as non-COVID patients reduce their use of services, both due to facilities being reserved for COVID patients or otherwise closed,¹ and due to fears of becoming infected by other patients.

Figure 1 gives a sense of the magnitude of the economic impact in European Union (EU) countries.² Across the EU-27 in Q4 2019, gross domestic product (GDP) per person in nominal terms grew by 0.1% compared to the previous quarter. By Q2 of 2020, it fell by 11.4% compared to the previous quarter, an annualized decline of 38.4%. The largest Q1 to Q2 declines in GDP have occurred in the United

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Figure 1: Quarterly growth in GDP per capital, selected EU countries, June 2019 to June 2020Source: ²

Kingdom (20.4%), Spain (18.5%), Croatia (14.9%), and Hungary (14.5%) with every EU country experiencing a contraction. Unemployment rates have increased as well, rising by a half a percentage point overall in EU-27 countries between June 2019 and June 2020, with the largest increases in the EU over that time period in Estonia (3.3%), Sweden (2.7%), Lithuania (2.6%) and Latvia (2.5%); some of these figures may even appear worse were it not for job support schemes in place.

Although many analysts had hoped for a quick return to normal levels of economic activity after lifting lockdowns (referred to as a V shaped recovery) there is little evidence that this is occurring. Some forecasts suggest economies in Europe will not return to pre-COVID levels for many years to come.³ This is due in part to continued travel restrictions and social distancing guidance affecting many sectors but is also a consequence of peoples' safety concerns about being in public places. In fact, some economists are beginning to refer to a K shaped recovery to reflect the uneven nature of the post-COVID economy going forward, as some sectors (like e-commerce) are expected to thrive while others (like aviation and retail) are decimated.⁴ Regardless, it is clear that the economic implications of COVID-19 will be with us for the foreseeable future.

What are the consequences for health financing?

The lockdown and the subsequent economic crisis have implications across society, including potentially major effects on health financing flows. Here we briefly describe these.

Lower revenues for health systems

Most health expenditure in Europe emanates from government or compulsory sources that can be highly susceptible to economic fluctuations since they are funded primarily through taxes and/or social (e.g. employer/employee) contributions. During the economic crisis, the slowdowns in consumption expenditure, increases in unemployment and reductions in salaries each put significant downwards pressure on these funding sources. In health systems that depend heavily on social contributions from the labour market, the revenue shortfalls have occurred almost overnight as the labour market dried up.

While countries such as Lithuania have had counter-cyclical systems in place that provide general revenues to substitute for lost contributions due to unemployment and other countries like Estonia and the Netherlands have built up or were legally required to build up financial reserves, these practices are generally the

exception rather than the norm and may be insufficient to deal with a prolonged crisis of this magnitude.

But even in systems that depend more heavily on general tax revenues to finance health care, there are likely to be shortfalls that will result in reductions in health expenditure (due to either maintaining the priority given to health within a shrinking budget or prioritising other sectors above health) or will require borrowing to fill budgetary gaps and maintain or increase expenditure levels. Precisely how this decreased revenue and budgetary choices will affect health system allocations and consequently expenditures are subject to a great deal of uncertainty at this stage.

Lower revenues for some providers

Very few people would expect in the first instance that a global pandemic could be bad for business in the health sector. However, the pandemic and the lockdown in response has led to massive, practically instantaneous shifts in patterns of care with many patients forgoing care and capacity being reserved for COVID patients. This has had important implications for health provider finances and sustainability. It also has led to unforeseen expenses because providers had to reshape their premises to implement new distancing measures, hygiene and safety regulations and purchase personal

protective equipment (PPE), in addition to expensive new equipment like ventilators and intensive care unit (ICU) beds.

Some of the most significant effects are among providers who have had to shut during the pandemic, generally to reserve PPE for hospital use, including dentists, ophthalmologists, but also outpatient health professionals (general practitioners, allied health professionals, etc.); hospitals and care homes were also severely affected (see the articles by Langins et al. on protecting care homes and by Webb et al. on restarting routine hospital activities in this issue). The crisis made it clear that health professionals and providers that are not paid on the basis of activity, i.e. based on (predominantly) capitation or a salary, are less vulnerable to this type of shock than those that are largely paid based on activity, i.e. through fee-for-service (FFS) or pay-for-performance (P4P) or diagnosis-related groups (DRGs). For those who rely on volume-based payments, the crisis has severely disrupted income flows.

What will the economic crisis mean for population health?

In addition to the impact of the economic crisis on health financing, there are likely to be health effects of the economic crisis. These come on top of the negative effects on population health caused by the virus itself and the detrimental effects on population health of those that have in great numbers been forgoing vaccination, screening and treatment services. Disentangling these factors may prove challenging but it is safe to say that each factor contributes substantially.

Evidence from the financial crisis that began in 2008 in Europe shows that there are links between economic downturns and declines in mental health, including increases in suicides and alcohol-related deaths.^[5] The effects have been shown to be predominantly, though not entirely, among the unemployed. Of course, the lockdown itself and the associated loneliness that comes with decreased social contacts have their own effects on mental health independent of the economic pathways. At the same time, economic crises have been associated with reductions in road traffic

deaths due to reduced travel, something which is likely to have been magnified during the current crisis as people were required to spend most of their time at home.

How have countries responded to these challenges?

The decline in economic activity naturally leads to reductions in tax collection, which has serious implications for the sustainability of public finances. At the same time, many countries have put in place costly measures to support households and businesses to try to limit the economic fallout, which also has come with high costs leading to increases in public debt. Briefly we discuss three types of policy responses countries are taking including: changes in public sector revenue raising, public sector efforts to support the economy, and efforts to support health financing flows.

“there are likely to be health effects of the economic crisis”

Some countries may opt to alter the mix of taxes in an effort to ensure more sufficient and stable public revenues. A few countries have considered changing the structure of taxes in response to changes in economic activity. For example, in Latvia there have been discussions to reduce the reliance on labour market taxation in favour of more consumption taxes.^[6] Likewise, prior to the crisis, Poland had planned to reduce the value added tax (VAT) rate but has now delayed this change until the economy stabilises.^[7] In countries where altering tax collection may not be feasible, some countries have either increased their borrowing, taking on public debt, or sought emergency financing from international lenders to meet urgent needs.^[8] Within the EU, a

€750 billion recovery fund composed of a mix of grants and loans was agreed at the end of July to support Member States.^[9]

Regarding health sector revenues, some countries have taken steps to make extra allocations available to the health sector, but it may take months to figure out the actual costs and how to divide the bill between the different payers and (local) governments and ultimately the public (via higher contributions and or taxes). Austria, Croatia, Czechia, and Estonia, for example among many other countries, have injected additional financing into their social health insurance funds.

Additionally, countries have supported their economy through measures that support workers experiencing job loss during the crisis. For example, furlough schemes have been put in place in many countries including the UK (Coronavirus Job Retention Scheme), Germany (Kurzarbeit) and France (Chomage Partial), among others, to cover lost wages for a period of time. These types of initiatives are not only important for the economy but are also likely to mitigate the health effects of the economic crisis itself. Evidence from the United States, for example, suggests that generous unemployment benefit programmes have the potential to reduce suicides during times of high unemployment and improve mental health.^[10] Labour market measures also are likely to have implications for health financing where there is a high reliance on contributions from employers and employees.

Countries have also used different mechanisms to compensate providers and health professionals for their losses in income or revenue and extra expenses due to COVID-19. Essentially, these consist of mitigation of losses (e.g. a shift towards more payments for eHealth), compensation of revenue losses (e.g. higher FFS, capitations, DRGs, per diems, shift to global budgets) and generously reimbursing extra expenses for needed renovations and purchasing of equipment. For example, Hungary has shifted from case-based payments for hospitals back to global budgets during the crisis to maintain hospital financial

flows. Other countries, like Belgium and Croatia, have transferred additional funds directly to hospitals. Two articles in this Eurohealth edition detail the various options for compensating professionals and hospitals (see Waitzberg et al. on compensating health care professionals and Quentin et al. on adjusting hospital inpatient payment systems in this issue).

Conclusion

Health and the economy are inextricably linked and so it is natural to expect that a pandemic and the accompanying policy responses will have consequences for the economy, and ultimately for health financing. Countries have largely been proactive in their attempts to mitigate the economic and health financing implications; however, a major challenge will be adjusting these responses during the full length of the crisis and whether positive responses can be maintained.

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The Changing Role of the Hospital in European Health Systems

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This new study provides a timely analysis of the changing role of the hospital across Europe. The hospital is one of the most recognisable and central parts of a health system. Yet, its fundamental design has changed little in decades, even though the burden of diseases it must respond to is constantly evolving – most recently with the emergence of COVID-19 and, less dramatically, with the growth of multimorbidity and frailty. Also evolving are the things that can be done in hospital, or in some cases, things that would once have been done there but are now better done elsewhere. For these reasons it is time to look again at the role of the modern hospital, not as a building filled with beds but rather as a concept, as a care deliverer and as a workplace. It seeks to challenge existing models of hospital



care, review best practice from different countries and give pointers to the future.

This study looks at many developments that challenge traditional ideas of the role of the hospital. They include: changes in technology for diagnostics and treatments; changes in patients, who have become older, frailer

and often more socially isolated; changes in models of care, involving multidisciplinary teams, networks and integrated care pathways; changes in staffing and concepts of specialists and generalists.

Written by and for clinicians, hospital managers and those who design and operate hospitals, this study argues that hospitals need to change as the patients they treat change and as the technology to treat them advances. They also show why hospitals need to be planned as part of the wider system in which they sit, with specialists developing new collaborative ways of working with primary care.

TRANSLATING EVIDENCE INTO POLICY DURING THE COVID-19 PANDEMIC: BRIDGING SCIENCE AND POLICY (AND POLITICS)

By: Gemma A. Williams, Sara M. Ulla Díez, Josep Figueras and Suszy Lessof

Summary: Effective responses to public health emergencies should rely on translating rapidly emerging research into timely, evidence-informed policy and practice. The case of COVID-19 demonstrates that doing so in practice is far from straightforward. Evidence uncertainty; the “infodemic”; the blurring of boundaries between science, policy and politics; and the competition between health and economic objectives, all make policy making for COVID-19 immensely complex. This article reviews these challenges and some of the tools countries have used to translate evidence into public health policy, not least multidisciplinary scientific advisory groups, which have often proved pivotal in informing government decision-making. Despite their emphasis on science and objectivity, however, they have posed questions about independence and transparency. This article explores what this means for the way decision-makers use evidence now and in the long-term, and for the role of neutral “knowledge brokers”.

Keywords: Evidence Translation, Evidence-informed Policies, Policy Makers, Knowledge Brokering, COVID-19

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Introduction: The pandemic flags up the wider challenges of evidence-informed policy

Governments across Europe have become increasingly aware of and committed to using evidence to inform public policy over recent decades. The COVID-19 pandemic is, in some ways, an ‘ideal opportunity’ to build on this and mobilise scientific knowledge to inform decision-making. Almost all governments have

looked to the science to shape prevention and treatment actions and their wider responses beyond the health sector. However, getting evidence into practice has proved to be challenging, with questions raised both about the evidence and how it is used. These questions touch on longstanding issues: around the quality and independence of evidence; of how decision-makers access and understand it; around public understanding and

acceptance of expert opinion; and of how society manages the contradictions and trade-offs between different objectives. COVID-19 has not created these issues, but it has thrown them into sharp relief. The pandemic also creates an opportunity to assess the kinds of intermediaries that can help translate evidence into practice and to review how independent “knowledge brokers” can support evidence-informed policy in the future.

The sheer volume of evidence emerging during COVID-19 and the speed at which it evolves poses a challenge for policy makers

Little was known about COVID-19 at the beginning of the pandemic, with evidence on how it was transmitted, disease severity, mortality rates, populations at-risk and potentially effective preventative (and treatment) measures all unclear. A proliferation of global research from different disciplines has rapidly emerged to try and address these questions. Just a few months after the first SARS-CoV-2 case, hundreds of systematic reviews and meta-analysis are available and epidemiologists, economists, social scientists and data analysts from other fields are providing up-to-date analysis in a myriad of open data web pages and applications. This has huge potential benefits, but can equally be overwhelming for decision-makers.

What is more, early evidence on the virus has been surrounded by uncertainty and new and emerging evidence has not always been definitive. There has been little time to replicate research, and in some cases findings published in high profile journals were later retracted due to concerns over data veracity.^[1] Uncertain, conflicting and ‘shifting’ evidence has been a considerable challenge for policy makers. It has generated significant debate and contributed to divergent policy responses being adopted in different countries, and even prompted occasional U-turns. Rules on physical distancing are a case in point, with countries implementing measures ranging from 1, through 1.5 to 2 metres.^[2] Facemask use is similarly contested. While evidence in favour of the efficacy of public use in preventing transmission has emerged gradually,^[3] scientists hold

differing views on their value and policies in countries are still very mixed. Some mandate facemask use even outside (e.g. France, Italy, Serbia, Spain, Turkey), while others are not prescribing their use in any settings (e.g. Belarus, Iceland, Norway and Sweden).^[4]

The sheer volume of data and analysis, the uncertainty around the science and the rapid evolution of knowledge mean that policy makers need help both to capture and understand information and to interpret its strength and validity.

Public perceptions also affect policy makers – uncertainty and the “infodemic” make it ever harder for them to convince people to ‘follow’ the evidence

The facemasks example also highlights the importance of public opinion, which is all too often increasingly divided. There are vocal minorities in several countries (e.g. Greece, Ireland, the United Kingdom, the United States) opposing facemask use on the grounds of personal freedom. While concerns about civil liberties are to be expected when governments take measures on the scale of the COVID-19 responses, the issues have been amplified by social media. The pandemic emerged at a time when social media had already been implicated in disseminating inaccurate, sometimes harmful information on health. Misleading advice on COVID-19, has been spread online, often rapidly and widely, and threatens adherence to specific public health measures (including on physical distancing). Beyond this, it triggers a wider mistrust of scientists and experts and can encourage people to ignore or oppose broad public health measures, again undermining COVID-19 responses. Misleading advice may not be intentionally malicious, but can be damaging nonetheless.^[5]

However, in some cases “fake news” can be spread intentionally by organisations or individuals, often to promote their political, economic or ideological agendas. Populist politicians, in particular, have sought to politicise COVID-19 and have seized on the crisis as an opportunity to mobilise their voting base.^[6]

Putting aside the validity of the views shared or the motivation behind sharing them, there are very significant challenges that derive simply from the volume of information available. Members of the public (like policy makers) have access to an “overabundance” of competing information, what has been termed an “infodemic”.^[7] The volume of this and its heterogeneity makes it difficult for people to identify which information and guidance on COVID-19 is trustworthy and evidence-based. It also complicates their responses to the inevitable changes and uncertainties in ‘official’ sources of evidence. This in turn makes it more difficult for policy makers trying to secure public cooperation and for the scientists trying to bring evidence into practice.

Evidence alone cannot resolve the complex trade-offs between policy areas or the complexity of implementing policy choices

Translating evidence into timely policy action has been further complicated by the fact that while COVID-19 is a public health challenge, the policies that address it have enormous impacts on society and the economy. Public health objectives may conflict with other government commitments. Implementing a strict lockdown for example, may prevent transmission, but is at odds with the need to keep workplaces and schools open to protect people’s livelihoods and children’s education. Policy makers are therefore having to make judgements on policy measures that balance different objectives, in areas where evidence cannot provide a straightforward answer and where the differing priorities of different stakeholders are often legitimate.

In these judgements, decisions are informed not only by the evidence, but also the prevailing values and ethics of ruling parties and of the societies they govern. Right-wing governments may be more inclined to protect the free-market economy than to impose stringent lockdowns, which may well reflect the views of their electorate. Similarly, the political right may have a different take on the trade-offs between protecting health and respecting individual freedoms than the left. Some parts of European societies

Table 1: Approaches to bringing evidence into policy responses to COVID-19

Model	Country examples	Roles	Characteristics
Pre-existing expert advisory groups	Belgium, Cyprus, Slovenia, UK	Review the available evidence and provide directions and communicate advice on appropriate health system measures to policy makers and the public	Contains scientific experts from multiple disciplines; Convened by governments and embedded in the political process; Chaired either by Chief Scientific or Medical Officers, public health experts or government actors; Comprised of independent experts
Pre-existing institutions advising governments	Slovenia	Review evidence and communicate advice on public health measures to policy makers and the public	Usually universities or national institutes of public health
Newly established expert advisory groups	Belgium, Bosnia and Herzegovina, Canada, Estonia, France, Ireland, Italy, Luxembourg, the Netherlands, Spain	Review the available evidence and provide directions and communicate advice on appropriate health system measures to policy makers and the public	Contains scientific experts from multiple disciplines; Convened by governments; Chaired either by Chief Scientific or Medical Officers, public health experts or government actors; Comprised of independent experts
Task forces to advise on economic recovery	Estonia, Finland, Ireland	To advise governments on social and economic impacts of COVID-19 and to aid an inclusive recovery	Contains scientific experts from multiple disciplines; Convened by governments
Experts acting independently of official government channels	UK	Working independently of government to develop policy recommendations based on available evidence that are communicated directly and transparently to the public	Contains scientific experts from multiple disciplines; Acting independently of government; Release minutes and data behind decisions publicly for transparency

Note: this is not an exhaustive list of institutions advising governments during COVID-19, but are illustrative examples taken from the HSRM.

Source: ²

may also have a liberal aversion to an expanded role of the state and these beliefs may make it more difficult to implement policies that interfere with personal choice. They may also affect the extent to which the population adheres to the measures that are implemented.

Cultural values, traditions of solidarity and the societal context influence decision-making and will influence the way evidence is understood, believed and acted on. Furthermore, policy makers have – as we all do – a set of cognitive biases that make it more likely that they will act on the evidence that reinforces their own pre-existing (political and ideological) views.

Even in cases where robust and abundant evidence is communicated effectively, there are still roadblocks to overcome before it is actually transformed into political decisions. The probability of success in the real-world, the extent to which a given measure will undermine competing initiatives, the

scale of unintended social or economic consequences are all part of the review of trade-offs and will often modulate political decisions. The feasibility of a recommended measure in a given context will also have real impact. If the legislative base, the infrastructure or the funding to implement a policy are not available, the decision to do so becomes meaningless.

Countries have called on re-purposed and 'new' expert groups to help them translate evidence for policy

Clearly, the route from scientific evidence to policy is not straightforward but different governments have accepted that the pandemic is a reason to build on the progress towards evidence-based policy making and not an excuse to jettison it. The Health System Response Monitor (HSRM) throws up some useful examples of how countries are facilitating the translation of evidence into policy.² Here, the focus is solely on public health policy measures and not the

use of clinical evidence for treatments or protocols. While exact models are culturally and contextually determined, a common approach has seen countries activate pre-existing expert **scientific advisory groups**. There have also been new advisory groups established to guide health responses and in some cases task forces have been set up specifically to advise on economic responses both during the crisis and the recession that is expected to follow. Examples of these groups and their key characteristics are shown in **Table 1**.

Examples of established scientific and expert advisory groups that have informed policy decisions during previous public health crises include the Risk Assessment Group (RAG) in Belgium, comprised of epidemiologists, scientists and representatives of health authorities and the Scientific Advisory Committee in Cyprus consisting of independent academics and members of the Unit of Surveillance and Control of

Communicable Diseases. In the UK, the scientific advisory group for emergencies (SAGE) was activated to provide consensus advice on key issues (use of facemasks, school closures, lockdown measures), based on available scientific evidence and includes a wide-range of experts from public health, medicine, mathematics and the social sciences.

Newly established, multidisciplinary special advisory committees or working groups, have also been central to government policy making during the crisis in many countries (see Table 1). Spain, for instance, established a Scientific Advisory Committee for COVID-19 composed of six prestigious researchers to advise the government in relation to the response. A specific group of experts was also set up to advise on the de-escalation of confinement, in the economic, social and international spheres. Sectoral groups have also been formed, such as the Multidisciplinary Working Group that supports the Ministry of Science and Innovation in scientific matters related to COVID-19 and its future consequences. Belgium meanwhile has established a multidisciplinary Group of Experts in charge of the Exit Strategy (GEES) to advise the National Security Council on relaxing lockdown measures.

Some countries have also established an economic task force to guide the economic response during the crisis and through the expected economic downturn (see Table 1). Ireland has formed a Stakeholder Forum chaired by the Department of the Taoiseach (Prime Minister), comprised of 20 organisations across multiple sectors to support public health measures and inform the government on emerging downstream social and economic impacts of COVID-19. In Finland, the government has set-up a working group of independent economic experts and academics to develop an economic strategy for dealing with the impact of coronavirus crisis.

The exact remit of these advisory committees varies between countries and has evolved as the pandemic has progressed. Nevertheless, they are primarily tasked with monitoring and reviewing national and international research and developments in relation

to COVID-19, evidence on (in)effective actions from past pandemics and international guidelines and using this to provide scientific and technical guidance to policy makers on public health measures, re-organising health systems and potential treatment options for COVID-19 patients.

Scientific advisory groups have been multidisciplinary and “embedded” in the policy process

The scientific advisory groups and tasks forces highlighted have a number of common features. First, they have been made up of **established experts**, allowing governments to tap into existing expertise and to derive some credibility from the skills and experience of the personnel assembled. The downside of this is that the choice of experts can be questioned and the independence of those involved may be compromised by the very act of their accepting an advisory role.

Secondly, the experts mobilised have come from multiple disciplines. This wide-ranging expertise is fundamental to delivering an effective response. Insights from a **mixture of disciplines beyond public health**, such as behavioural sciences, economics, sociology and anthropology help improve the effectiveness of public health interventions. Additionally, measures to prevent the spread of the virus are impacting on whole societies and making it important that the full consequences of any policy measures are understood. There is though, a potential downside of multidisciplinary advisory groups, in that there can be difficulty in ensuring public health advice is heard and favoured over other expertise. In the UK for instance, concerns have been raised that SAGE contains too many clinical experts and not enough epidemiologists, immunologists, public health experts or social scientists, thus potentially overlooking perspectives that could be critical in developing effective public health responses.

Thirdly, most advisory groups have taken steps to **increase transparency** and to **effectively communicate** evidence both to **policy makers and the public**. For example, some advisory groups

(e.g. NPHET in Ireland, SAGE UK) have publicly released minutes of all meetings to allow the public to understand why certain advice was given. In the Netherlands, the National Institute for Public Health and the Environment (RIVM) has published all codes, data and assumptions informing models and shown how results inform conclusions. National institutes of public health in Albania, Croatia and Serbia, and experts in Belgium, Cyprus, Germany and the UK from various advisory and working groups have also participated in public briefings alongside government officials or appeared on various news or current affairs programmes to explain the latest developments to the general public. By sharing the evidence behind policy decisions and being transparent and open about uncertainty, these experts can help build trust and compliance with public health measures. Moreover, openness can help generate discussion of decisions among the wider scientific community, potentially resulting in new insights and solutions to outstanding concerns. It is difficult to argue that transparency is not a good thing, but it can be challenging for governments and the fact that changes in advice are debated publicly may cause confusion amongst a lay audience.

Many scientific advisory groups have also been embedded within the political processes, particularly (but not always) when groups have been established by governments seeking evidence-based guidance and recommendations. This **closeness to the policy process** involves a direct relationship with policy makers and makes it easier to understand the policy process, to build trust with decision-makers, and to learn how to give advice and guidance effectively. However, it also raises questions over independence and objectivity, with a real risk that advisors are, or are seen to be, co-opted or compromised by government. The scientific advisory groups explored in this article have taken some steps to avoid political interference in the evidence provided and to signal their autonomy from government decision-makers. In most groups, the remit explicitly emphasises their independence and objectivity. Membership is primarily of independent academic experts or

scientific advisors only, with politicians not generally able to attend meetings. In those cases where government advisors have been allowed to attend, concerns have been voiced over the independence of the scientific deliberations. There have also been questions about who chairs these groups. Some are facilitated by public health or other academics, but most are chaired by government Chief Medical or Scientific advisors, who are typically government employees, and some are even chaired by politicians, again raising doubts about autonomy.

Concerns over the transparency of decision-making and the validity of guidance has been such that in some countries, scientists have formed wholly independent advisory groups without government inputs. These review the available evidence and provide advice through public engagements and media appearances.

Policy implications: The lessons from embedding evidence in policy processes suggest a role for independent knowledge brokering

Scientists and experts have taken centre stage during the COVID-19 response in many countries. They have played a critical role in keeping the policy makers and the public abreast of the most useful and most relevant emerging research and have shared information in a timely and credible way.

This transfer of knowledge has not though been without cost. Using respected scientists and experts has helped identify the 'right' evidence and in many cases has contributed to it being translated into appropriate public health policy measures, but it has sometimes pushed researchers into uncomfortable compromises. Expert groups have helped build public trust in government guidance and encouraged adherence to recommendations. Their closeness to policy makers has nevertheless raised questions over the transparency, rigor, objectivity and independence of their analysis.

There is a genuine dilemma. Advisory groups created directly by governments to support decision-making have the best

chance of informing policy in practice. Yet being close to government may undermine public perceptions of and confidence in their independence and trustworthiness. Other scientists, the public and opposition politicians may challenge the validity of their recommendations and from there the value of their expertise simply because it is a government advisory group. An advisory group provides guidance, in doing so it is implicated in the politics of the policy process.

Other approaches to the transfer of knowledge to policy makers have placed more emphasis on neutrality and independence. These models depend on fully independent intermediaries or "knowledge brokers" positioned between policy makers and researchers.^{[1][2]} They aim to facilitate the exchange of evidence and knowledge across the 'gap' that then continues to separate both sets of actors protecting the integrity of the evidence. Knowledge brokers are defined as individuals, institutions or structures that "cross boundaries" between academia, policy and practice.^{[3][4]} Knowledge brokering involves skills in reviewing and integrating evidence from different disciplines; in distilling key messages; in understanding the policy context; and in communicating effectively with policy makers (and practitioners or the public when appropriate). Perhaps most importantly the notion of knowledge brokering is bound up with ideas of neutrality, of presenting evidence-informed options rather than recommendations and of the non-normative.

The COVID-19 pandemic has both lessons and challenges for bringing evidence into policy. It highlights the difficulty of researchers and analysts maintaining distance and independence in the long-term. It also flags their own cognitive biases, their personal stake in 'their' interpretation of the evidence, and their vulnerability to becoming politically 'implicated'. At the same time, it calls into questions whether the idea of a credible, trustworthy and independent 'knowledge broker' can be the effective bridge between evidence and policy in times of crisis. Their very 'neutrality' keeps them at an arm's length from both the scientific

and the policy making communities and reduces their ability to feed into fast moving decisions. Ultimately, it may be impossible to truly separate scientific advice from politics, but knowledge brokering may be an effective tool for linking the different constituencies. It can ensure that there is appropriate separation and that communications across the science-politics divide are informed by an understanding of: context and bias; the role of different disciplines; and how to communicate effectively with different stakeholders. Above all it may be a way of insisting that the inherent tensions between evidence-informed public health policy and the politics of evidence-informed policy making (and practice) are handled with the transparency needed to create trust.

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SUCCESSFUL FIND-TEST-TRACE-ISOLATE-SUPPORT SYSTEMS:

HOW TO WIN AT SNAKES AND LADDERS

By: Selina Rajan, Jonathan Cylus and Martin McKee

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Summary: In order to ease lockdown restrictions and prevent a second wave of infections, countries must be able to find, test, trace, isolate and support new COVID-19 cases. The simplicity of the 'test, trace, isolate' mantra dramatically understates the multitude of time-dependent processes that must occur seamlessly for the strategy to work effectively. We reconceptualise the way out of lockdown as a Snakes and Ladders boardgame. To succeed, countries must ensure that people with COVID-19 progress through the board as quickly as possible by putting in place measures that enhance their public health capacity (i.e. landing on ladders) and prevent setbacks caused by having insufficient capacity (i.e. avoiding snakes).

Keywords: Test, Trace, Isolate, Preventing Transmission, COVID-19

Introduction

Any country thinking of easing COVID-19 lockdowns must be confident that they have a robust system in place to find, test, trace, isolate, and support (FTTIS) new cases. This is essential if they are to minimise the risks of a second wave going out of control. The theory is simple. Anyone with symptoms is tested and, if positive, their contacts are traced and advised or instructed to isolate. The reality is somewhat different. It requires a complex system with many interlinking components, demanding rapid and effective communication between different organisations, some of which are newly created, while others may be combining their day to day work with a

major expansion in capacity. Even the best resourced public health system would struggle given the scale of the pandemic. For many, especially those whose capacity has been diminished as a consequence of sustained underinvestment, the challenges are enormous. To help those who are facing these challenges, we have examined what countries across Europe are doing, seeking where possible lessons that can be learned from their experiences.

This analysis uses information gathered from the [COVID-19 Health System Response Monitor \(HSRM\)](#), created by the European Observatory on Health Systems and Policies.¹ A network of national correspondents from over 50 countries

has prepared a series of structured reports on national responses to the pandemic, regularly updating them as events develop.

Conceptually, we can consider a FTTIS programme as a complex adaptive system, with the individual being tested passing along a non-linear route involving multiple paths, each with feedback loops and with their speed and direction influenced by a multiplicity of factors, many outside their control. Practically, however, if we are to help the busy policymaker, we must simplify this considerably, something that we have done by portraying the main elements of the system as a Snakes and Ladders boardgame (image). Snakes and Ladders is remarkably well suited to this exercise. To be successful (i.e. to win the game) countries must ensure that those with COVID-19 progress as quickly as possible from the start to the finish. If this does not happen, new cases will appear, and another lockdown will be needed. They can do this most effectively by putting in place measures that enhance their ability to find, test, trace, isolate, and support (i.e. landing on ladders) and by avoiding setbacks that occur due to insufficient capacity in the health system and beyond (i.e. avoiding snakes). We now run through the boardgame, pointing out many of the steps that policymakers should be mindful of, highlighting approaches that countries are currently taking to implement a FTTIS system and thereby “win the game”. Before doing so, however, it is important to note an important difference from the real game, in which players land on squares at the throw of a dice. In this case, countries that went into the pandemic with strong public health systems and systems of governance are more likely to land on ladders because the capacity is already in place.

Producing and procuring enough testing materials

The game starts with procurement, with a focus on molecular testing supplies for nose and throat RT-PCR swabs, the gold standard test recommended² by the World Health Organization (WHO) to identify COVID-19 cases. Testing requires reliable supplies of a range of materials, including swabs, transport media, reagents, primers, assays, and PCR machines. Many of these

are also used to test for other infections but, during a pandemic, countries face supply constraints, a ‘snake’ that inhibits FTTIS before it has a chance to get started.

a complex system with many interlinking components

Equipped with the genetic sequence from China, Germany and the United Kingdom managed to manufacture some of the earliest COVID-19 tests outside Asia and Germany quickly purchased millions of them. Germany also published a blueprint that the WHO could share with other countries to support their use of the newly developed test. However, large scale testing is only possible if laboratories have all of the items required, from glassware to PCR machines. This requires very well-functioning procurement and distribution systems, something that many countries have struggled to achieve, and even Germany, widely praised for its ability to scale up testing capacity rapidly, has experienced periods when demand has exceeded supply. Countries that do not manufacture these items themselves initially struggled to obtain them in a global market where they were competing against others with greater purchasing power. Some countries such as Norway, have developed and manufactured their own tests³ to minimise dependence on those produced elsewhere. Rather like printers, where cartridges are specific to particular brands, PCR machines are often licensed for use with specific reagents, with global stocks of many of them rapidly depleted in the early stage of the pandemic. In response, some countries, including Belgium, the UK, and Canada eased regulations to enable more flexible use of reagents, drawing on South Korea’s earlier response to MERS.

Once procured and warehoused, supplies need to be distributed to testing sites and laboratories. Failure to do so effectively

creates a snake because testing sites cannot administer tests without the right supplies. Countries offering home testing faced logistic challenges, especially as postal services were often weakened because of staff shortages and working with social distancing. Some countries also faced particular early challenges in getting tests to certain high risk settings, such as care homes, as in the UK.⁴ A failure to distribute test kits to individuals or test sites where they are most needed will delay access to testing, thus enabling new cases to remain undetected and transmission to continue.

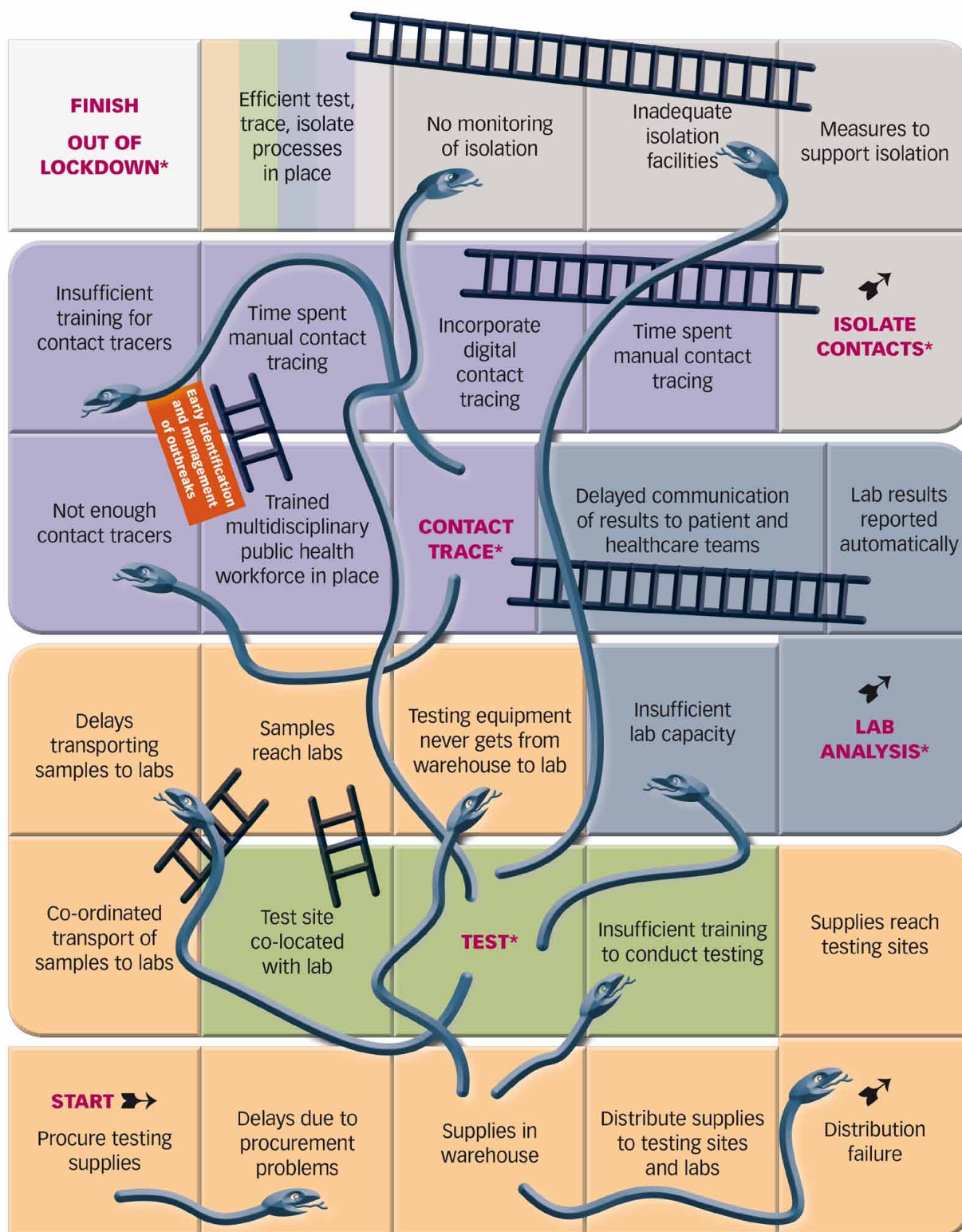
Developing sufficient skills and facilities to meet testing needs

While few countries were conducting tests outside of hospitals early in the pandemic, most now do so, for example by building drive-through or mobile testing units, with many others, including Austria, the UK, and Estonia also starting home testing. Some governments have outsourced some components of this work to private companies, for example in Finland, Estonia, and the UK, although with varying degrees of success.

Although these measures can increase the volume of testing they also present enormous logistical challenges as testing supplies must be distributed to a large number of testing sites, while testing on a large scale depends on recruitment of staff who are unlikely to have experience in taking samples. Taking a nasopharyngeal swab does require some degree of training about how and (critically) when to test to reduce the risk of false negative results.⁵ Without proper training, tests will be wasted and need to be repeated, which in turn erodes limited capacity (another snake). Recent advances have shown great promise for the use of saliva tests, which can avoid this trade-off between availability of trained staff and quality assurance.

After taking a swab, samples should reach the laboratory rapidly. Otherwise they may have to be discarded and repeated. Thus, it is important to ensure that there is a well-coordinated system to ensure transport of samples from test sites to laboratories. Ideally, testing sites and

Figure 1: Win the game



LEGEND [Squares]

Yellow = supply chain capacity
Green = test capacity
Blue = lab capacity

Purple = contact tracing capacity
Grey = isolation capacity

laboratories would be co-located, as in hospitals and in some South Korean drive-through testing sites. This is a ladder, although one that is rare in community testing sites in Europe. The ultimate goal is to develop a test that does not require a laboratory, using a point of care test that can produce immediate results, particularly for those without symptoms, but those that have been developed so far have not performed sufficiently well to depend on at population scale. This approach also removes the need for laboratories, which are a critical rate limiting step in any pathway at population scale. So far, cases that are confirmed through rapid testing usually have to be verified through PCR swab testing and so this approach is still only likely to be feasible at a low prevalence. Estonia has also offered an innovative approach, using drones to deliver some samples directly to laboratories. In the UK, most testing takes place in just seven commercial mega-laboratories, creating transport bottlenecks and reports of discarded samples.

Given the evidence that symptomatic testing alone is likely to miss a large proportion of infectious presymptomatic and asymptomatic cases,^{9, 7} there has also been a move more recently towards regular mass testing in high risk settings such as in health and social care settings and areas of increased transmission in Lithuania and England. It remains unclear how regular such testing needs to be to be effective but some studies suggest an interval of two days is required,⁸ which is likely unfeasible for RT-PCR testing. Others, including Estonia, France, Iceland and Germany have also instituted testing for incoming travellers, although their testing policies and capacity differ. A secondary but important concern for asymptomatic screening is that it does not help to identify which of the cases will be most likely to transmit the virus to others, given that very few cases seem to be responsible for a large proportion of transmission, otherwise known as clustering⁹ and that RT-PCR can pick up both infectious and non-infectious cases. Germany and Portugal are also now testing samples in batches, so called pooled sampling,¹⁰ taking lessons from the population screening programme in Wuhan and from HIV testing strategies.¹¹

Any mass testing in high risk settings must also be done under the strictest of infection control precautions to prevent cross contamination, which can lead to falsely positive results. A second type of pooling is surveillance sampling of wastewater, which has also been shown to be a useful early warning system to monitor outbreaks¹² and the utility of this approach is now being studied by the European Commission in a number of European countries.

Strengthening lab capacity to rapidly analyse samples and immediately report the results

The ability to scale up testing will be easier in countries that have had sustained investment in health infrastructure, including laboratory equipment, technicians, logistics systems, and information technology. Germany¹³ entered the pandemic with a strong diagnostics and chemicals industry, which allowed it to implement large scale testing rapidly.¹⁴ In contrast, the UK did not. Thus, a lack of sufficient laboratory capacity is another snake that will create severe delays in processing tests, possibly requiring substantial re-testing which exacerbates an already difficult situation.

Where laboratory capacity is insufficient, three types of response can be seen. One involves expanding existing medical laboratories or repurposing others, such as those involved in veterinary surveillance in universities, as in Croatia, Cyprus, Estonia, France, Germany, Lithuania, and Norway, among others. Thus, Germany¹³ rapidly commissioned testing in 300 local laboratories and Sweden also used existing laboratories in all but 2 of its 21 regions. A second involves creation of a few centralised mega-laboratories. In the UK, outsourcing companies, many with little or no experience of running laboratories, were contracted to construct a few large lighthouse laboratories, creating a highly centralised system. A third approach, seen in Ireland and Finland, involved samples being sent abroad for testing, although as the UK has found, if samples are sent abroad at the wrong temperature they cannot be processed and will be voided. Other measures that also contribute

include accelerated training of laboratory technicians, as in Israel, or use of robots, as in Denmark.

While there is widespread agreement that tests should be conducted within a country, where possible, debate continues as to the other approaches. Countries adopting the first one do generally appear to have been successful and although Germany has struggled to meet demand more recently rationalising its testing programme of all incoming travellers to those from high risk countries, demand for tests in the UK is reported to be many times capacity as laboratories have struggled to keep pace, with the Prime Minister calling on university laboratories to redeploy staff to the lighthouse laboratories once again, and resorting to sending more samples abroad.

“contact tracing is a core component of public health”

Once samples are processed, automated reporting can create a ladder, helping to deliver results quickly to cases and contact tracers who will be able to initiate tracing sooner. There are numerous examples of countries where this is working, including Belgium, Estonia, Iceland, Turkey and Lithuania. Rapid initiation of contact tracing will reduce the risk of further transmission. It also increases the likelihood that suspected cases will agree to isolate while they wait for their results. Without an automated system, results have to be telephoned individually to cases, which is resource intensive and can delay notification and isolation. Some countries such as the UK are also planning to implement mass point of care testing and it is unclear how this critical component of automating results will be factored in.

Self-evidently, there must be a system to monitor test performance to ensure false positives and negatives are minimised. This may create logistic challenges for quality assurance where new or repurposed laboratories have come on

stream, although there are examples, such as those in Italy and Ireland, that can offer lessons. Further guidance is now required on how to standardise laboratory testing in different labs using different assays and machines. Quality assurance is critical and mechanisms to monitor this were implemented in Italy and Ireland.

Building a large, well-trained workforce to conduct contact tracing (even in countries using digital technologies)

Despite renewed attention, contact tracing is a core component of public health departments, which have long experience in preventing transmission of other communicable diseases such as tuberculosis, hepatitis, and sexually transmitted infections. Contact tracing requires a well-resourced existing public health infrastructure, with a trained workforce that is well connected with local services. Such a system will enable clusters and complex outbreaks to be detected early. This is an important ladder that will help to strengthen the FTTI process and is crucial for any containment or mitigation strategy. Various strategies have been used to trace contacts, outlined elsewhere¹⁵ (also see the article by Hernández-Quevedo, et al. in this issue) but each case must be interviewed to ensure that they isolate, identify, and risk assess their contacts, providing sufficient information to locate and engage with them. An inadequate number of contact tracers creates a snake as manual contact tracing is time consuming, demanding a large workforce. Any delays will lead to increased transmission. Modelling suggests that around 80% of non-household contacts would have to be traced and isolated within 48 hours of the first person experiencing symptoms, with strict adherence to self-isolation and there are few examples of countries in Europe where this is happening systematically.¹⁶

To avoid this snake, several countries have recruited paid contact tracers to work in call centres, including France (>8,000), the UK (18,000) and Germany (up to five contact tracers per 20,000 inhabitants), although an early survey in Germany showed that only 24% of departments

were able to meet this target in mid-May and it is unclear what proportion will be experienced contact tracers. There are various ways to boost the contact tracing workforce. They include inviting experienced environmental health officers, sexual health specialists, and retired doctors and nurses, as the UK has done (although uptake is unknown and in reality this kind of redeployment can only ever be temporary to avoid neglecting other serious health problems). Others have recruited military personnel (as in Germany and Israel) and medical students (as in Finland), or recruited volunteers (as in Cyprus). However, in all cases, there can be challenges in ensuring that they are all adequately trained.

“digital solutions do not offer a panacea

There has been considerable attention on digital technology, specifically apps as a potential ladder, given their potential to identify and notify contacts quickly. Countries where they have been implemented include Austria, Belgium, Bulgaria, Canada (Alberta), Denmark, Finland, France, Georgia, Iceland, Ireland, Italy and Germany, where the Corona-Warn-App has been downloaded 18 million times since mid-June. England have had to redesign its app over the summer, following a pilot in the Isle of Wight and launched in late September, 4 months after it was anticipated and 2 months after the launch in Northern Ireland. However, while apps may deliver speed, there is little evidence they are effective;¹⁷ coverage and compliance are not guaranteed, and only 3% of the population have downloaded it in France, compared to 30% in Finland. This means that considerable time is still required to manually trace all contacts. Recognising that digital solutions do not offer a panacea, Belgium and France opted for manual contact tracing initially. To support the required increase in capacity, the German Ministry of Health committed €50 million to

support necessary upgrades in hardware and software and France has also invested in improved contact tracing software. In contrast, 16,000 cases were recently missed in the UK because of a reliance on outdated Microsoft Excel templates to transfer data. In many countries, (including Austria, Belgium, Croatia, Estonia, France, Greece and Ukraine) primary care services are also involved in the test, trace, isolate process and can monitor and support cases more effectively.

Supporting people in isolation (unless you want to start the game again)

Isolation is arguably the most important part of the test, trace isolate process according to recent evidence.¹⁸ A team of community volunteer contact tracers in the UK published data¹⁹ from a pilot in which it took approximately 80 minutes to manage each case, with many contacts were unwilling to isolate. Cross-sectional data from May also suggested that only 25% of those with household symptoms of COVID-19 in the UK actually adhered to isolation guidance.²⁰ Measures to support isolation are therefore an important ladder and in Denmark, Finland and Lithuania, people who cannot isolate are accommodated elsewhere (albeit for a fee in Finland). The same approach has also been used successfully to prevent outbreaks in care homes in South Korea. Without facilities to support vulnerable individuals to isolate, and especially to minimise any loss of income, it is likely that transmission will rise, another snake that could set back the entire process. Enforcing isolation is also critical¹⁵ and many countries, such as Lithuania and the UK, impose fines but this risks penalising marginalized populations disproportionately. Some countries, including Hungary, Iceland, Italy, Lithuania, Norway and Ukraine¹⁵ use geolocation data to monitor the movements of cases, but such efforts still require a dedicated workforce to enforce it. This requires resources and connections to local service providers who know the local populations. Some groups²¹ have suggested that community health workers could be trained for this purpose.

Successful ‘test, trace, isolate’ depends on having adequate capacity in many areas of the public health system

The resources required to successfully find, test, trace, isolate and support cannot be underestimated. Each step requires complex management and logistics and a well-resourced public health infrastructure and workforce. Setbacks can be encountered at any stage, but many can be anticipated. Many countries have developed innovative measures that can boost capacity rapidly. However, it is important to focus on the outcome of FTTIS rather than the amount of activity. Increasing the number of tests, will have limited value without a well-resourced system to trace and isolate cases. In addition to scale, speed is essential. Delays at any stage will allow more cases to remain under the radar, silently spreading the infection to others. Ultimately, the success of FTTI is to get countries out of lockdown. This will depend critically on their ability to be co-ordinated, flexible, and prepared.

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EFFECTIVE CONTACT TRACING AND THE ROLE OF APPS: LESSONS FROM EUROPE

By: Cristina Hernández-Quevedo, Giada Scarpetti, Erin Webb, Nathan Shuftan, Gemma A. Williams, Hans Okkels Birk, Signe Smith Jervelund, Allan Krasnik and Karsten Vrangbæk

Summary: Contact tracing is an essential tool to support the transition back to normal life during the COVID-19 pandemic. This article explores how 31 countries operate contact tracing, using data extracted from the COVID-19 Health Systems Response Monitor (HSRM). Two main approaches emerge: centralised (led by one national agency) and decentralised (at regional/district level). In most cases, trained staff conduct phone interviews, and many countries have moved to strengthen the capacity of tracing teams. Further, contact tracing apps are being developed and implemented, although some difficulties related to privacy concerns have arisen, necessitating more transparency on how data are collected.

Keywords: Contact Tracing, Digital Apps, Public Health Capacity, COVID-19

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Introduction

Contact tracing remains an essential tool for societies to transition back to as near-normal life as possible during the COVID-19 pandemic. The World Health Organization (WHO) has highlighted the importance of testing, contact tracing and isolation in order to stem the spread of COVID-19 and has defined contact tracing as “the process of identifying, assessing and managing people who have been exposed to a disease to prevent onward transmission”.¹ According to the WHO, critical elements of contact tracing include: community engagement and public support; careful planning and consideration of local contexts, communities, and cultures; a workforce of trained contact tracers and supervisors;

logistics support to contact tracing teams; and a system to collate, compile, and analyse data in real-time.²

In this article, we present a review of how 31 countries in the WHO European Region structure their contact tracing operations, based on evidence available in the COVID-19 Health Systems Response Monitor (HSRM). We also assess the features of different apps introduced in the region to support contact tracing, and conclude with some lessons and recommendations for the future.

Who performs contact tracing?

In the majority of countries, trained staff, which may include doctors, nurses, pharmacists, newly qualified doctors

and veterans but also public health professionals and/or volunteers, conduct phone interviews to identify everyone who has been in contact with infected or suspected cases. Although contact tracing has been around for decades, the increased demand due to COVID-19 has led to an immediate and substantial need for trained workers (who do not necessarily need a background in public health). Contact tracing could also be supported by the use of apps (see below). In our analysis, we identified two main approaches by which countries structure their contact tracing operations: centralised and decentralised (see Figure 1).

Countries using a centralised approach for contact tracing have one agency to lead operations

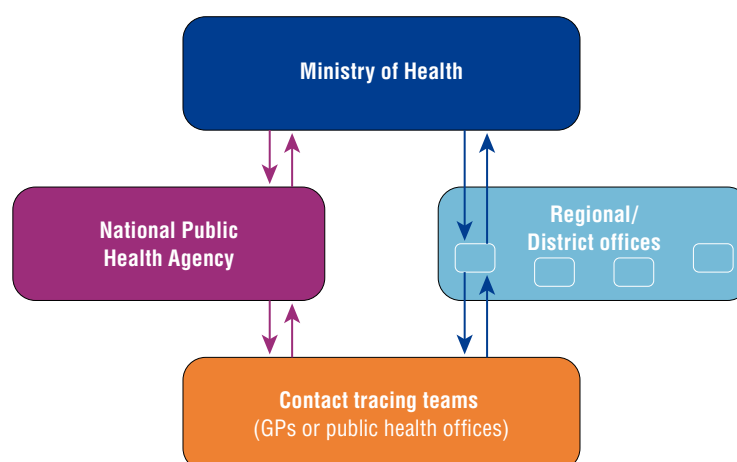
A range of countries implement centralised contact tracing at the national level (e.g. Belarus, Cyprus, Israel, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Republic of Moldova, Russian Federation). Often, the Ministry of Health or a subordinate agency leads these operations. For example, in Portugal, contact tracing is coordinated by the Directorate-General of Health; in Poland, the National Sanitary Inspection is in charge.

“transparency regarding how the information is gathered and for what purpose”

Decentralised contact tracing puts the responsibility on regions or districts

A number of countries use a more decentralised approach by implementing contact tracing at regional/district level (e.g. Albania, Belgium, Bosnia and Herzegovina, Bulgaria, Estonia, Finland, Germany, Italy, the Netherlands, North Macedonia, Norway, Slovenia,

Figure 1: The main approach to contact tracing



- **Centralised approach:** mandate comes from the Ministry of Health (MoH) and contact tracing is organised by National Public Health agencies, which then collect information from contact tracers to feed back to the MoH
- **Decentralised approach:** mandate comes from the MoH to regional/district offices which then collect information from contact tracers to feed back to the MoH

Source: Authors' compilation

Romania, Serbia, Slovenia, Spain). For example, in Romania, dedicated staff in the 42 district public health authorities are in charge of calling all the contacts of those infected with COVID-19 (e.g. from home, work and other activities) and asking specific questions (e.g. date of the most recent contact, duration of their interaction, etc.) to investigate which ones are close contacts, in order to establish isolation measures or offer testing, if they have symptoms. In Spain, contact tracers at the regional level track down people who were closer than two meters to either suspected or confirmed cases for more than 15 minutes in the two days before the onset of symptoms or a positive test. In England, NHS Test and Trace operates as a partnership between the national level, where contact tracers interview cases and identify contacts for non-complex cases, and the local level, where contact tracers from local Public Health England Health Protection Teams deal with more complex cases (e.g. in schools, workplaces, prisons or care homes).² Contact tracing strategies, however, differ across England, Scotland, Wales and Northern Ireland.

For some countries using a decentralised approach, general practitioners are part of contact tracing

In some countries, general practitioners (GPs) play a key role in contact tracing. For example, in Serbia, the physician attending a possible or probable COVID-19 case is responsible for recording the patient's close contacts after the onset of symptoms of COVID-19, and then sending it to the epidemiologist of the territory's public health institute. Afterwards, the epidemiologist contacts all the people on the list and requests that they self-isolate for 14 days.

In Norway, GPs in the municipalities are responsible for tracing contacts for all patients with confirmed COVID-19, in cooperation with the Norwegian Institute of Public Health.

Many countries are making more funding and employment opportunities available for contact tracing teams

Most countries have invested in additional human resources in public health to strengthen their tracing teams. This

is the case in Romania, where several measures have been taken to increase the availability of human resources, not only to increase the number of health professionals dealing with COVID-19 outbreaks (including hospital staff and public health workers tackling contact tracing), but also to retain existing health workers. In Serbia, the Minister of Health stated that 4,500 health workers were employed during the state of emergency period, including 1,800 doctors, with newly employed staff being trained on basic aspects of coping with the COVID-19 outbreak, including using contact tracing tools. In England, 18,000 contact tracers were initially recruited and started work at the end of May. Of these, 3000 had a medical or public health background and were responsible for initial interviews with cases and identifying contacts. These contact tracers were supported by 15,000 individuals, most with no experience in health care, who followed-up to provide advice to named individuals.² In Germany, the Health Ministry provided public health offices at the local level with €50 million to digitise and speed-up tracing operations as well as hire additional tracers (see Box 1).

Contact tracing apps are being developed and used to help contain the spread of the virus

Several countries have identified apps as a supportive measure to telephone contact tracing with the potential to trace contacts of infected persons that they may not know personally but have been in close proximity to (e.g. Austria, Belgium, Bulgaria, Denmark, Finland, France, Georgia, Germany, Iceland, Ireland, Russian Federation, Spain, Ukraine, and the UK). The specific technical details and capabilities of the apps can vary substantially, which affects how individuals use them and what data are collected. This article specifically focuses on apps designed for contact tracing, while apps used for self-diagnosis, monitoring active cases and communications are outside of this review.

Contact tracing apps employed in the surveyed countries can either rely on Bluetooth or geolocation services. Contact tracing apps based on Bluetooth detect

Box 1: Germany: the main features of a successful contact tracing strategy

Run primarily at the local level, contact tracing is organised by 375 public health offices across the country that have been monitoring cases, tracing outbreaks and providing counselling. Contact tracing teams in the country have been built using existing resources and officials from the public health offices. Medical students, armed forces members and civil servants were all brought in to help, and primarily work through daily phone and house calls. The federal and state governments agreed on 25 March that public health offices must have at least one contact tracing team of five people per 20,000 inhabitants.³ The Robert Koch Institute (RKI) recruited and trained “containment scouts” to help build these teams. A survey of the public health offices made public on 14 May found that 67% did not reach their targets until mid-May, so 105 mobile contact tracing teams were also created as an RKI program financed by the Ministry of Health.⁴

The RKI launched the “Corona-Warn-App” on 16 June. Using decentralised and anonymous software, the app exchanges temporary encrypted IDs with other app users via Bluetooth. It notifies them if they have been in the vicinity of an infected person for a period of at least 15 minutes within the last 14 days.⁵ By mid-September the app had been downloaded 18 million times.⁶ Furthermore, as Schengen internal borders slowly re-open and commuters and tourists return, the RKI has made the app available for international download.

if a user has been at least 15 minutes and within 2 meters with another person that is using the app. If a person on that history list self-reports to have tested positive for COVID-19, those logged contacts would be notified and can take measures to self-isolate (see Box 2). Contact tracing apps which monitor the movement of COVID-19 patients based on geolocation can take the form of monitoring bracelets (Russian Federation), or they could be mobile apps downloaded to phones. However, apps using geolocation raise privacy concerns as they use location data from telecommunications providers.

Most apps developed so far can be downloaded voluntarily, and how much they allow users to opt-in on different features (e.g. geolocation, data sharing) varies. For example, Denmark has developed an app, which tracks citizens who voluntarily decide to use the app. If a citizen using the app is diagnosed with COVID-19, all citizens who have downloaded the app who have been close to the person will be informed that they may have been exposed to COVID-19, but the identity of the patient will not be revealed to them (see Box 2).

On 31 May, Italy launched the Immuni app on Apple and Android. Citizens are able to

voluntarily install it on their phones. At the end of June, the app had about 4 million downloads.¹² In Ireland, a COVID-19 Tracker App was launched on 7 July 2020. The app utilises a decentralised model, with information exchanged between close contacts using anonymous codes. To demonstrate the openness and transparency of the technology behind the app, the Data Privacy Impact Assessment and source code was published prior to launch. Within 36 hours, the voluntary app had one million downloads (approximately 20% of Ireland’s population).

Governments grapple with the difficult balance between effectively tracing contacts and ensuring data privacy

Several countries explicitly mention that privacy concerns, data storage, governance considerations, and partnerships with private industry players impact the speed of adoption of these apps (Belgium, France, the Netherlands, Spain), as governments weigh these implications. For example, while Norway launched an app on 16 April, concerns about privacy issues, including from the Norwegian Data Protection Agency, due to the use of GPS-tracking, as well as a fall in the number of active users, led to it being

Box 2: The Smittestop app in Denmark

The single Danish contact tracing app – ‘Smittestop’ (‘Contagionstop’) – was developed as a public-private innovation initiative, involving the Ministry of Health, the Danish Patient Safety Authority, the Danish Health Authority, the Agency for Digitization, the Statens Serum Institut and a private company, Netcompany.⁹ On 15 May, a large majority in the Danish Parliament agreed to develop the app, and it was implemented in 18 June.⁹

Using the app is voluntary, and it may be downloaded for free. The app relies on Bluetooth technology and Google’s and Apple’s technology for decentralised tracing of contacts (Exposure Notification, ENF). The app logs every device for everyone who has downloaded the app and whose Bluetooth connection has been nearby. This data is stored on the mobile device; it is not reported to other databases.⁹

A person who wants to self-report that they are COVID-19-positive must log-in on the app by way of ‘NemID’, a Danish common secure login on the Internet,¹⁰ whereupon the diagnosis is validated in the National Patient Registry. If the person is registered with a diagnosis of COVID-19, the patient will be asked whether he/she has symptoms of COVID-19, when the symptoms started, and whether the patient wants to share the information.⁹

If so, devices which have been closer than one meter to the device, for more than 15 minutes within the latest 14 days are notified. Neither the patient, nor the citizens, receive information about each other’s identity.⁹ By 8 July, the app had been downloaded 745,000 times (12.8% of the population, assuming each user was unique), and 112 persons had registered themselves as infected with COVID-19 using the app.¹¹

discontinued on 15 June; all data collected were deleted. In Spain there is an order that regulates the use of anonymised and aggregated data provided by mobile operators in order to analyse the population movements prior and during the lockdown, with a view to identify hotspots and improve the management and coordination of health care resources. The app will be fully available for those autonomous communities that so wish by September 15th, although some regions could have a first functional version by mid-August, if needed. The use of the app as well as communicating a possible contagion would be voluntary. The technology for the app in Belgium has to be open source, use only anonymised data, and rely on Bluetooth technology as opposed to geolocation technologies. Moreover, Belgium has specified that if different regions use different applications, they should be compatible with each other and with the federal eHealth platform. The German app was developed by SAP and Deutsche Telekom and privacy concerns

were largely assuaged by including input from cybersecurity experts at German research institutes.

Some lessons and recommendations for the future

Contact tracing has been identified as a key element to control the spread of COVID-19. In our analysis we have found that some countries had contact tracing strategies in place, but dedicated resources were initially insufficient at the onset of the health crisis. As the COVID-19 crisis developed, countries invested additional resources into contact tracing, such as hiring new personnel and/or developing apps that could help support the re-opening of the economy. However, even if countries have the appropriate resources to perform contact tracing, ensuring the system can identify possible cases quickly, as well as having adequate supervision and management of contact tracers in place are key elements for the success of contact tracing.

We have also found that most countries tend to implement a decentralised approach for contact tracing through regional/district public health services. This approach facilitates closeness to the population and its needs, but may result in uneven contact tracing across the country if there is a geographical imbalance in public health capacity. Additional coordination at national level may avoid an unequal implementation of contact tracing within countries, and promote the fluid coordination between the testing and tracing systems.

This is particularly relevant for the use of apps. We found that some countries have developed different contact tracing apps to broaden their ability to undertake early detection of potential new COVID-19 infections. However, there is heterogeneity in the characteristics of these apps: some apps are voluntary (e.g. Denmark) while others are compulsory (e.g. Russian Federation); some countries have introduced legislation to allow access to private data (e.g. Spain) while others only use anonymised data (e.g. Belgium). Independently of their characteristics, there should be transparency regarding how the information is gathered and for what purpose, with data privacy prioritised.

“limited uptake by citizens means that apps should not be the only solution

Further, while some think that the use of apps can help make the contact tracing operation faster and more effective and engage citizens in the process, a limited uptake by citizens means that apps should not be the only solution. In fact, few countries get above 1 in 5 residents to download the contact tracing app.

To conclude, we understand that the success of a solid contact tracing strategy is very much intertwined with other strategies. These include the reinforcement of early detection of infection in primary care (by PCR or any other equivalent test), closer coordination with the epidemiological surveillance services, and compliance with isolation measures. Further analysis across these may reveal relevant lessons for future health crises.

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Achieving Person-Centred Health Systems: Evidence, Strategies and Challenges

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The idea of person-centred health systems is widely advocated in political and policy declarations to better address health system challenges. A person-centred approach is advocated on political, ethical and instrumental grounds and believed to benefit service users, health professionals and the health system more broadly. However, there is continuing debate about the strategies that are available and effective to promote and implement 'person-centred' approaches.

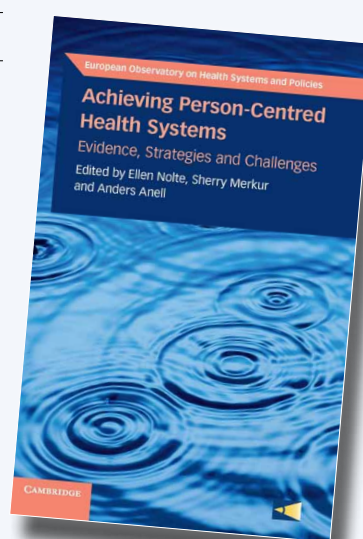
This new study brings together the world's leading experts in the field to present the evidence base and analyse current challenges and issues. It examines 'person-centredness' from the different roles people take in health systems, as individual service users, care managers, taxpayers or active citizens. The evidence presented will not only provide invaluable policy advice to practitioners and policy makers working on the

design and implementation of person-centred health systems but will also be an excellent resource for academics and graduate students researching health systems in Europe.

Contents: Forewords; Acknowledgements; The person at the centre of health systems: an introduction; Person-centredness: exploring its evolution and meaning in the health system context; Person-centred health

systems: strategies, drivers and impacts; Achieving person-centred health systems: levers and strategies; Community participation in health system development; Patient and public involvement in research; Listening to people: measuring views, experiences and perceptions; Choosing providers; Choosing payers: can insurance competition strengthen person-centred care?; The service user as manager of care: the role of direct

payments and personal budgets; Choosing treatments and the role of shared decision-making; The person at the centre? The role of self-management and self-management support; Patients' rights: from recognition to implementation; Index.



HOW COMPARABLE IS COVID-19 MORTALITY ACROSS COUNTRIES?

By: Marina Karanikolos and Martin McKee

Summary: Surveillance and monitoring systems are central to governments' responses to the COVID-19 pandemic. This article focuses on assessing differences in mortality recording across countries and over time, to inform country comparisons. We show that variations in definitions, testing policies and changes over time affect international and intra-country comparability. Estimating excess deaths is therefore increasingly used to monitor the impact of COVID-19, with early evidence showing a major increase in excess mortality in countries most affected. Enhanced monitoring of the impact of COVID-19 on mortality using multiple data sources, with data published in a timely and accessible manner, is thus important.

Keywords: Mortality, Excess Deaths, COVID-19

Introduction

The COVID-19 pandemic has created a revolution in health data. Once, anyone wanting to discover how a country was doing in terms of improving the health of its population would have to wait for months or, in many cases, years to find out. No more. Now they can consult online dashboards such as those published online by the [World Health Organization \(WHO\)](#), [Johns Hopkins University](#), and [Worldometer](#), among others, and find daily numbers and rates of COVID-19 cases and deaths. But can they rely on what they see? These dashboards rely on summary data mostly supplied by national governments. Yet, even in a single country, figures for COVID-19 related deaths can vary among different sources and there are large variations in the proportion of additional deaths that countries list as due to COVID-19 since the onset of the pandemic. If those using the dashboards are to make meaningful

comparisons, they must first understand how each country conducts surveillance and monitoring of deaths. This article, based on the information collected from the [COVID-19 Health Systems Response Monitor \(HSRM\)](#) network, explores how COVID-19 mortality is recorded in countries in Europe and North America.

How are COVID-19 deaths defined?

Headline figures for COVID-19 (those reported daily by official Government sources for the current or previous day) of cases and deaths have the benefit of being real-time or near real-time. However, in many cases they have been gathered using systems set up specially to track the pandemic, for example by gathering data from hospitals or long-term care homes. It is therefore important to distinguish the resulting figures from those reported by national statistical offices (or other agencies/authorities) that use data from

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Table 1: Definition of COVID-19 deaths in headline figures

Country	Diagnosis-based	Test-based	Other issues affecting comparisons
Belgium	✓	–	Only lab-confirmed deaths (largely in hospital) reported until 31st March
Bulgaria	✓	–	All reported deaths had +ve test result
Canada	✓	–	Figures include deaths from other causes “with” COVID
Croatia	✓	–	Those ‘probable’ can only be included if test +ve
Cyprus	✓	✓	Test result has to be recent
Estonia	✓	–	–
France	✓	–	–
Germany	✓	–	Figures include deaths “with” COVID
Greece	✓	✓	–
Ireland	✓	–	Only lab-confirmed deaths were reported until 21st April, but all subsequent figures also include probable deaths from the start of the pandemic
Israel	✓	–	–
Latvia	✓	–	All reported deaths had +ve test result
Lithuania	✓	–	–
Malta	✓	–	Those ‘probable’ can only be included if test +ve
Poland	✓	–	–
Portugal	✓	–	Probable deaths are tested for COVID-19
Romania	✓	✓	–
Serbia	✓	✓	–
USA	✓	–	Only lab-confirmed deaths reported until mid-April
Austria	–	✓	–
Bosnia and Herzegovina	–	✓	–
Hungary	–	✓	–
Iceland	–	✓	–
Italy	–	✓	– due to +ve test requirement most are hospital deaths; – likely underestimate as alternative sources (e.g. statistical office) report higher numbers
Netherlands	–	✓	– due to +ve test requirement most are hospital deaths; – likely underestimate as alternative sources (e.g. statistical office) report higher numbers
Norway	–	✓	–
Slovenia	–	✓	– widespread testing performed with all patients with moderate/severe respiratory symptoms hospitalised and tested
Spain	–	✓	– due to +ve test requirement most are hospital deaths; – likely underestimate as alternative sources (e.g. statistical office) report higher numbers
Sweden	–	✓	–
Switzerland	–	✓	– may differ from data reported by cantons, where deaths also include those clinically diagnosed
United Kingdom	–	✓	– until 29th April only hospital deaths were included for England; – likely underestimate as alternative sources (Office for National Statistics, which publishes weekly data) report higher numbers

Note: Diagnosis-based definition is that based on clinical diagnosis of cause of death, both confirmed and probable; test-based definition is that where positive COVID-19 test is the required for death to be attributed to COVID-19. This information is based on country expert opinion collated within HSRM initiative as of June 2020. These are also based on publicly available information and may be subject to change.

the normal death registers, but take longer to be processed. For a number of reasons (see below), deaths reported daily in headline figures may not be entirely comparable across countries.

Table 1 shows the two main ways in which COVID-19 deaths are reported in headline figures. *The first, based on clinical diagnosis of the cause of death*, counts clinically confirmed or probable

COVID-19 cases that have died (e.g. Belgium, Canada, France, Germany) and are not dependant on the availability of laboratory tests. *The second, in contrast, is reliant primarily on a positive laboratory*

test (e.g. Austria, Italy, the Netherlands, Spain, the United Kingdom). However, the distinction is not always clear cut. Some countries include probable COVID-19 deaths in the definition but still, in practice, require laboratory confirmation (e.g. Cyprus, Greece, Romania, Serbia), while there are also countries that primarily use clinical diagnosis of cause of death, but also include any death among positive cases (e.g. Canada). Occasionally, countries distinguish deaths *with* COVID-19 and deaths *from* COVID-19 in the headline figures (e.g. Lithuania).

“
resulting in
many years of life
expectancy
being wiped out

The international standard for the definition of COVID-19 death based on clinical diagnosis was published by WHO on 16th April 2020 and updated guidelines on 7th June.¹ According to these guidelines, death due to COVID-19 is defined as:

“a death resulting from a clinically compatible illness, in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID disease (e.g. trauma). There should be no period of complete recovery from COVID-19 between illness and death. A death due to COVID-19 may not be attributed to another disease (e.g. cancer) and should be counted independently of pre-existing conditions that are suspected of triggering a severe course of COVID-19. Deaths due to COVID-19 are the ones that are counted in cause of death data collection (for the purposes of COVID-19 death reporting)”.

Following from this, diagnosis- or cause-based approach requires reported COVID-19 deaths to be identified on a death certificate by a clinician as an underlying cause where the disease caused, or is assumed to have caused, or contributed to death. It served as a

basis for many national diagnosis-based definitions (Column 2 in **Table 1**), although there may be variable delays in reporting due to the length of death certification process. The June update added the last sentence to the abovementioned definition to ensure that all deaths due to COVID-19 in all countries are identified, including in countries that may not follow WHO guidance for death certification.

The other definition relies on a positive test, and as a consequence, on rigorous testing policies and availability of accurate tests. As a result, the following issues must be considered:

- Testing policies vary widely across countries; moreover, they have evolved over the course of the pandemic.² Once community spread began, population groups in some countries with limited testing capacity eligibility for tests was restricted (e.g. to people with severe symptoms). This resulted in limiting reporting mainly to hospital deaths (e.g. Italy, the Netherlands, Spain, the United Kingdom (England)) as those attributed to COVID-19. At the same time, deaths in long-term care institutions and residential setting have often been underreported.³
- In addition to absolute number of deaths, the case-fatality ratio for COVID-19 is also affected by testing. Countries with very narrow testing criteria, for example those only testing severe cases that present in hospital, are likely to have comparatively high case-fatality rates as a result of the smaller volume of tests.

In terms of testing accuracy, PCR (polymerase chain reaction) test sensitivity can be as low as 54%,⁴ with results also depending on the timeliness and expertise of sample collection. This means that a number of cases were not detected due to false negatives. However false positives are extremely rare.

Implications for interpreting the headline COVID-19 mortality figures

Given the variation in defining COVID-19 deaths in the headline figures, caution is needed when making comparisons of COVID-19 mortality across countries.

Where the clinical diagnosis-based definition is used, it is more likely that a greater share of COVID-19-associated deaths will be captured, unlike in countries relying solely on positive tests – for reasons mentioned above. However, there are further caveats: recording of cause of death on the death certificates can vary due to differences in implementation of international and national guidelines, as well as death certification and coding practices. For example, some countries using the clinical diagnosis-based definition still require a positive test result (e.g. Greece), while others (e.g. Canada) include any death in a person with COVID-19, even if it was not triggered by the virus (e.g. trauma). There may also be changes in guidelines over time, which is particularly relevant during this pandemic, as it involves the emergence on a novel cause of death. The complexity of tracking COVID-19 mortality, accounting for changing definitions and different sources of data, especially where there are differences among sub-national units, can be seen in the United Kingdom (**see Box 1**).

Monitoring excess deaths can more accurately highlight the scale of COVID-19 impact

The issues discussed above limit comparability of the headline COVID-19 mortality figures among countries. Therefore, both WHO and the European Centre for Disease Prevention and Control (ECDC) recommend European countries monitor total, as well as excess mortality (compared with what would be expected at that time of year) by age at least on a weekly basis.⁵ Tracking all deaths has several advantages. Most importantly, it includes deaths among those who probably had COVID-19. It also provides a more comprehensive picture of the scale of mortality during the crisis and facilitates comparisons across countries. Excess deaths would include all causes, and therefore include any increase in mortality from other conditions, including those where people were not able to access timely care (but would also be reduced where deaths fell, for example from fewer road traffic injuries when people were under lockdown).

Box 1: Counting COVID-19 deaths – an example from the United Kingdom

Challenges in maintaining coherent mortality dataset can be illustrated by looking at the UK, which has undergone several iterations in definition of COVID-19 deaths, coupled with variations across the UK countries of England, Northern Ireland, Scotland and Wales (**Table 2**). First, until 29th April, the official daily COVID-19 death count for England only included deaths in hospitals, but not in any other settings. Second, the breadth of definition across countries still varies. Third, the Office of National Statistics (ONS) reports a parallel set of figures for England and Wales, using the definition based on clinical diagnosis. Fourth, in July it transpired that for England figures include deaths from causes not related to COVID-19 if a person ever tested positive for COVID-19. This led to change in definition in August and recalculation of deaths reported in the headline figures.⁵

The impact of differences in assessing the impact of COVID-19 mortality can be illustrated using the figures from England and Wales, as reported by the ONS for 2020.⁶ From the week ending 13th March to week ending 17th July, a total of 245,007 deaths were registered. Of these, a quarter (57,886) were excess deaths (those above the average of corresponding weeks for the preceding 5 years). The number of deaths where COVID-19 was mentioned on a death certificate (i.e. probable, suspected or confirmed) amounted to 50,800. These, however, may be an underestimate, as in England doctors were not required to mention COVID-19 on the death certificate.⁷ Deaths with a COVID-19 positive lab test represent an even smaller number, about 42,000, suggesting a further degree of underestimation, despite the possibility of inclusion of some deaths from other causes while a person also tested positive for COVID-19.

Table 2: Definitions of death from COVID-19 in the UK's headline figures

Country	Source	Definition of COVID-19 death
UK	UK Government (Gov.uk)	Figures are the total of COVID-19 deaths reported by the four devolved administration.
England	Public Health England (PHE)	From 12/08/2020: Deaths are only included if the deceased had had a positive test for COVID-19 and died within 28 days of the first positive test. From 29/04/2020 to 12/08/2020: deaths of people who have had a diagnosis of COVID-19 confirmed by a PHE or NHS laboratory. Before 29/04/2020: deaths in NHS-commissioned services (e.g. hospitals) of patients who have tested positively for COVID-19.
Wales	Public Health Wales	From 12/08/2020: deaths of hospitalised patients in Welsh Hospitals or care home residents where COVID-19 has been confirmed with a positive laboratory test and the clinician suspects this was a causative factor in the death. The majority of deaths included occur within 28 days of a positive test result. Before 12/08/2020: A death in a hospitalised patient or care home resident where COVID-19 has been confirmed with a positive test and the clinician suspects this was a causative factor in death (does not include deaths in other settings).
Scotland	Scottish Government (Gov.scot)	A confirmed COVID-19 death of an individual who dies within 28 days of their first positive COVID-19 laboratory report.
Northern Ireland	Department of Health Northern Ireland	Deaths reported to the Public Health Agency where the deceased has had a positive test for COVID-19 and died within 28 days, whether or not COVID-19 was the cause of death.

A number of initiatives to facilitate international comparisons using excess deaths have been developed. The Financial Times has been an especially valuable source. Its analysis, on 13th July 2020, reports an increase in mortality in comparison to levels of previous years of over 40% in several countries (e.g. in Italy, Spain, Belgium, the United Kingdom).⁸ However, the situation varied markedly among regions within countries. It is also

important to bear in mind that there is variation by age group, deprivation level, sex and ethnicity, with higher mortality rates in men compared to women and in older age groups. Evidence from the UK and USA also shows that death rates are also disproportionately higher among people with Black and some Asian ethnic backgrounds; however, very few other countries in Europe record information on ethnicity, meaning these

groups are essentially invisible in the statistics.¹⁰ Weekly figures reported by the Economist¹¹ suggest that there were weeks in the spring of 2020 where mortality exceeded historical levels in Belgium, France, Italy, Netherlands, Spain, Sweden, Switzerland and the United Kingdom.

Excess mortality not only makes it possible to better understand the overall

impact of COVID-19 on population health, it also facilitates tracking the impact of the pandemic in real time, if reported with a minimal delay and at least on a weekly basis. This shows the important role of Statistical Offices or equivalent agencies in timely collection and publication of all-cause mortality data. As an analysis by the UK's Health Foundation shows, during the peak of the pandemic, the number of deaths in Spain, Italy and the United Kingdom has more than doubled in comparison to the average figure for the corresponding week in the preceding 5 years.¹² A recent study from Sweden shows that from the first week of April onwards the country experienced an increase in excess mortality among people over 60 years of age, with those over 80 being particularly affected with a 75% increase in mortality in men and 50% in women.¹³ That study also finds that this is leading to a rapid drop in life expectancy at age 50 – by 3 years in men and 2 years in women. Unfortunately, however, these crucial data are not routinely reported or tracked via dashboards in the same way as COVID-19 headline figures in most countries, even within the European Union.

The exception is a subset of countries (18 European Union/European Economic Area (EU/EEA) countries, Berlin region of Germany and the 4 countries of the United Kingdom) whose agencies contribute to the EuroMOMO project.¹⁴ Despite the approximately 4 weeks delay in publishing a complete dataset and the scale of excess deaths for individual countries or regions being expressed as a z score (with each z unit being one standard deviation) rather than the more intuitive figure of the percentage of excess mortality (or ideally, the actual figures to allow for more detailed inspection), it still shows that in spring 2020 mortality in Belgium, France, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden, Switzerland and the 4 countries of the United Kingdom was significantly higher than the levels seen between 2015 and 2019 for all ages (see Figure 1). The highest increases in deaths were seen in people over 65 years of age, but high excesses ($z > 10$) were also seen in France, Spain and particularly in England among younger age groups.

Figure 1: Excess mortality in the peak of the COVID-19 pandemic in Europe



Note: Figure shows excess deaths in Week 15 (beginning of April) 2020.

Source: Data from Euromomo

Conclusions

In summary, national definitions of COVID-19 deaths fall broadly into two groups: clinical diagnosis-based (confirmed and probable) and test-based. This may result in a substantial lack of comparability of COVID-19 related mortality across countries. In addition, issues such as testing policies, places of death included, changes over time, and regional variations in practices can further complicate mortality monitoring.

Where headline figures are subject to laboratory test confirmation, there often is evidence from statistical offices or research agencies of substantial under-

reporting of COVID-19 mortality. In contrast, figures that are based on death certificates are widely recognised as more reliable, but take longer to be reported, and therefore are subject to varying, but often considerable delays. In addition, accuracy may vary depending on the implementation of international guidelines and recording practices within countries.

Estimations of excess deaths are increasingly used to monitor the true scale of the impact of the COVID-19 pandemic with minimal time lag. Early evidence already shows close to two-fold increase in excess mortality in countries most affected, resulting in many years of life

expectancy being wiped out. However, it seems remarkable that there are so many difficulties in obtaining comparable and timely data on the deaths of the people of Europe. The current pandemic must lead national governments to place a higher priority on timely collection, analysis, and reporting of mortality in the future. For now, however, they should concentrate on ensuring that we can see the impact of COVID-19 on mortality using a variety of data sources, published in a timely and accessible manner.

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Building on value-based health care: Towards a health system perspective

By: PC Smith, A Sagan, L Siciliani, D Panteli, M McKee, A Soucat & J Figueras

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Preoccupation with the value created by health systems has been longstanding, and will likely only intensify given the ongoing health systems strains and shocks such as the COVID-19 pandemic. But the focus so far has usually been limited to value as seen from the perspectives of certain actors in the health system and/or to certain dimensions of value.

In this policy brief, the authors call for a shared understanding of value that embraces the health system in its entirety,

including preventive services and other public health functions. They then define value to be the contribution of the health system to societal wellbeing.

The authors find that any meaningful formulation of the concept of wellbeing includes health, and by extension health systems, as an important contributor to wellbeing. Health improvement, responsiveness, financial protection, efficiency and equity are widely accepted as health systems' core contributions to wellbeing. Health systems can also contribute to wellbeing indirectly through the spillover effects that its actions have on other sectors.

Moreover, effective governance of the whole health system is needed to ensure that stakeholder perspectives and policy levers are aligned to promote a common concept of health system value and, ultimately, of societal wellbeing. There are governance tools, such as the TAPIC framework, that can help achieve this.



WHAT STRATEGIES ARE COUNTRIES USING TO EXPAND HEALTH WORKFORCE SURGE CAPACITY DURING THE COVID-19 PANDEMIC?

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Summary: Finding ways to increase the surge capacity and flexibility of the health workforce has been fundamental to delivering an effective COVID-19 response. This article explores the strategies that 44 countries in Europe plus Canada have taken to maintain and increase the availability of health workers using data from the COVID-19 Health System and Response Monitor. We show that all countries have used a variety of strategies to repurpose and mobilise the existing health workforce, while some have also augmented capacity by utilising foreign-trained or previously retired or inactive health professionals, medical and nursing students and volunteers.

Keywords: *Health Workforce, Surge Capacity, Planning, Implementation, COVID-19*

Introduction

Health systems globally have taken steps to maintain and enhance the capacity of the health workforce during the COVID-19 crisis. This surge planning was required not just to meet an anticipated rise in demand for health care in acute and emergency care settings, but to increase testing and monitoring and surveillance capacity and to ensure that essential services across all settings could be maintained. Ensuring the availability of health workers has been complicated by workforce depletion as health care workers themselves comprised a substantial share of those

infected by COVID-19. Monitoring and surveillance data show, for example, that out of all persons infected with COVID-19, health care workers made up 7% of the total in Germany, 10% in North Macedonia, 14% in the United Kingdom, and almost 20% in Cyprus and Lithuania.^[1] Moreover, many countries entered the crisis with pre-existing workforce shortages and/or geographical imbalances in the distribution of health care professionals.^[2, 3]

As noted in the World Health Organization's (WHO) technical guidance on 'Strengthening the Health System Response to COVID-19',

Table 1: Country strategies for maintaining or scaling up health workforce capacity

	Among existing health workforce ^o	Medical/nursing students	Retired HP	Inactive HP	Foreign-trained HP	Volunteers	Other measures ⁺
Albania	✓	✓	✓	–	–	–	–
Armenia	✓	✓	–	–	–	–	✓ (abroad)
Austria	✓	✓	–	–	✓	–	✓ (military)
Azerbaijan	–	✓	–	–	–	✓	–
Belgium	✓	✓	✓	–	–	✓	–
Bosnia and Herzegovina	✓	✓	✓	–	–	–	–
Bulgaria	✓	✓	✓	–	–	✓	–
Canada	✓	✓	✓	✓	–	–	✓ (military)
Croatia	✓	–	–	–	–	–	–
Cyprus	✓	✓	–	–	–	✓	✓ (private)
Czech Republic	✓	✓	–	–	✓	✓	–
Denmark	✓	✓	–	✓	–	–	✓ (military)
Estonia	✓	–	–	✓	–	✓	✓ (military)
Finland	✓	–	–	–	–	–	–
France	–	–	–	–	–	✓	–
Germany	✓	✓	✓	–	✓	✓	–
Greece	✓	–	–	–	–	✓	–
Hungary	✓	✓	–	–	–	–	✓ (private)
Iceland	✓	✓	✓	–	–	–	–
Ireland	✓	✓	✓	✓	–	✓	✓ (private)
Italy	✓	✓	✓	–	✓	✓	✓ (military)
Israel	✓	✓	–	–	–	–	–
Kyrgyzstan	–	✓	–	–	–	✓	–
Latvia	✓	✓	–	–	–	–	–
Lithuania	✓	✓	✓	–	–	✓	–
Luxembourg	✓	✓	✓	✓	–	–	–
Malta	✓	✓	–	✓	–	✓	–
Monaco	✓	–	–	–	–	–	–
Montenegro	✓	✓	–	–	–	–	–
Netherlands	✓	✓	✓	✓	–	–	✓
North Macedonia	✓	–	–	–	–	–	✓ (private)
Norway	✓	✓	–	–	–	–	–
Poland	✓	✓	–	–	–	–	✓ (military)
Portugal	✓	✓	–	–	–	–	–
Romania	✓	✓	–	–	–	–	–
Russian Federation	–	✓	–	–	–	–	✓ (military)
San Marino	✓	–	–	–	–	–	–
Serbia	–	✓	–	–	–	–	✓ (military abroad)
Slovenia	✓	✓	–	–	–	–	–
Spain	✓	✓	✓	✓	✓	–	–
Sweden	✓	✓	–	–	–	–	–
Switzerland	✓	✓	–	–	–	–	✓ (military)

	Among existing health workforce [°]	Medical/nursing students	Retired HP	Inactive HP	Foreign-trained HP	Volunteers	Other measures ⁺
Turkey	✓	–	–	–	–	–	–
Ukraine	✓	✓	–	–	–	–	–
United Kingdom	✓	✓	✓	✓	✓	✓	✓ (military, private)

Notes: HP = Health professionals, MoH = Ministry of Health

[°] examples include extra hours, part-time to full-time, cancelling leave

⁺ examples include redeploying armed forces personnel or private sector health professionals to the public sector

Source: Authors' analysis, based on ¹

surge capacity can be enhanced through a variety of measures, including repurposing and mobilising the existing workforce, changing working patterns, bringing inactive or retired health professionals back to the workforce, calling on volunteers, and mobilising nongovernmental and private sector workforce capacity.¹ In this article we explore which of these strategies 44 countries in the European region plus Canada have adopted to expand workforce surge capacity during the first wave of the COVID-19 pandemic using data extracted from the [COVID-19 Health System and Response Monitor \(HSPM\)](#).¹ We also consider whether any new strategies have been utilised and the tools that have been used to facilitate implementation in practice. We should note that while supporting health workers in practical terms and protecting their mental health and well-being are important measures to maintain health workforce capacity, strategies targeting these issues are discussed in the next article in this special issue and are therefore not addressed here.

Our findings show that of the measures outlined in the WHO technical guidance, most have been adopted to increase surge capacity in the European region and Canada, with most countries adopting at least two or more measures in combination (see Table 1).

Multiple strategies have been implemented to expand the capacity of the existing workforce, often underpinned by emergency legislation

Table 1 shows that the majority of countries have implemented a range of policy measures to maintain the capacity of the existing professional health workforce. The most common strategies (reported by 21 countries) include: asking health professionals to work extra hours, including moving from part-time to full-time work or allowing extra overtime (e.g. [Croatia](#), [Finland](#), [Germany](#), [Norway](#), [Ireland](#), [Italy](#), [Latvia](#), [Poland](#), [Spain](#), [Sweden](#)); modifying work schedules (e.g. [Canada](#), [Croatia](#)); suspending ongoing or scheduled external rotations for residents in training (e.g. [Spain](#), [Romania](#)); suspending exemptions after night shifts or on-call activities (e.g. [Poland](#), [Spain](#), [Switzerland](#)); and cancelling leaves of absence or foreign-travel (e.g. [Canada](#), [Czech Republic](#), [Greece](#), [Israel](#), [Luxembourg](#), [Norway](#), [Spain](#)). Four countries ([Austria](#), [Hungary](#), [The Netherlands](#) and the [UK](#)) have also temporarily changed or postponed re-registration and revalidation obligations for physicians.

Many countries have also redeployed health workers to work in different settings (e.g. in hospitals instead of the community or rotating between different facilities), to regions or cities with greater care needs, or to different disciplines, most notably to assist in intensive care units (ICUs), emergency departments or provision of telehealth services in primary care. These health workers have generally received

additional training, such as in use of personal protective equipment (PPE) or in the management of patients with acute respiratory failure. In many countries, older health professionals at greater risk of severe illness from COVID-19 were moved away from face-to-face consultations to answer helplines or to provide teleconsultations (e.g. [Spain](#), [Poland](#) and the [UK](#)).

Additionally, some countries have redeployed private sector staff into the public sector (e.g. [Cyprus](#), [England](#), [Ireland](#), [Malta](#), [Montenegro](#), [North Macedonia](#)). For example, in [England](#), an agreement has been brokered for the government to take over private hospitals and their staff for the duration of the crisis, resulting in tens of thousands of clinical staff moving to the public sector.

Implementation of many of these reforms has necessitated adoption of emergency legislation or suspension of existing legislation. Examples include a decree enacted in [Finland](#) requiring all staff between the age of 18 and 68 working in both private and public health care to work to tackle the crisis as needed. [Greece](#) meanwhile has officially revoked leave of absences for public sector staff, while Israel has prohibited health care workers from leaving the country. In [Canada](#), the provinces of Ontario and Quebec announced regional legislation to redeploy health and social care professionals to different units/facilities based on needs and to cancel vacations and modify work schedules. In [Germany](#), directives on minimum nurse staffing

Box 1: Measures towards maintaining or increasing health workforce capacity in Italy

Italy has adopted several measures to increase the availability of health workers, facilitated by the implementation of two Decrees (n. 14 of 9/03/2020 and n. 18 of 17/03/2020), and underpinned by additional funding of €660 million. These measures have included the government approving the permanent hiring of 20,000 health care professionals, allocating €250 million for staff overtime, authorising health care facilities to retain staff eligible above the age of retirement, offering retired doctors and nurses the opportunity to volunteer to practice and requesting temporary enrolment of doctors and nurses from the armed forces. In addition, freelance and temporary contracts for nurses and doctors have been permitted, also for those who are not yet listed as specialist in the Medical Registers (i.e. resident doctors) and temporary practice in Italy has been allowed for those who have been practising abroad under European Union (EU) directives.

On the 20th and 28th March 2020, the Department of Civil Protection issued two Ordinances (N° 654 and 656, respectively) to establish a Specialist Medical Unit and a Technical-Nursing Unit, with doctors and nurses recruited through online calls. Almost 7,000 doctors and 10,000 nurses applied as candidates, with 300 physicians and 500 nurses (from the National Health Service, private clinics and freelancers) later recruited by the Head of the Department of Civil Protection on the basis of specific requirements. Participation was voluntary and volunteers were sent to areas most affected by the COVID-19 emergency. In addition to their normal salary, each professional received a flat-rate solidarity

premium of €200 for each day of work, paid by the Department of Civil Protection. Hosting regions were responsible for reimbursing transfer and accommodation.

These measures have enabled several regions to rapidly increase their workforce capacity. In absolute numbers, by 8th May, Lombardy had hired 589 additional doctors (+3.8%) and 1,016 nurses (+2.6%) whereas Emilia Romagna hired 421 doctors (+4.7%) and 1032 nurses (+4.0%). The biggest effort was made by Marche, which increased its capacity of clinicians by 15.8% and of nurses by 7.3%.

A number of other countries have also sent volunteer teams to Italy as acts of solidarity. For example, Ukraine sent over 16 doctors and 4 nurses in support of the Marche region, while Albania sent a team of specialised physicians and nurses to Lombardy. Moreover, teams of doctors and nurses from, Tunisia, China, Cuba, Poland and Russia have come to serve in the most affected areas of Lombardy such as Bergamo, Brescia and Cremona. A team of 19 physicians from Norway and another team of 11 doctors and four nurses from Romania were also deployed to Lombardy through the European Civil Protection Mechanism. This mechanism has been set up by the EU to enable a prompt sharing of resources among all Member States to respond effectively to emergencies that occur inside or outside the EU. It facilitates cooperation and coordination to foster prevention, preparedness and response to disasters. When, as in the case of COVID-19, an emergency requires a stronger effort than a country by itself can handle, the European Commission coordinates the Mechanism and contributes to at least 75% of the transport and/or operational costs of deployments.

levels in hospitals and the professional nurse/nursing assistant ratios in nursing homes and ambulatory nursing practices were suspended. [Italy](#) enacted a number of Decrees to increase the availability of health workers (**see Box 1**).

Most countries have called upon medical and nursing students to work in clinical practice

In 36 countries, provisions were made to recruit medical and nursing students to support health professionals, for instance by allowing final year students to graduate early and join the workforce or by offering a gap semester to support health professionals (**see Table 1**). Students that were not necessarily in their final year have also assisted in operating COVID-19 hotlines in a number of countries or by

assisting with contact tracing (e.g. [Bosnia and Herzegovina](#), [Malta](#), [Montenegro](#), [Serbia](#), [Slovenia](#)).

Campaigns were launched to bring retired or inactive health professionals back to the workforce

In [Belgium](#), [Bosnia and Herzegovina](#), [Denmark](#), [Germany](#), [Iceland](#), [Ireland](#), [Italy](#), [Malta](#), [The Netherlands](#), [Norway](#), [Poland](#), [the UK](#), and the provinces of Ontario and Quebec in [Canada](#), national or regional campaigns have been launched asking retired and/or other previously registered health professionals to join the COVID-19 response. These measures have been supported by the creation of temporary registers, underpinned by emergency legislation to simplify re-registration procedures (e.g. [Poland](#), [Spain](#), [the UK](#))

and online portals (e.g. Ontario, [Canada](#) and Bavaria, [Germany](#)) that match demand from health facilities in need, with supply.

Efforts to encourage non-registered health professionals to return to work have also been taken at the local level. Hospitals in some countries (e.g. [the Netherlands](#), [Bosnia and Herzegovina](#) and [Germany](#)) have, for example, asked inactive or retired health professionals to return to work, often through social media campaigns and with the offer of additional, short-term trainings for returnees.

These measures have resulted in a large number of health professionals volunteering to return to work, although less have been recruited in clinical practice. In [Ireland](#), 72,000 people signed up to 'Be on call for Ireland', with 260 nurses and 63 doctors hired by mid-

Box 2: Various initiatives have been taken in Germany to enable foreign-trained professionals to support the response

Germany has taken steps to enable physicians trained outside the EU and not yet licenced to practice in Germany to assist the response. Before the pandemic, there were an estimated 14,000 foreign-trained physicians in Germany waiting for their medical qualifications to be recognised, many of whom arrived as refugees in 2015. To enable these professionals to support the response, a number of initiatives were launched at the State and local level. In Saxony, for example, the state medical association launched a [Facebook appeal](#) asking for German-speaking, foreign-trained doctors living in the state but without a license to practice, to volunteer by working as medical assistants. By the end of March, almost 300 doctors had signed-up to help. In Bavaria, foreign-trained doctors in the process of having qualifications recognised but without a medical license were granted permission to work as medical assistants for a year. In North Rhine-Westphalia, foreign-trained doctors in particular those working in anaesthetics, ENT and general internal medicine, were able to obtain an expedited professional permit to practice (under supervision) provided they passed a simplified language exam and already had a contract with a health facility. In addition, professional permits of health professionals already working in the State were automatically extended beyond the usual two-year limit.

April. In [the UK](#), over 10,000 health professionals registered to return to work, with close to 5,000 hired and redeployed by mid-April.

Countries have also implemented emergency recruitment procedures to hire new health workers

Emergency procedures to hire new health workers have been launched in a number of countries. In [Portugal](#), hiring of health care workers was facilitated through an exceptional procedure, with 137 doctors and 1,100 nurses hired by the end of July. In [Serbia](#), 4,500 health workers were employed during the state of emergency period, while [Romania](#) has created 2,000 temporary jobs (6 months).

Other recruitment strategies have targeted migrant health workers, health professionals from the private sector or armed forces

Belgium, [Czech Republic](#), [Ireland](#), [Italy](#), [Luxembourg](#), [Spain](#), [the UK](#) and several regions in [Germany](#) (see [Box 2](#)) have developed strategies to bring foreign-trained health professionals – in the process of registration – into the workforce temporarily or to speed up recognition procedures. In Ireland, refugees and

asylum seekers with medical qualifications were able to work in support roles such as health care assistants, while registration fees for foreign-trained doctors have been waived. Foreign-trained doctors, nurses and paramedics already working in the UK, but with visas due to expire by October 2020 have had them automatically renewed for a year. In [Austria](#), 24-hour carers from Eastern European countries were allowed to continue to enter the country to ensure that people with live-in carers continue to receive care.

In eleven countries medical and support personnel from the army were also recruited to help with the pandemic in health or long-term care settings (see [Table 1](#)).

In an act of solidarity, some European countries have also sent health workers to countries in need. For example, teams of physicians from [France](#), [Lithuania](#) and [Italy](#) were sent to [Armenia](#) to provide care to COVID-19 patients, while teams from various countries have assisted in Italy (see [Box 1](#)). In [Serbia](#), an NGO invited Serbian physicians abroad to temporarily return. In addition, patients from some European countries including France, Italy and the Netherlands that were in danger of running out of ICU capacity at the start of

the pandemic were transferred to Austria, Germany, Luxembourg and Switzerland for treatment. High-level diplomacy between governments and coordination across sectors such as transport, the military and health care played a key role in facilitating these arrangements.⁵

Volunteers have also been enlisted to support the COVID-19 response in selected countries

In [France](#), the “medical care reserve” was mobilised to allow for volunteers, mostly with health education such as retired nurses and physicians or students, to be deployed by the government. Similarly, in [Belgium](#), a list of reserves with medical experience was organised at the level of federated entities to provide assistance with health services under their competencies where required. In addition, Red Cross volunteers have set up medical orientation posts at 20 hospital sites. In [Greece](#), more than 8,000 volunteers applied to support the COVID-19 response through the digital platform (<https://ethelontes.gov.gr>), created by the Ministry of Health.

Other countries (including [Cyprus](#), [Estonia](#), [Germany](#), [Greece](#), [Italy](#), [Malta](#), [Poland](#) and [the UK](#)) have also asked for volunteers with little or no prior experience to help, often in basic support roles such as manning helplines or delivering medication and food to the most vulnerable, such as those self-isolating or shielding.

To date, there is limited information on how volunteers will be or have been deployed in practice and how safety standards have been adapted and ensured.

Policy lessons and implications

Evidence from the COVID-19 Health Systems and Response Monitor shows that a range of policy options at different levels (national, regional and local) were used by countries to enhance the surge capacity of the health workforce to meet unprecedented demand and/or to support re-organisation of health services during the COVID-19 pandemic. The strategies and tools used to support implementation are outlined in [Table 2](#). The most common

Table 2: Strategies adopted to maintain and enhance surge capacity and tools used to facilitate implementation

Strategy	Implementation tools
Repurpose and redeploy the existing health workforce	
Modify existing work practices	<ul style="list-style-type: none"> Suspend existing regulations or contractual arrangements to modify work schedules, increase working hours, change night shift working or relax minimum staffing requirements Emergency legislation to cancel leaves of absences or change registration requirements Coordination between professional associations and national or regional health authorities Contractual arrangements to modify work schedules, increase working hours, change night shift working or relax minimum staffing requirements
Redeploy health workers to disciplines, facilities, regions or cities with greater need	<ul style="list-style-type: none"> Centralised or regional online portals to match supply with demand Extra funding and temporary contract changes Additional training in person or online for health professionals to facilitate expanded scope of practice or greater task sharing Mandate health workers at risk of severe consequences from COVID-19 to work in non-patient facing roles
Redeploy private sector workers to work in the public sector	<ul style="list-style-type: none"> Emergency legislation for public sector actors to take over private sector hospitals and staff Coordination between private and public sector representatives Government funding to pay wages or compensation to private sector workers
Mobilising and recruiting additional health workers, students and volunteers	
Recruit (final year) medical and nursing students	<ul style="list-style-type: none"> Medical and nursing schools approve early graduation Allow early graduates to apply for provisional registration Relevant bodies to develop and offer temporary recruitment contracts Allow students that do not want to take early provisional registration to work in support roles
Bring inactive or retired health professionals back to the workforce	<ul style="list-style-type: none"> National or regional recruitment campaigns using traditional and social media Creation of temporary registers Relevant professional associations or health authorities to develop and offer temporary recruitment contracts Professional bodies directly contacting potential returnees Individual health facilities appealing to past employees to return Refresher training and training on COVID-19 treatment, management and safety measures, either online or in person Online portals to match supply with demand
Recruit new health professionals	<ul style="list-style-type: none"> Coordination between health facilities and regional or national government to report and assess demand and supply Additional funding Emergency legislation to launch exceptional recruitment procedures
Bringing foreign-trained health professionals into the workforce	<ul style="list-style-type: none"> Reduce language requirements and waive fees for conversion exams Emergency legislation to allow foreign-trained doctors to work in support roles Automatically extend work visas for foreign-trained professionals Allow health and care workers to continue to cross borders to work, even if borders are otherwise closed Remove working hour restrictions for medical and nursing students on visas
Utilising military medical capacity	<ul style="list-style-type: none"> Cross-sectoral coordination Emergency legislation allowing military health workers to work in civilian settings
Requesting assistance from other countries or international organisations	<ul style="list-style-type: none"> High-level diplomacy at Ministerial level Cross-sectoral working to transport health workers across borders Mutual recognition of qualifications across the EU
Recruit volunteers for non-medical or basic medical tasks	<ul style="list-style-type: none"> National or regional recruitment campaigns using traditional and social media Appropriate training Digital tools to match supply with demand

Source: Authors' own

measures utilised include strategies to enhance the capacity of the existing workforce, combined with recruiting (final year) medical and nursing students. Some countries also took measures to bring retired or inactive or foreign-trained but unregistered health professionals into the workforce, redeployed private sector workers into the public sector or asked volunteers to support the response. Most countries adopted at least two measures to increase surge capacity, with countries most affected by the pandemic implementing a broader range of measures.

The implementation of many of these changes has necessitated rapid adoption of emergency legislation to give planners, providers and commissioners of health services temporary new powers related to changing recruitment, planning and integration of these new workers in clinical practice. Additionally, online portals have been critical to enable current or inactive health care workers to register interest in joining the response, to facilitate temporary registration where required and to match workforce shortages with supply. Additional training to enable health professionals to work in different health care settings and roles or to allow volunteers to join the response was also needed. In many cases, new funding was required to facilitate the hiring of new workers on a temporary or permanent basis, to support training and the re-deployment of workers to different health care facilities or regions.

There is little information on how these strategies have played out in practice and the impact they have had on workforce expansion, workflows, skill-mix and quality of care. Evaluations of the different workforce strategies that have been employed ad-hoc in the various countries would be beneficial to learn from the crisis and inform contingency plans in the event of future waves and to re-consider health workforce options for the future.

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HOW ARE COUNTRIES SUPPORTING THEIR HEALTH WORKERS DURING COVID-19?

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Summary: Health workers have been at the forefront of treating and caring for patients with COVID-19. They were often under immense pressure to care for severely ill patients with a new disease, under strict hygiene conditions and with lockdown measures creating practical barriers to working. In this article we consider measures that countries have put in place to support health workers and enable them to do their job. We show that countries have implemented a range of measures, from mental health support, financial bonuses and practical support such as free accommodation and transport. The effectiveness of these initiatives should be evaluated to inform future crisis responses and strategies for health workforce development.

Keywords: *Health Workforce, Mental Health and Well-being, Childcare, Financial Support, COVID-19*

Introduction

An effective COVID-19 response includes implementing strategies that can support health workers to provide high-quality care, while maximising their protection. Health workers treating COVID-19 patients have been shown to be at high risk not only of becoming infected by the virus themselves, but also of experiencing anxiety, stress, trauma and other mental health conditions. An early study from Wuhan, China for instance found that 13.5% of health professionals treating COVID-19 patients showed signs of depressive disorder, 24.1% showed signs of anxiety disorder, and 29.8% showed signs of stress.¹ Similarly, 49.3% of health workers in Italy reported experiencing post-traumatic stress symptoms, 24.7%

symptoms of depression, 19.8% symptoms of anxiety, 8.27% insomnia and 21.9% high perceived stress.² This mental health burden may lead to burnout and force staff to take sick leave or leave their profession altogether. Moreover, many countries have been in lockdown with schools closed and transport reduced, which has created practical barriers for health workers to work. A survey by the Irish Nursing and Midwife Organisation, for example, has found that 62% of nurses and midwives with childcare needs in Ireland have had to take annual leave to care for children during the pandemic.³

In this article we explore the range of mental health, financial and other practical support measures that 36 countries in Europe and Canada have put in place

Table 1: Measures taken to support health workers during the COVID-19 outbreak outside of clinical settings

	Mental health	Childcare	Financial ⁺	Other ⁺⁺
Albania	–	–	✓	–
Armenia	–	–	✓	–
Austria	–	✓	–	–
Belarus	–	–	✓	–
Belgium	✓	✓	–	–
Bosnia and Herzegovina	–	–	✓	–
Bulgaria	✓	–	✓	–
Canada	✓	–	✓	–
Croatia	✓	–	–	–
Czech Republic	✓	✓	–	–
Denmark	✓	✓	–	–
Estonia	–	–	✓	–
Finland	✓	–	–	✓
France	✓	✓	✓	–
Germany	✓	✓	✓	–
Greece	–	–	✓	–
Hungary	✓	–	✓	✓
Ireland	✓	✓	–	–
Israel	✓	✓	–	–
Italy	✓	–	✓	✓
Kyrgyzstan	✓	–	✓	✓
Latvia	✓	–	✓	–
Lithuania	✓	✓	✓	✓
Malta	✓	✓	–	✓
Monaco	–	✓	–	–
Montenegro	–	–	✓	–
Netherlands	–	✓	–	–
Norway	✓	✓	–	✓
Poland	✓	–	✓	✓
Portugal	–	✓	–	–
Romania	✓	✓	✓	✓
Russian Federation	✓	–	✓	–
San Marino	✓	–	–	–
Sweden	✓	✓	–	–
Turkey	✓	–	–	✓
United Kingdom	✓	✓	–	✓

Source: Authors' compilation from ³

Notes:

⁺ These include financial measures beyond usual payments or salaries for health workers, including bonuses and pay rises for COVID-19 related work;⁺⁺ These include practical measures such as provision of free accommodation, transport or parking.

Box 1: Support for health workers in Malta

Malta has provided a wide range of support to health workers during the COVID-19 crisis.

Mental health support

Mental health support provided by psychiatrists and psychologists has been organised in Malta for public health staff and also for medical staff working on the frontline. Where requested, in-house psychologists are providing outreach in various front-line workplaces, giving short interactive sessions on basic self-care skills and resilience. Mindfulness sessions have also been offered to hospital workers together with targeted video clips on how to increase resilience. Several mental health NGOs and institutions have developed agreements with government to provide mental health support to the public by means of a freephone helpline run by mental health professionals and volunteers, including fast track referral pathways to those requiring psychological and psychiatric care.

A confidential Employee Support Programme (ESP) that was established prior to the pandemic continues to offer free confidential support to public service employees including health care workers. Employees are able to use ESP services during their working hours if they take vacation leave or request a temporary absence with the approval of their supervisor. The Medical Council has also issued guidelines for doctors, encouraging safe practice, the use of telephone and virtual consultation and safe online prescribing, and self-care.

The guidance recommends resting and eating well, noticing and trying to help colleagues who may be struggling with their mental health and making supervisors or colleagues aware of their own mental health needs where necessary.

Financial support

Health care workers who were required to stay at home on Preventive Quarantine under the Protection of Vulnerable Persons Order (LN 111 of 2020) still received their basic pay and class/grade allowances.

Other practical support

Measures to ensure continuity of parental care of children at home due to school closures include the facilitation of complementary shift work, support of telework by the parent/guardian staying at home to look after children, or financial support in terms of paid leave where this is not possible. In addition, a free childcare centre was opened by the government to care for children of health care professionals and members of the disciplined corps.

A number of initiatives delivered through the main hospital (Mater Dei Hospital), the main professional associations for health care workers and also through the Ministry for Health sought to facilitate and fund accommodation for front-line workers who needed to leave their residence to reduce the risk of transmission to family members.

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to support health workers, using data extracted from the [COVID-19 Health Systems Response Monitor \(HSRM\)](#). We only consider initiatives implemented outside of clinical settings where COVID-19 patients are treated, and therefore exclude workplace provisions such as availability of personal protective equipment, working time limits or mandatory rest periods.

Most countries have put in place special measures to support the mental health of health workers, often through helplines and remote counselling

Table 1 shows that 25 countries have adopted special measures to support the mental health of health and social care workers during the COVID-19 crisis.

In many countries, this support is provided through newly established helplines that health and oftentimes social care

workers can call to access psychological support from trained professionals and/or to receive referrals to additional mental health services. These helplines are sometimes organised at the national level (e.g. Bulgaria, Czech Republic, France, Israel, Malta, Romania, San Marino, United Kingdom) at the regional level (e.g. Belgium and Denmark) and/or by professional associations for specific professions (e.g. France, Ireland, Latvia, Poland, Turkey, UK). In Hungary and Croatia, helplines are run by universities and schools of public health. Apps and online services are also available in some countries (e.g. Belgium, Finland, Ireland, Norway, Romania, UK).

In Germany, Ireland, Norway and the UK, guidelines or other forms of guidance for promoting mental health and well-being have been issued, targeting both health workers themselves and employers. These

are often in addition to more general guidelines for mental health support that were available pre-crisis.

Remote counselling sessions with psychiatrists or psychologists are provided in some countries (e.g. Denmark, Finland, Italy, Lithuania, Malta, Kyrgyzstan, Poland, Russian Federation and the UK) for COVID-19-related stress management, burnout prevention and other mental health support. Norway has also established a buddy-system whereby health professionals can talk to a matched peer. In Malta, a range of mental health support has been offered, including mindfulness sessions for hospital workers and sessions on resilience for the public health response team (**see Box 1**).

In Stockholm, Sweden the rules for accessing 24-hour mental health support have been relaxed for the duration of the

Box 2: Support for health workers in Poland

Poland has implemented a number of initiatives to support health workers during the COVID-19 crisis.

Mental health support

In terms of psychological support for medical staff and other employees working during the pandemic, the Supreme Medical Chamber created a database of mental health specialists who are willing to offer their services to doctors, nurses, paramedics and other medical free of charge, either online or by phone. In addition, the state insurance state company (PZU Life) has set up a helpline (tel. number 22 505 11 77) offering psychological support to health care workers. The helpline is open every day from 8am until 8pm.

Financial compensation

From 29 April 2020 to 27 July 2020, health care employees in Poland who were in contact with COVID-19 patients (or persons with a suspected coronavirus infection) were prohibited from working in more than one place. To compensate them for the lost income due to this restriction, the Minister of Health instructed the National Health Fund (NHF) to provide them with monthly cash benefits, which were financed from the Ministry of Health budget. The benefits were set at a maximum of PLN 10,000 (€2,270) per month and were calculated as 80% of the remuneration received at the place of work where, after the introduction of the restriction, the employee no longer works, or, at a minimum, at 50% of remuneration received at the place where the employee chose to work after the restriction was introduced. It is estimated the bonus was on average PLN 6500 (€1,480) for physicians and PLN 3000 (€682) for nurses. The compensation also covered the costs of social security contributions payable by the employer.

On 27 July 2020, the obligation for medical professionals to work in one facility was relaxed. This is now decided by directors of medical facilities, who may release employees from the obligation to work in only one entity. An employee may be denied this if the exemption would result in the facility having difficulties in providing care to COVID-19 patients.

Compensation will be maintained for medical personnel who will not be able to work in other locations.

Some hospitals have supplemented the salaries of their employees with an allowance to compensate them for being exposed to patients with COVID-19. For example, employees of hospitals in Gdańsk receive an additional 20% of their basic salary (as specified in the employment contract) and 20% of the hourly rate (as per the contract); and in Wrocław an additional PLN 30 (€6.82) (gross) per hour of work is offered as compensation. The director of the University Hospital in Kraków has also committed to paying supplements to personnel working in the infectious disease ward and in the hospital's emergency department.

Other support for health workers

Various citizens' initiatives were launched during COVID-19 to support health workers in terms of providing childcare. The best known are the "Medical students" and "The crown won't fall off" initiatives. Volunteers are trained by action coordinators, together with a group of educators from "Villages" – an initiative that aims to educate and support teachers, families and local communities in creating and running educational environments for young children.

Because medical personnel working in hospitals are at higher risk of contracting coronavirus, in order to protect their families some hotels are providing accommodation to such medical personnel. Voivodeship branches of the National Health Fund are responsible for securing and paying for accommodation for the staff of hospitals treating patients with COVID-19.

The staff of the emergency department of the University Hospital in Zielona Góra together with the Polish Radio West prepared a spot as part of the #wspierajmedyka ('support the medic') campaign, which aims to draw attention to the problem of discriminatory treatment that some health care workers have experienced during the COVID-19 pandemic (e.g. not being allowed into shops out of fear that they are infectious).

By Iwona Kowalska-Bobko, Christoph Sowada, Maciej Furman, Małgorzata Gałązka-Sobotka

crisis, such that health workers are able to access help directly without a referral from their manager.

Childcare facilities were provided for health care workers in several countries where schools were closed

During the peak of the COVID-19 pandemic, childcare facilities and schools remained open to provide childcare for health workers where these institutions were otherwise closed in several countries

(Austria, Belgium, Czech Republic, Denmark, France, Germany, Monaco, Netherlands, Norway, Portugal and UK), the provinces of British Columbia, Ontario, and Quebec in Canada and Vilnius Municipality, Lithuania. Romania meanwhile paid allowances to cover for childcare costs during the crisis in the case where a health worker's partner could not take paid leave.

In the absence of a national childcare scheme for health care workers in

Israel, some hospitals and universities independently organised childcare (for children aged 3+ years) for their workers.

One-time bonuses or other forms of financial compensation have been awarded to health workers in many countries

Nineteen countries reported providing additional financial support and compensation above normal salaries to health care workers involved in the

COVID-19 response. This generally took the form of one-time bonus payments (Bosnia and Herzegovina, Estonia, France, Greece, Germany, Hungary, Italy, Kyrgyzstan, Romania, Russian Federation, Ukraine) or monthly bonus payments for the duration of the crisis (Albania, Latvia) from the central government. In Bulgaria, a monthly premium of BGN 1,000 (€511) for medical and non-medical professionals treating coronavirus patients has been announced, to be paid until the end of the year.

In Kyrgyzstan the bonus amount was reported to vary according to profession, with doctors paid the highest amount. In Greece, Latvia and the Russian Federation, the bonus amount was set as a proportion (50%, and between 20–50%, and 20–100% respectively) of the regular monthly wage. In Lithuania, salaries of health care professionals at medical institutions treating COVID-19 patients and those carrying out prevention activities were to increase by 60–100% during the pandemic; the exact amount at public providers is to be determined by the head of institution, depending on the type and place of work, and the associated risks of contracting the disease. In France, financial bonuses have been offered to all staff working in public hospitals irrespective of their occupation and position, as well as staff working in private hospitals that deal with COVID-19 patients and those working in nursing homes. The bonus for health workers ranged from €1,500 for those in the most affected regions to €500 for those in less affected regions, and from €1,500 for nursing home staff if they worked in a badly affected region to €1,000 if they worked in a less affected region. In Poland, health workers received financial compensation and bonuses for being exposed to COVID-19 patients and having restrictions placed on where they can work (**see Box 2**). It should, however, be noted that in some countries, bonuses promised by central governments have yet to be received by health workers.

In Armenia and Estonia, bonus payments for staff have been paid by individual hospitals. In Germany, long-term care workers were paid a bonus by the labour union ver.di and the Federal Association of Employers in the Care Industry

(BVAP). Some German states (e.g. Bavaria) have also given health workers a bonus in addition to that provided by the central government.

Health care professionals working with COVID-19 patients have been granted a temporary salary increase in Belarus, Lithuania and Montenegro for the duration of the crisis, set as a percentage of usual monthly salaries. In Canada, the federal government, provinces and territories have agreed to share wage top-ups for essential workers.

Beyond bonuses and salary rises, some countries (e.g. Denmark, Lithuania and Spain) have recognised COVID-19 as a work-related injury for health care staff, enabling them to access associated benefits. Further, in Kyrgyzstan, Lithuania, Romania, Spain and the UK, health workers' families will receive a lump sum payment if a health care worker working with COVID-19 patients dies due to COVID-19 infection. In Spain, Social Security will consider COVID-19 as the cause of death if the fatality occurs within five years after the onset of the infection.

Other support measures such as free transport, accommodation, and continuing education credits have been put in place

Some countries have introduced other practical support measures for health workers. For example, Poland, Romania, Malta and some provinces in Turkey have offered free accommodation for health workers isolating from their families during the pandemic. In Hungary and some parts of the UK, health workers have been given free access to public transport, while NHS workers in London can hire bikes for free from a city-wide cycle scheme. In Helsinki, Finland health workers have been granted free parking near health facilities. A hospital in Poland has launched a campaign to reduce discrimination against health workers (**see Box 2**). In Italy, doctors, dentists, nurses and pharmacists who continued working during the COVID-19 pandemic have been awarded 50 Continuing Medical Education (CME) credits for the year 2020.

Policy lessons and implications

Countries have introduced a variety of measures outside of clinical settings to support and value health workers and enable them to do their job during the COVID-19 pandemic. These range from mental health and well-being support initiatives, to providing bonuses and temporary salary increases. Practical measures such as childcare provision and free transport and accommodation have also been implemented to ensure health workers can get to their workplace and have their children looked after. Other initiatives such as offering continuing professional development credits for knowledge learnt during the crisis were also offered in some countries, albeit less frequently.

While a large number of initiatives have been introduced, often as ad-hoc measures, their effectiveness in helping staff is unknown in most countries. It is important that countries evaluate the impact of these initiatives to inform strategies for delivering an effective crisis response in the future. In addition, the mental health and well-being of health workers should be routinely assessed both during the crisis and after. Beyond the crisis period, providing appropriate long-term mental health support, adequate salaries and other compensation should be measures for further evaluation as core components of developing a sustainable health workforce.

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MANAGING HEALTH SYSTEMS ON A SEESAW: **BALANCING THE DELIVERY OF ESSENTIAL HEALTH SERVICES WHILST RESPONDING TO COVID-19**

By: Melitta Jakab, Naomi Limaro Nathan, Gabriele Pastorino, Tamás Evetovits, Sarah Garner, Margrieta Langins, Cris Scotter and Natasha Azzopardi-Muscat

Summary: The COVID-19 pandemic has put health systems and their ability to deliver health care services under strain. During the pandemic, health policymakers and health managers have learned to operate within a so-called “new normal” carefully balancing the response to COVID-19 with ensuring continuity of essential health services. Depending on the phase of the epidemic, the focus of service delivery needs to change requiring rapid shifts in priorities and allocation of resources while maintaining a baseline functionality for both. This dual-track approach presents an extreme challenge for policymakers and health facility managers in agility and rapid alignment of key health system functions to accommodate increased demand for health services.

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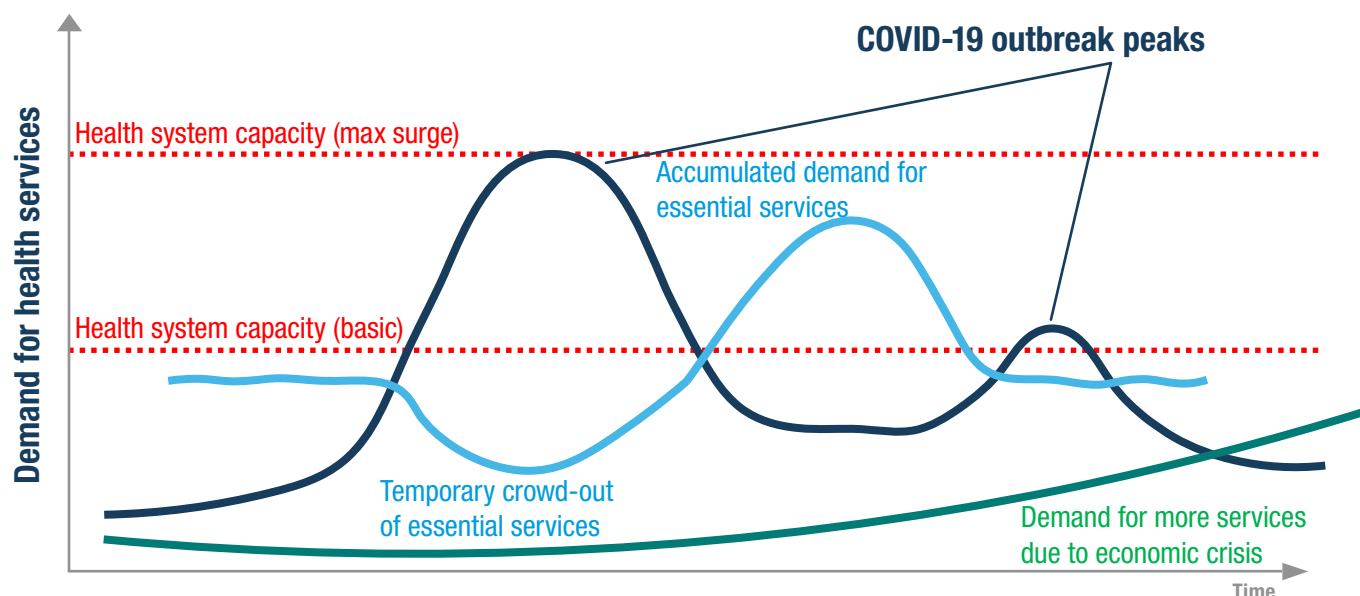
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Keywords: Health Systems, Dual Track, Transition, Essential Health Services, Service Delivery, COVID-19

Introduction – Increasing demand for health services amidst growing fiscal constraints in a dynamic context

The COVID-19 pandemic has revealed weaknesses in health systems’ preparedness and responses across the European region. This has compelled countries to rapidly adjust their public health measures, reconfigure their health systems¹ and remain prepared to continue to deliver a dynamic response, in view of

the likely long-lasting consequences of COVID-19. This dynamic preparedness is the “new normal” and some of the key challenges policy makers have to consider when managing responses have been addressed in the document published by the WHO Regional Office for Europe on “Strengthening and adjusting public health measures throughout the COVID-19 transition phases”.²

Figure 1: Dynamic change in demand for health services during the COVID-19 pandemic

Source: Authors' own

The “new normal” implies that health systems will have to operate in a challenging context – navigating both the increasing demand for health services (discussed below) and the resource constraints within new norms, standards and restrictions introduced as infection prevention and control measures. It also requires countries to recalibrate and reinforce their targets on progressing towards Universal Health Coverage (UHC) to ensure that populations have access to quality health services during and after the pandemic, without experiencing any form of financial hardship.²

Countries are witnessing an increasing demand for health services, arising from (i) COVID-19 cases, (ii) the pent-up demand for regular health services that are delayed during epidemic peaks, (iii) the physical and mental health impact of physical distancing measures and isolation; (iv) continued need of care and rehabilitation for long-COVID cases, and (v) the long-term impacts of the economic downturn (see Figure 1).

Meeting this increasing demand takes place at a time of tightening resource constraints due to the economic implications of the pandemic despite historical fiscal measures.³ The tightening fiscal environment will echo experiences from the financial crisis a decade ago.⁴

It is therefore essential to consider lessons learnt in order not to repeat mistakes and adequately balance efficiency and equity considerations going forward, while maintaining health as a priority of public policy and spending. Without adequately resourced health systems, economic and social recovery will not be possible.

The impact of COVID-19 responses on essential health service delivery

So far, maintaining a balance between COVID and non-COVID service delivery tracks and implementing dynamic shifts between service provision modalities has been a challenge across the WHO European region.

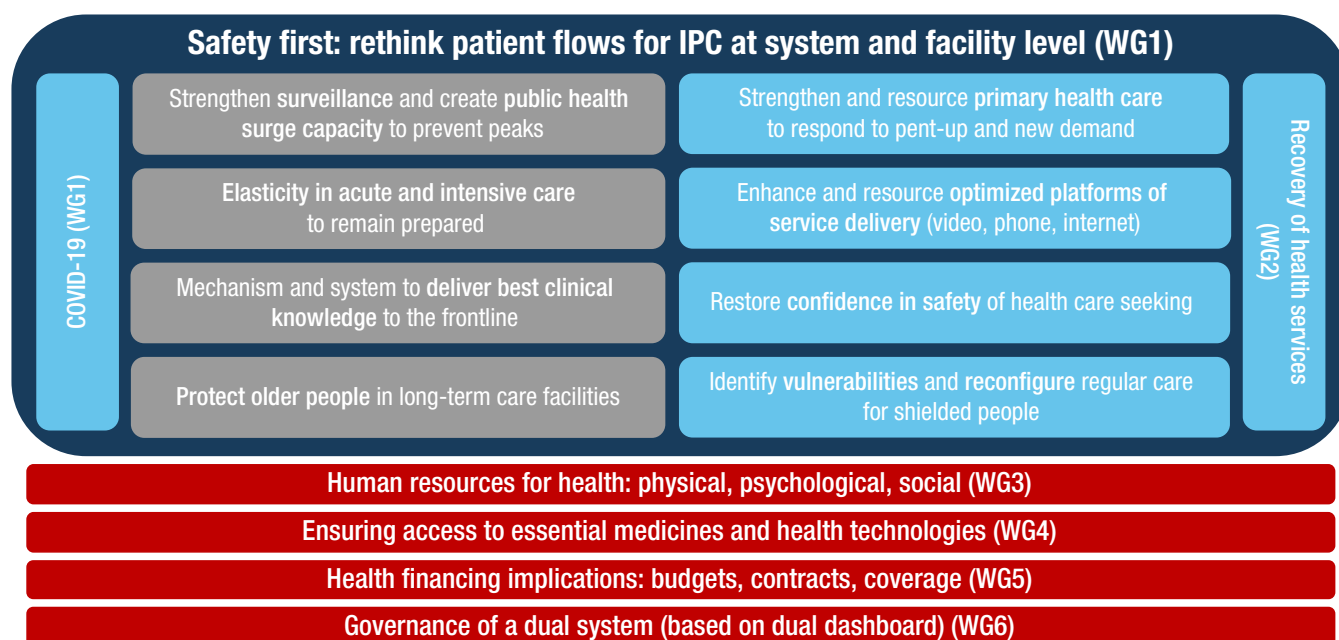
During pandemic peaks, many countries have reported severe disruptions in regular service delivery, including in essential health services.⁵ The five most significantly disrupted services from a list of 25 services surveyed were:⁶

- (i) rehabilitation services (disrupted in 91% of surveyed countries);
- (ii) dental services (disrupted in 91% of surveyed countries);
- (iii) non communicable disease (NCD) diagnosis and treatment (disrupted in 76% of countries);

- (iv) family planning and contraception (disrupted in 74% of surveyed countries); and,
- (v) outreach services for routine immunisations (disrupted in 63% of surveyed countries).

In addition, complete disruption of routine outreach for immunisation, facility-based immunisation and rehabilitation services has been reported by nearly a fifth the WHO European region's countries.⁷ Not surprisingly, the three least affected services have been urgent blood transfusion services, inpatient critical care services and emergency surgery since these all have a time-critical period for intervention.

Explanatory factors for service delivery disruptions and reduced utilisation patterns include supply-side, demand-side and wider community factors. Essential health services supply declined due to policies to accommodate surge capacity for COVID-19 care such as reducing health workers at primary health care level to expand surge capacity for the acute COVID-19 response, instructing facilities to shut down due to lack of guidelines, operating standards and infection prevention and control mechanisms. Demand was affected by several factors, including explicit instructions to minimise face-to-face care seeking for non-

Figure 2: Overview of the dual track health system

Note: IPC = Infection prevention and control

Source: Authors' own

COVID conditions, and due to the fear of exposure to the virus in health care settings. In addition, wider community factors, such as barriers to physical access (e.g. public transport lockdowns) affected utilisation patterns.

Dynamically changing dual track health system

Going forward and expecting further shifts in the dynamic of the pandemic, it is important to balance the response to COVID-19 with those to other sources of morbidity and mortality. The continuous monitoring of the range of services needed to prevent, diagnose, and treat COVID-19 patients while restoring and maintaining the operation of essential health services is therefore key as countries enter different stages of the pandemic.

In order to meet these objectives health systems could adopt a dual track dynamic approach (see Figure 2) that allows for the COVID-19 response and the delivery of essential health services to be managed in one parallel system:

1. COVID-19 track: This track entails creating a blended public health strategy with a mix of physical distancing measures and rapid expansion of surge

capacity for public health and laboratory services for testing, contact tracing and isolation. It also entails that countries remain prepared for further outbreak peaks and responding rapidly when they occur. Specifically, there are four important policy areas to operationalise this track:

- **Strengthen surveillance and create public health surge capacity** to prevent further epidemic peaks;
- **Remain prepared** for further peaks by estimating the needed surge capacity for hospitalised treatment of COVID-19 cases under different scenarios,⁶ monitor saturation of hospitals, and create a step-wise elastic plan of expanding and retracting hospital capacity for COVID-19 cases as the country moves between different stages of the epidemic;
- Develop mechanisms to **deliver rapidly changing clinical knowledge** about the delivery of COVID services; and
- **Protect vulnerable populations and marginalised groups**, especially older people by tailoring both public health and health service delivery approaches to their needs.

2. Essential health services track: This track calls for improving availability and access to essential health services with due considerations for patient and health worker safety.⁷ This requires identifying and addressing the root causes of disruptions in essential health services during pandemic peaks. Specifically, there are four important policy areas to operationalise this track:

- **Strengthen and resource primary health care (PHC)** to enable meeting increased roles and functions of PHC during the pandemic such as providing surge capacity to acute care response for COVID-19, participating in public health action such as contact tracing, “catching-up” delayed and postponed delivery of essential health services (e.g. immunisation, screening, chronic condition management, etc.); responding to new demand such as increased chronic and mental health conditions due to economic and social problems associated with the pandemic, and rehabilitation (e.g. for “long-COVID” cases);
- **Enhance and optimise service delivery platforms** (e.g. by video, phone, Internet) while analysing their impact and limitations;

- **Restore confidence in the safety of health care facilities** by introducing strong infection control measures and communicating this clearly to the population; and
- **Identify vulnerabilities** and reconfigure regular care for vulnerable patients (e.g. older people, immune-compromised people, etc.), to minimise their physical attendance at health facilities with greater risk of infection.

Enablers for operationalising the dual track health system

The ability to operate the dual track system is dependent on the activation of cross-cutting enablers in the health system. These enablers include governance of the dual track system, health workforce, financing and access to medicines and technologies.

Governing the dual track system

The organisation and management of the dual track system requires utilising existing governance arrangements in an environment of increased complexity. To ensure that both tracks are effectively governed, it is important to establish agile consultation mechanisms to facilitate dialogue between key stakeholders, including patient, community and health worker representatives, and policymakers and to ensure that decisions are taken rapidly and are as participative and as transparent as possible. This requires bridging the governance and management of the emergency response with that of the health service delivery system.

Robust monitoring systems need to build a “dual dashboard of indicators” that tracks indicators and trends on COVID-19 in parallel to indicators and trends on the delivery of essential health services. A dual dashboard with a governance bridge built between the management of the emergency and that of service delivery will allow countries to better manage simultaneously their COVID-19 response and the delivery of essential health services. Finally, clear communication to the public will be key to reassure health service users that it is safe to access facilities.

Box 1: Ukraine – Psychosocial support for health workers

The Public Health Center of the Ministry of Health of Ukraine developed training for health care staff working in emergencies and the COVID-19 pandemic response. The course aims to improve the ability of health care workers in providing psychosocial support to the population, as well as mastering the skills of stress management at the workplace and protecting their own well-being. The training course was based on the latest recommendations of the United Nations Inter-Agency Standing Committee, and WHO, as well as other best practices in mental health and psychosocial support (MHPSS).

Box 2: Italy – Hotel facility close to the hospital in Puglia used to ensure rest and safety of workforce

The Bari Policlinico General Hospital was designated a COVID-19 network hospital. 656 health care workers were assigned to 300 COVID-19 beds. These workers were housed in a nearby hotel. In order to ensure there was no contact with public areas and hotel staff, the entrances, exits and lifts were defined as dedicated ‘dirty paths’, along with the implementation of a range of other measures and protocols (electronic check-in, separate waste removal, etc). The initiative served both hospital and patient needs, and was also good for the health workers themselves, as they were given the opportunity to rest, protect their families and in tandem it mitigated community spread (workers were not going home to their families or moving around the community). This example shows that with careful planning and excellent staff cooperation, health care workers can be hosted safely in hotel facilities during the COVID-19 pandemic or similar emergencies.

The health workforce plays a key role

The health workforce is the backbone of the dual track system. It plays a key role in ensuring that both tracks are well-balanced and can maintain the delivery of health services in the “new normal”. This is an extremely challenging task placing the health workforce under unprecedented strain. Some potential mitigation measures include:

- The mobilisation of additional workforce – by hiring unemployed health workers, providing financial incentives to attract recent leavers or recruit health workers from other sectors (see the article by Williams et al. in this issue on health workforce surge capacity).
- Addressing the working conditions, safety and mental health of health workers. A conducive working environment with adequate rotation with rest and recuperation periods and psycho-social support (**see Box 1, Box 2**

and the article by Williams et al. on supporting health workers) should be provided to avoid burnout and stress.

- The pandemic also provides urgent impetus to improving long-due labour market policies to safeguard health workers and enable their retention in the health sector.

Financing the dual track system

Evidence from previous economic shocks indicates that countries need to balance efficiency and equity considerations in the health and social protection areas during economic downturns. Applying severe austerity measures to health and social protection policies were counter-productive during previous economic crises, exacerbated the economic response in the long-run and created a political backlash.^{4 8 9}

To maintain health spending, countercyclical mechanisms – public spending that increases as the economy

declines, could be used to ensure stability in funding flows; these include drawing on reserves; introducing formulas to determine the level of government budget transfers to the health system; abolishing ceilings on contributions; and broadening the tax base from wages to all forms of income.

The pandemic with the tightening fiscal constraint together can further catalyse policies to enhance health system efficiency towards ensuring the effective use scarce resources. Countries can:

- Review priority setting mechanisms to ensure that public health and primary health care are adequately resourced;
- Review coverage and purchasing mechanisms including for high-cost services and medicines to ensure coverage and spending reaches the most cost-effective services;
- Review service delivery master plans and investment to ensure that the network is fit for purpose;
- Review coverage policies to ensure all have access to essential health services without facing financial hardship to ensure timely cost-effective health care access.

Access to Medicines and Technologies

Sustainable and continued access to medicines and health products is essential for implementing and operationalising the dual track system. Countries have faced challenges in the supply of medicines and health products. In order to ensure uninterrupted access to medicines and supplies, countries need to adopt measures, policies, and regulations that are evidence-informed and supported by adequate and sustainable financing.

Some of these measures could include:

- Centralised procurement and forecasting to avoid competition amongst health providers and prioritisation of products necessary for the population health;
- Increasing local production, if possible, or repurposing to meet the needs of the health system (e.g. this occurred in Germany, the Russian Federation and the United Kingdom), and

- Monitoring availability of medicines and health products that may be affected by shortages.
- Ensuring that products for sale and distribution meet regulatory standards for safety, quality and effectiveness.

Conclusions

The COVID-19 pandemic has put a strain on health systems' ability to respond and deliver care, often at the expense of the most vulnerable population groups. Countries have an opportunity to learn from the experiences, success stories and mistakes made during the first months of their response to tackle the continued need to strengthen their health systems.

In order to deliver essential health services while responding to COVID-19, health systems will have to allocate a realistic amount of financial and human resources to address peaks and pent-up demand, while ensuring health care workers' safety and mental wellbeing. The systems should be prepared to be as adaptable as possible and ready to surge capacity by optimising delivery platforms and enhancing the role of primary health care as needed. Continued access to medicines and health products and a robust governance mechanism to plan, manage and monitor the response will be key to ensure a sustained response in the months to come.

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RESTARTING MORE ROUTINE HOSPITAL ACTIVITIES DURING COVID-19: APPROACHES FROM SIX COUNTRIES

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Summary: During the COVID-19 pandemic, hospitals face the concurrent challenges of maintaining routine services while attending to COVID-19 patients. This article shares approaches taken in six countries to resume hospital care after the first wave of the pandemic by surveying country experts and using data extracted from the [COVID-19 Health Systems Response Monitor \(HSRM\)](#). Four strategies were observed in all six countries: prioritisation or rationing of treatments, converting clinical spaces to separate patients, using virtual treatments, and implementing COVID-19 free hospitals or floors. Clear guidance about how to prioritise activities would support hospitals in the next phases of the pandemic.

Keywords: Hospitals, Essential Services, Prioritisation of Care, COVID-19

Introduction

As the COVID-19 pandemic unravelled, hospitals had to deal with the often overwhelming need to treat patients exposed to the virus. To minimise exposure and maximise health workforce capacity, many hospitals postponed elective procedures and non-essential services.^[1] As a number of countries in Europe have begun to carefully resume services that were limited or suspended during the first wave of the pandemic, this article looks at how six countries ([England](#), [France](#), [Germany](#), [Italy](#), [Spain](#), [the Netherlands](#)) have restarted more routine hospital care services.

The decrease in hospital services during the first months of the pandemic was often substantial: data from five hospitals in Italy showed a 73–83% drop in paediatric emergency department visits,^[2] while a study in Spain on the impact of the COVID-19 on interventional cardiology activity showed a 56% decrease in the number of diagnostic procedures and 81% reduction in structural interventions.^[3] The World Health Organization (WHO) has released operational guidance on maintaining essential health services, and highlighted the need to limit non-essential facility-based encounters at hospitals for safety and capacity reasons.^[4] In addition

Table 1: Changes in hospitals to resume routine hospital activities after the first wave of COVID-19

	Is this change expected in your country? (✓=yes)										
	Lower volume of activities in hospitals	Prioritization or rationing of treatments	Increase testing of staff	Convert clinical spaces to separate patients	Investment in facilities	Investment in PPE	Investment in staff	Use of private sector capacity	Emergency departments manage the inflow of patients differently	Use of digital or phone and non-face-to-face modes continue and grow	Use Covid-19-free hospitals or floors
France	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓
Germany	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓
Italy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spain	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
The Netherlands	✓	✓	-	✓	-	-	-	-	-	✓	✓
England	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Source: Authors' own

to the impact on patient access, the reduction in routine hospital activities also influenced hospital budgets in many countries, as the health financing system often relies on activity-based payments. Several countries in Europe have already adjusted their hospital payment mechanisms as a result of altered activity.⁵

We designed a survey based on initial findings from England on the necessary and expected changes in the hospital setting for them to resume normal activities. We collected responses from national experts in six countries within the COVID-19 Health System Response Monitor ([HSRM initiative](#)) as of 1st September 2020. An overview of the survey and responses is presented in **Table 1** below. Some shared approaches for resuming routine hospital activities among the selected countries is illustrated in **Figure 1**.

Health care systems expect a lower volume of hospital activities in the foreseeable future

It is expected that hospitals will run at a reduced rate of occupancy for a prolonged period of time, especially given the highly volatile epidemiological context. For example, in Germany, hospital rooms with multiple beds may not reach their occupancy due to physical distancing

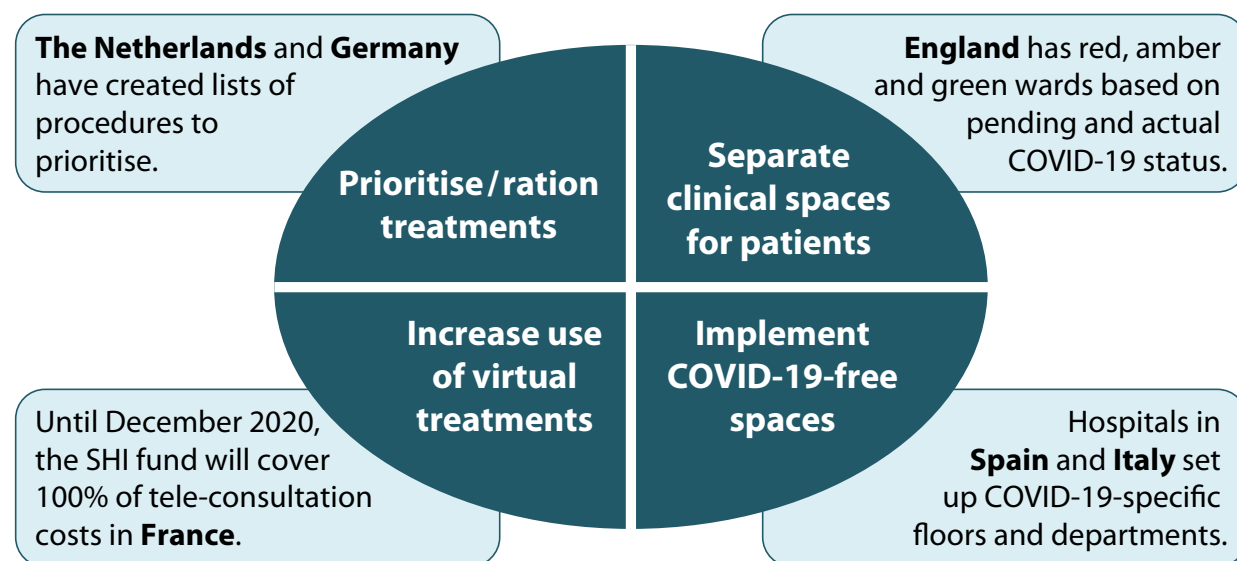
requirements. The German Hospital Federation does not expect a return to routine activities until late 2021.⁶ The Netherlands reported an increase in waiting times for some non-acute and planned care such as in orthopaedics, dermatology, gynaecology, ENT, and ophthalmology; however, the waiting times in other specialties, including cardiology, paediatrics and internal medicine, appear to have fallen. As of July 1, the number of referrals from general practitioners (GPs) to hospital care has resumed to 80% of the pre-pandemic volume in that country. In England, targets have been set for the NHS to return to near-normal levels activity in the period before winter, including restoring full operation of cancer services, and 80%–100% of elective capacity (depending on the procedure).⁷ However, there are concerns from doctors on the feasibility of these targets and how well they can be sustained. A survey from the Royal College of Physicians suggests that it will take up to two years to recover the backlog from COVID-19.⁸ In Spain, the number of organ transplants has plummeted by 87% from 16.1 per day to 2.1 per day.⁹ In Italy, the situation became critical after the two-month lockdown (which ended on May 4): the demand for health care was high and the waiting lists were very long,¹⁰ even for ambulatory services. However, since August, waiting lists have shortened

also supported by the new Decree of the Ministry of Health named “August Decree”.¹¹

Several countries have prioritised or rationed treatments, often using a phased approach

In most countries, health systems are prioritising not only emergency care but also urgent care for which timeliness of intervention is crucial such as cancer services. In France, this is the key criteria for resuming care, with a focus on vulnerable individuals including those living with a chronic disorder. Further, hospitals are cautious to ensure intensive care unit (ICU) beds and rehabilitation capacities remain available in case of another COVID-19 wave. By the end of August 2020, the number of available resuscitation beds was about twice the bed capacity before the first wave (12,000 against 5,000). This caution is also observed in other countries. Elective procedures in England are expected to resume to 80% of last year's activity with full restoration of cancer services by September. In Germany, at the end of April, hospitals were asked to keep 25% of all ICU beds available for COVID-19 patients, down from a previous target of 50%. Due to the federal structure of the hospital system in Germany, the federal states (*Länder*) developed their

Figure 1: Common approaches to resuming routine hospital activities with country examples



Source: Authors' own

Note: SHI = Statutory Health Insurance

own regional concepts, which allow the individual state to ensure 25% ICU capacity throughout the whole state instead of in each hospital. In other words, a state can choose to have all these ICU beds in one hospital for COVID-19 patients and other hospitals without COVID-19 wards, as long as they meet the 25% ICU capacity overall. From early May, hospitals were able to conduct elective surgeries again, following a reopening phase based on a stepwise approach, coupled with a frequent re-evaluation of ICU bed capacity.

Spain has adopted different criteria to prioritise surgery in five potential scenarios, ranging from a quasi-normal situation (1st scenario, COVID-19 patients < 5% of admissions) to an emergency situation (5th scenario, COVID-19 patients > 75% of admissions), depending on the epidemiological situation.¹² In the Netherlands, a multi-stakeholder process drafted, commented on and validated (as advice) an 'urgency list' of procedures to prioritise when scaling up regular hospital care.¹³ The German Association for General and Visceral Surgery created a list of prioritised elective interventions, with surgeries of patients with rapidly progressing diseases and manageable comorbidities preferred, however the individual physician still makes the treatment decisions. The association also

created a list of diseases that may always require urgent surgery, such as hernias with incarceration, gastrointestinal bleeding, organ transplants, and more.

Testing health care personnel will continue towards supporting the safe provision of care

In the absence of a vaccine, regular testing of health care personnel is a key measure implemented by countries to contain the spread of the virus and protect staff and patients, which has implications in terms of cost and time. France reported systematically testing all health workers after the end of the lockdown in the country. In Germany, to avoid or stop outbreaks of the virus, the testing strategy of the Robert Koch Institute foresees an increase in testing patients and staff in hospitals and other residential facilities. In Spain, testing of healthcare personnel is prioritised and regular testing is recommended for personnel of nursing homes and assisted-living facilities (at least once each 15 days), as well as testing employees returning from leave or vacation and new employees before joining. In England, staff who are experiencing symptoms (or have been exposed to someone who has) are tested. Asymptomatic staff are tested routinely in places with high prevalence or a known

outbreak, and preparations are being made to test all staff routinely in the event of a second wave.

Clinical spaces that do not allow patients to be physically separated may require reorganisation

All countries surveyed reported the need to create additional capacity and cohort patients by repurposing other clinical spaces. German hospitals are advised to have separate units for new patients with suspected COVID-19 infection, as well as quarantine and isolation rooms for patients who tested positive for COVID-19. In Spain, surgical recovery units were adapted to function as secondary ICU, and specific minor procedure rooms were set as COVID-19-specific. In England there are red, amber and green wards based on pending and actual COVID-19 patients' status to try and separate patients effectively. Wherever possible, patients with confirmed or suspected COVID-19 are placed in cohorts with designated staff in self-contained areas to prevent transmission.

Some countries have introduced 'COVID-19 free' hospitals or floors to further reduce the rate of infection. In England, urgent and emergency surgery was performed in 'COVID-19-free' private hospitals. In the Netherlands,

some hospitals with multiple buildings created COVID-19 hospitals and non-COVID-19 hospitals, and some have separate spaces for those with and without symptoms. Similarly, hospitals in Spain set up COVID-19-specific floors and departments. In Italy, COVID-19 dedicated hospitals and wards were selected, and different intra-hospital patient flows were designed to separate COVID-19 hospital admissions and also diagnostic and therapeutic activities from other patients. In France patients are isolated, as much as possible, in dedicated wards.

Emergency departments in some countries have changed their triage systems to adapt to the challenges of the pandemic

Even before COVID-19, many emergency departments were operating at capacity, with a configuration that did not necessarily allow for physical distancing. Several countries have changed the way that patients interact with the emergency department as a result of the COVID-19 pandemic.

Generally, patients with COVID-19 symptoms are advised not to go to emergency departments (e.g. France), while other countries separate the inflow of patients with suspected COVID-19 infections or respiratory symptoms from all other patients (e.g. in Germany), or conduct triage in the emergency department to identify patients with respiratory symptoms who will be isolated (e.g. Spain and England). COVID-19 patients in Italy followed a different pathway for COVID-19 hospital admission after GP/helpline indications. In England and Spain, patients attending accident and emergency (A&E) departments are similarly triaged into separate pathways, and are tested and assessed for severity and managed accordingly. Patients are instructed to contact designated hotlines with suspected symptoms before attending the hospital to help determine severity and the appropriate care pathway, which also occurs in Germany. In the Netherlands, emergency departments are only accessible by ambulance or by GP/helpline referral, which was already the case before COVID-19.

Continuing investments in facilities, PPE and staff will be required

In most cases, additional waiting rooms and space to maintain physical distancing and keep infected and non-infected patients separate are paramount to prepare hospitals for a potential increase of COVID-19 cases, along with an adequate supply of personal protective equipment (PPE). Further, the pandemic exacerbated the health workforce shortage in some countries, which will need to be addressed (for example, in England, by retaining staff who returned to work during the pandemic). Italy reported substantial investments to increase the number of contracts for physicians and nurses. Other support services, such as mental health support services available in Spain, France and England, will continue while the COVID-19 pandemic persists.

The private sector can provide additional capacity in some countries

In those health systems with both public and private provision of health care, increased utilisation of private health care providers can support overflowing demand in the public system. This was the case in some Italian regions (red zones in the northern part of Italy) and in towns with high-density populations. Spain expects an increase in public-private partnerships to reduce waiting lists, and England plans to continue the use of private hospitals to support NHS services into 2021.

As countries grapple with how to keep patients and staff safe, the use of phone or video consultations is projected to increase

The use of non-face-to-face consultation modes has substantially increased, and is expected to grow further in all six countries. In the case of France, 100% of teleconsultation costs are covered by the social health insurance (SHI) fund until December 2020, and teleconsultations are strongly encouraged in all areas, including psychiatric care. However, the use of teleconsultation in hospitals remains rare. Not only do these digital tools reduce potential infections, they also allow for at-risk health workers to still provide care safely. In England, digital consultations are to be maintained

where safe and appropriate to do so, building from efforts started before the pandemic to make digitally-enabled care the mainstream across the NHS. Care models like ‘virtual wards’ – where patients who had been admitted and treated for COVID-19 in hospitals are sent home for ongoing management remotely – may become the norm to free up capacity and avoid further transmission. In Italy, there was an important increase of health care providers initiatives concerning telemedicine, especially teleconsultation. Among these, 29% were for COVID-19 patients and 71% for non-COVID patients (i.e. diabetology, cardiology, oncology).¹⁴ In Spain, consultations before and after surgery are recommended to be conducted via telephone.

“some countries have introduced ‘COVID-19 free’ hospitals or floors

Conclusions and Policy Implications

Returning to providing routine services after they were suspended or postponed is a challenging task for many hospitals. As a result of the necessary conversion of clinical spaces in response to the COVID-19 emergency, hospitals will have less capacity for routine activities. Hence, waiting times are expected to further increase. Also, some patients may choose to forgo elective treatments, at least until the COVID-19 pandemic subsides. While this might reduce unnecessary treatments or minimise induced health system demand, many patients could experience unmet need for medical care with potentially negative impacts on their health. In addition, there may be additional ongoing treatment needs for COVID-19 patients that will require rehabilitation and long-term follow up. For example, the Netherlands will reimburse rehabilitative care for COVID-19 patients, even though

the care has not been scientifically proven as effective, due to the extraordinary situation.¹⁵

The impact of the COVID-19 pandemic on health professionals also affects the ability of hospitals to return to more routine activities. Health workforce shortages will have an impact on overall productivity, and at-risk health professionals may have to be moved to providing remote consultations. Even when care is provided in person, health care professionals may find it more difficult to establish relationships with their patients due to the additional barrier of PPE.

Despite these challenges, there are some common policy lessons from the reviewed experiences, as seen in **Figure 1**. In particular, specific COVID-19 care zones may be considered, either by using separate buildings or having dedicated rooms for COVID-19 patients, including separate areas for those patients awaiting test results. Although splitting up patients may reduce the risk of infection, the possibility of asymptomatic transmission suggests that even 'COVID-19 free' spaces should require the use of PPE, ensure physical distancing and follow suggested hygiene rules.

Systematically and regularly testing health care personnel, especially in areas with outbreaks, facilitates the face-to-face relationship between the patient and provider.¹⁶ However, the growing momentum to continue the shift from in-person to phone or video consultations presents the lowest risk of infection, even for care that is normally provided in hospitals, and health systems should ensure the reimbursement mechanisms and care pathways incentivise remote interactions when possible and appropriate.¹⁷ In these situations, patients who do not have access to video conferencing and other remote services may face digital exclusion, which has important consequences regarding the equity of care provision. In any case, the new context in some countries where a high proportion of patients are asymptomatic or develop mild symptoms shows that many patients with the virus could be treated and recover outside of the hospital. Hence, strengthening primary

care services, especially for testing, is key to reduce waiting lists within hospitals as well as restructuring emergency services to avoid unnecessary collapse from COVID-19 patients.¹⁸

Nonetheless, countries may have to reassess how they evaluate the performance of hospitals in this new context, which now operates with dual goals of limiting the spread of the coronavirus while maintaining routine services. Clear guidelines on how to prioritise routine care with various COVID-19 scenarios should be available, and ideally conducted in consultation with the medical community, with patient engagement in the decision-making process, and informed by a review of activity now that more routine care in hospitals has restarted. These guidelines can support the complex decision-making process and delicate balance of both reducing COVID-19 transmission and providing effective care.

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KEEPING WHAT WORKS: REMOTE CONSULTATIONS DURING THE COVID-19 PANDEMIC

By: Erica Richardson, Dalhia Aissat, Gemma A. Williams and Nick Fahy

Summary: The COVID-19 pandemic saw a rapid rise in the use of remote consultations by telephone and video link. Remote consultations proved important as a way of supporting non-severe COVID-19 patients, reducing pressure on inpatient care, and maintaining access to routine services. Although remote consultations cannot fully replace face-to-face consultations, it is a cost effective and efficient way of enabling access to care that was being promoted long before the current pandemic but with relatively low uptake in most systems. Further development of remote consultation infrastructure would build greater surge capacity into systems to help protect from future shocks while also ensuring platforms are designed to protect patient confidentiality.

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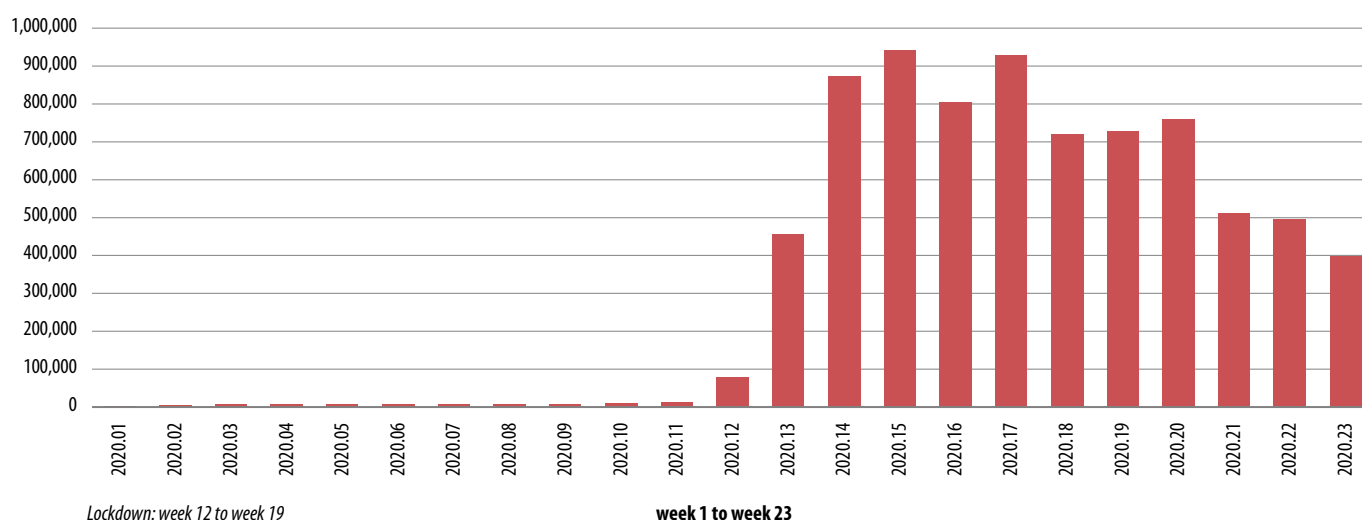
Keywords: Remote Consultations, Digital Health, Access to Care, COVID-19

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Introduction

A remote consultation between doctors or between doctors and patients can use a video link (a teleconsultation) or take place over the telephone, and it can occur at all levels of the system. Remote consultations predate the COVID-19 pandemic, and the potential for digital tools to improve access to services has long been recognised, particularly as a means of overcoming health workforce shortages in remote and rural areas and to improve convenience for patients that work, have reduced mobility

or mental health problems.¹ Evidence has also shown that remote consultations can be cost-effective compared to routine care, particularly for routine treatment for people with chronic conditions and those living in remote areas, while being safe, effective and achieving equivalent patient outcomes and improved patient satisfaction.^{2 3 4} However, before the COVID-19 pandemic, technological challenges, professional scepticism and ethical, financial, administrative and legal barriers had limited the uptake and use of remote consultations, ensuring

Figure 1: Number of teleconsultations in France, 2020 (Week 1 to Week 23)

Source: CNAM

they accounted for a limited proportion of patient consultations.^{2 5} Moreover, less progress was made than either the technology or the regulations allowed for. For example, remote consultations often used telephone links rather than video or other platforms that would enable the simultaneous sharing of test results, diagnostic images or other files.⁶

The COVID-19 pandemic has been a stimulus to make progress in the implementation of telehealth and to overcome these longstanding challenges. Remote consultations were actively encouraged during the pandemic – particularly for patients with COVID-19 symptoms, to provide medical support and triage without increasing the risk of transmission. Remote consultations have also been promoted to ensure access and continuity of care for non-COVID-19 patients while supporting physical distancing and shielding where necessary. This has led to a rapid expansion in the use of various digital tools for remote consultations, both between professionals and between professionals and patients in many countries in Europe. In this article, using data extracted from [the COVID-19 Health Systems and Response Monitor](#) and input from European Observatory on Health Systems and Policies' partners including the French National Health Insurance Fund (CNAM), we assess how the use of remote consultations has changed during the first

six months of the COVID-19 pandemic and the enabling factors that have facilitated rapid implementation and use.

The use of remote consultations in Europe has increased substantially during the COVID-19 pandemic

Remote consultations in primary care were scaled up rapidly in many countries (e.g. Croatia, Malta, Poland, Sweden, the United Kingdom), and were also used more intensively in others (e.g. Austria, Belgium, Denmark, Estonia, France, Germany, Italy, Luxembourg, Switzerland). To ensure the quality of remote consultations, professional guidelines on safe use of remote consultations and e-prescribing have been developed in some countries (e.g. Malta), and training on remote consultation has also been provided in others (e.g. UK, Sweden).

General Practitioner (GP) data for England shows a rapid increase in telephone consultations relative to face-to-face consultations – telephone consultations already being a well-established mode of service delivery. The number of telephone consultations in England increased from 856,631 to 2,022,798 per week between 2 March and 18 May 2020, while the number of video consultations was higher in March than in April or May when it was around 10,000 per week.⁷

In France, in February 2020, more than 3000 doctors provided teleconsultations and approximately 40,000 were reimbursed. Teleconsultation was established as a mode of service delivery in 2018 but eligibility conditions were loosened at the height of the COVID-19 crisis; between March and April 2020, 5.5 million teleconsultations were provided by 36,000 physicians in March and up to 56,000 physicians in April. At their highest level, on average teleconsultations accounted for up to 27% of all consultations – about 1 million per week. Since the end of the lockdown in France (on 11 May 2020), there has been a slowdown of teleconsultations, but the number remains higher than before, stabilising at 150,000 per week. During the first week of June, about 400,000 teleconsultations were provided (see Figure 1).

Notably, before the lockdown in France, younger patients (under 50 years of age) were more likely to use teleconsultations; for those over the age of 50, teleconsultation use decreased sharply with age. However, during the lockdown the balance shifted as more older patients (over 70 years of age) moved online – this group accounted for 8% of all teleconsultations before lockdown but 20% during. Moreover, this trend appears to have continued after lockdown, as older patients represent about one-fifth of all teleconsultations.

The shift to teleconsultations has also been embraced in Denmark, where there were 71,508 consultations via video link (population 5.4 million) during the COVID-19 crisis. In the future, hospital treatment, health checks, rehabilitation, doctor visits and psychiatric consultations will continue to take place at home. This fits with the country's digitisation strategy and is to be maintained and expanded. Similarly, in Germany, since the partial loosening of lockdown in May 2020 made it easier to conduct face-to-face consultations, data from Doctolib (the digital appointment management service for doctors) shows a sustained interest in online consultations: in April, there were 4,133 Doctolib video consultations, in May this increased to 4,870 teleconsultations.⁸

Who is providing remote consultations?

In France, the vast majority of teleconsultations were, as previously, invoiced by private practitioners (96%) and of these, GPs billed 80% of all teleconsultations, followed by psychiatrists (6%), paediatricians (2%), gynaecologists (1.3%), dermatologists (1.1%) and endocrinologists (1.1%). Of the total number of teleconsultations invoiced, before the lockdown 23% were for pre-existing chronic disease patients but this share increased to 28% after. On average, 80% of teleconsultations were between patients and doctors who already had a face-to-face consultation in the previous year.

In Germany, the Federal Association of Statutory Health Insurance Physicians (KVB) reported on first quarter (Q1) of 2020 and about 19,500 teleconsultations were performed in March 2020, compared to 1,700 teleconsultations in January and February 2020 (an increase of 1,047%). By the end of April, KVB data shows 25,000 medical practices offered video consultations, up from 1,700 in January, which is one in four GP or psychotherapist practices. According to a May 2020 survey of 2,240 physicians and psychotherapists in Germany, 52.3% offered video consultation and 10%

considered offering video consultation in near future; about 80% of psychotherapists offer video consultation.⁹

Germany's largest doctor-patient portal ("jameda") has had a huge increase in demand for video consultations – increasing by more than 1,000% in March compared with February 2020 – and the number of doctors and psychotherapists using the portal to provide services has quadrupled.^{9 10} Similarly, a private company providing a platform that offers online service of medical consultations 24/7 through an app in Spain ("MEDIQUO") was established around two years ago. In February 2020 it has around 70 self-employed doctors working on it and around 700,000 users. By mid-March this had increased 153% compared to the previous month – many of these consultations were COVID-19 related.^{11 12}

Regulatory and financing changes to support remote consultations

One of the key barriers to the wider use of remote consultations was the need to change existing restrictions to allow such services to expand. Restrictions had to be relaxed rapidly with the demands of providing care during the COVID-19 crisis. In France, teleconsultations have been reimbursed since September 2018, but were restricted to physicians only and only with established patients (i.e. had at least one face-to-face consultation before a teleconsultation). Remote consultations also had to be by video link not over the telephone and use professional software to ensure data protection and privacy. The restrictions were dramatically simplified at the beginning of March 2020. It was possible for doctors to see new patients remotely and some remote consultations by telephone were allowed. In addition, the use of all technological means available for video transmission (including Skype, Whatsapp, Facetime, etc.) was authorised alongside other solutions specifically developed for teleconsultations. Volume restrictions on physicians providing remote consultations were lifted in Germany and Sweden. Many countries have also relaxed regulations around the use of e-prescriptions (e.g.

Austria, Greece, Ireland), or allowed remote certification of sickness absence from work.

In some systems, changes to the way services are paid for needed to be made before remote consultations could be reimbursed. In England's National Health Service (NHS), providers were reimbursed from the central budget for additional capital expenditure needed to scale-up IT capabilities to facilitate remote consultations and smarter working (see the article by Waitzberg et al. on compensating health care professionals in this issue). In countries with Social Health Insurance financing, detailed billing schedules have been produced where these did not already exist (e.g. Germany, Belgium, Switzerland). In France, all remote consultations with physicians were covered as were follow-up consultations by nurses but other practitioners were also authorised to provide remote consultations – physiotherapists, psychomotor specialists, occupational therapists, speech therapists and midwives for antenatal care.

In the Netherlands, there was also a new expansion of teleconsultations, with 72% of surveyed GPs saying they had started using video consultations with patients in 2020. Moreover, 28% of GPs indicated they would continue using video consultations more intensively after the crisis.¹³ However, it is not clear that the shift to online consultations will be sustained after the COVID-19 crisis everywhere in Europe. In Luxembourg, easing lockdown has seen the volume of teleconsultations plummet; Esanté Agency (backed by Luxembourg's National Health Fund – CNS) has seen the weekly volume of teleconsultations fall from 1,000 during lockdown to around 100 in the weeks following.¹⁴

Challenges in rapid expansion of remote consultations

Rapidly expanding access to remote consultations by telephone and video link enabled health systems in Europe to better cope with COVID-19. They served to reduce pressure on inpatient care, helped reduce transmission of the virus by reducing contacts and allowed people

with COVID-19 to be supported remotely in their own home. Remote consultations also enabled people with other care needs to continue seeking care, in particular those with concerns about COVID-19 infection through face-to-face contact. While remote consultations were already in place in many countries, the pandemic provided the impetus for swift and widespread scaling up, with rapid changes to regulatory frameworks and financing mechanisms to enable this expansion.

Initial adaptations to allow this appear to have been relatively narrowly focused. At system level, this has primarily concerned lifting previous restrictions and ensuring financial coverage for remote consultations. However, capitalising on the progress made will require greater attention to quality and underpinning infrastructure. Training and support for health professionals to use this technology appropriately and to build rapport with patients remotely is an important component.

Evaluation of the strengths and limitations of remote consultations is also urgently needed, and the current unprecedented usage provides an opportunity to do so. For example, while remote consultations have improved access to care during the COVID-19 pandemic and can continue to support the delivery of care afterwards, they may not be appropriate for care to patients with complex or sensitive health or social care needs and patients may first need to access in-person consultations to build trust with their provider.¹³ Some types of remote care may be much improved if accompanied by supporting devices, such as oximeters, that patients can use at home and which can provide additional information for care. Emphasising digital solutions such as video links also has the potential for widening the 'digital divide' in countries where not all households are online, especially those living in deprived areas or in older age groups. While social or economic policy solutions to ensure equitable access to the Internet would address this, in their absence ensuring equity in access to in-person consultations must be assured.

Looking to the future

As discussed, remote consultations proved important as a way of supporting non-severe COVID-19 patients, reducing pressure on inpatient care as well as enabling access to routine care for non-COVID patients. Although telehealth cannot fully replace face-to-face consultations, it is a cost effective and efficient way of enabling access to care. Countries can build greater surge capacity into their system to help protect it from future shocks by further developing the quality and infrastructure around remote consultations. However, policymakers need to ensure that equity in access to services is not compromised.

It is imperative that doctors have access to secure platforms for remote consultations to protect patient confidentiality because not all commercial platforms are fit for such potentially sensitive communications. Going forward it will be important to conduct a rapid evaluation of the current expansion to help guide the best future use of remote consultations and identify their limits.

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THE COVID-19 PANDEMIC AND LONG-TERM CARE: **WHAT CAN WE LEARN FROM THE FIRST WAVE ABOUT HOW TO PROTECT CARE HOMES?**

By: Margrieta Langins, Natasha Curry, Klara Lorenz-Dant, Adelina Comas-Herrera and Selina Rajan

Summary: The COVID-19 pandemic has highlighted and exacerbated pre-existing problems in the long-term care sector. Based on examples collected from the [COVID-19 Health System Response Monitor \(HSRM\)](#) and the [International Long-term care Policy Network \(LTCcovid\)](#), this article aims to take stock of what countries have done to support care homes in response to COVID-19. By learning from the measures taken during the first wave, governments and the sector itself have an opportunity to put the sector on a stronger footing from which to strengthen long-term care systems.

Keywords: Long-term Care, Care Homes, Integrated Health Care Systems, Workforce, COVID-19

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Introduction

Long before COVID-19, care homes across the World Health Organization (WHO) European Region were facing several challenges.¹ For staff, families and residents of care home these challenges and gaps in the system have been all too obvious. The long-term care (LTC) sector was already a myriad of financial, staffing and operational difficulties in most countries before the pandemic, and it has been hit badly, with as many as 47% of all COVID-19 related deaths happening among care home residents.² However, the impact has not been uniform within or between countries, which raises the question of whether some of these

losses were avoidable. This article aims to take stock of what countries have done within care homes in response to COVID-19 in order to place the sector on a stronger footing from which to face future outbreaks. It also reflects on the importance of underlying structures and features in different countries and how the context into which a similar set of measures are introduced are likely to impact on how effective they are.

Key challenges predating COVID-19

Although every country's LTC system is different, there are a number of common challenges across the WHO

European Region that has meant the sector's response to COVID-19 was particularly complex.

A lack of coordination between health and LTC services

Organisation and governance of LTC services is often separate to that of health services¹ and countries frequently distribute responsibility for LTC across national, regional and local actors. In many countries, an absence of coordination between the two services, each with a diversity of actors, means that there are parallel but not always aligned systems for oversight, financing, staffing, and collection/management of data.² This underlying complexity (sometimes resulting in fragmentation) was brought to the fore during COVID-19 in many countries, where this lack of clear accountability for LTC services and underdeveloped information systems created complexities and delays in the COVID-19 response.³

Care systems have suffered significant underfunding

In many countries, LTC services have been poorly resourced, particularly when compared to health spending. This historic underfunding results in a high degree of rationing of publicly funded services and affects the quality of provision.⁴ As the pandemic hit, the sector was in an already weakened position and not well-equipped to implement rigorous infection prevention and control measures nor absorb additional costs arising from personal protective equipment (PPE) needs, training needs and staff sickness.

Workforce shortages are widespread

Severe staffing shortages, fuelled by poor working conditions, low pay and a perception of low skill meant that the sector struggled during the pandemic. As a low-paid, predominantly female workforce,⁵ many of whom work on flexible contracts with little or no sick pay, their exposure to the virus was high. It is not uncommon for care workers to work across multiple facilities, adding to the risk of spread of the virus.⁶ As testing in many countries was slow to roll out, in the early phases of the pandemic care staff were faced with self-isolating for 14 days

often without pay.⁷ As absences increased, staff in care homes were more stretched than ever. In some European countries, migrant care workers make up a large proportion of the LTC workforce⁸ and the closure of borders also had an impact on these workers.

Systems rely heavily on unpaid carers, even in care homes

Family carers provide an important share of LTC across countries, both through direct care, and by coordinating and complementing formal services.⁹ Even when people with care needs move to a care home, many family members continue to be involved by providing emotional stimulation, activities, bedding and even food. This has become increasingly important in the context of staff shortages. As visits to care homes were restricted during COVID-19, this source of support for residents (and staff) disappeared.

What measures were taken to protect care homes during the first wave of the COVID-19 crisis?

Although data are still emerging, a scan of the region shows that countries largely implemented a similar set of measures which were focused on providing guidance, strengthening medical support, preventing the spread of the virus and minimising infection, and supporting the sector by boosting staffing and funding. The examples cited in the following section have been documented and can be read about in two key resources: the [COVID-19 Health System Response Monitor \(HSRM\)](#) and the [International Long-term care policy network \(LTCcovid\)](#). (see [Figure 1](#)).

Increasing oversight of LTC services

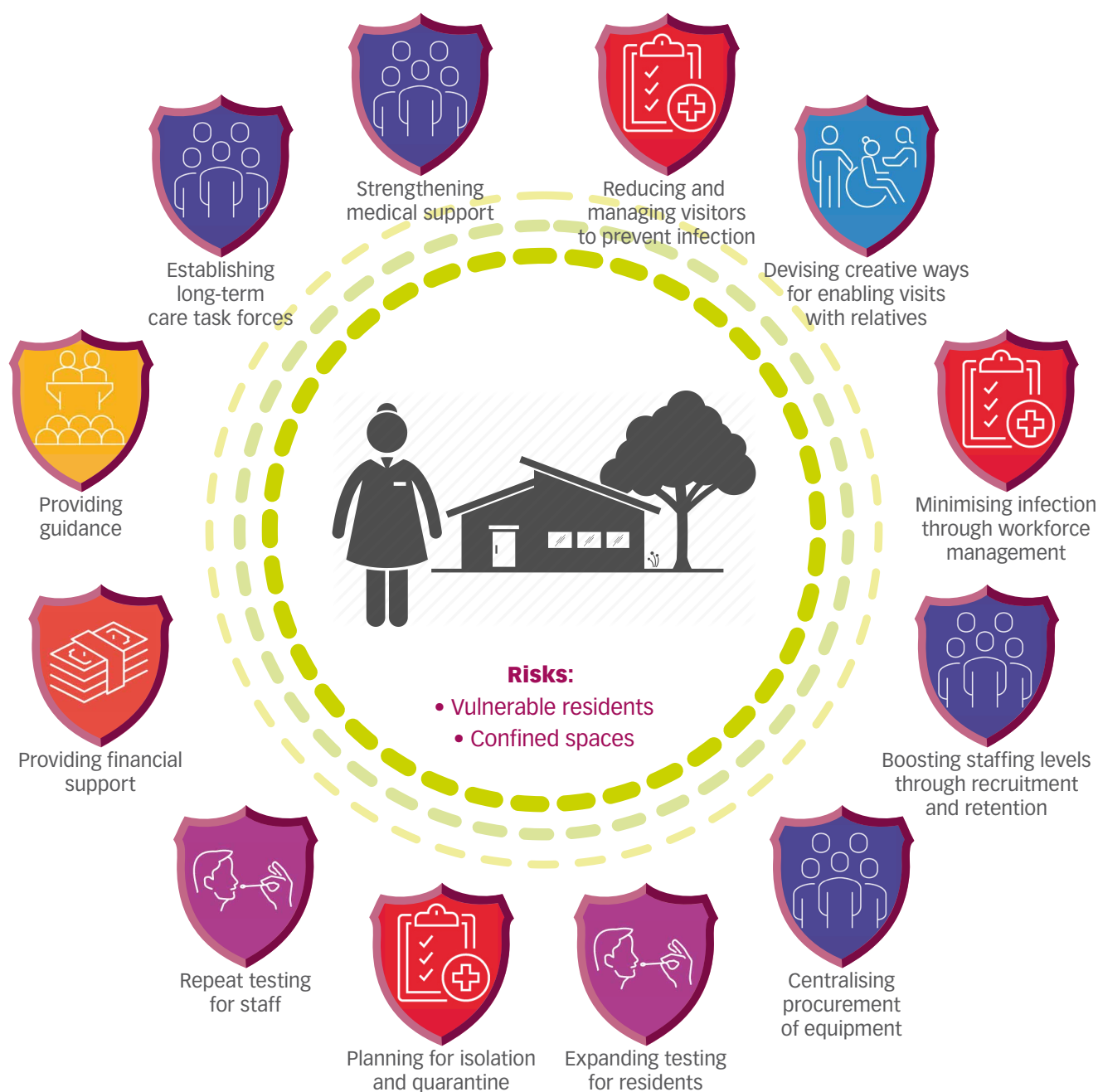
A number of countries sought to increase oversight of LTC services, strengthening central accountability and certain functions. This took a variety of forms. For instance, Austria, Greece, Hungary, Iceland, Israel and Germany established national LTC task forces. In Ireland, national and regional outbreak teams have been set up to oversee, prevent and tackle COVID-19 clusters in residential LTC settings. Care home providers started

to report COVID-19 outbreaks to the Health Information and Quality Authority. Similarly, in Germany, teams from the Robert Koch Institute were deployed to support outbreak containment in these facilities.

The Czech Republic, [Denmark](#), [Estonia](#), Finland, Germany, Greece, Malta and the Netherlands centralised the management and/or procurement of PPE supplies for the care sector. In Spain, regional authorities have had to provide bi-weekly information on the number of infections, deaths, etc. in care homes to the national Ministry of Health. In a small number of countries examined (notably Hungary and Ireland), care homes have been required to appoint a COVID lead in order to define clear accountability in the event of an outbreak.

“countries largely implemented a similar set of measures

There has also been a trend towards centrally-produced guidance and regulation in an attempt to put in place support structures for the sector. In many countries, this has taken the form of guidance and training around the use and wearing of PPE and infection control but monitoring and enforcement has varied between countries. For instance, in Austria, responsibility for the development of guidance in LTC settings, their implementation and monitoring has been given to newly established national task forces. In Italy, the guidelines for nursing homes published by the Ministry of Health require providers to ensure the COVID-related training of care workers. In Ireland, a new Infection Prevention and Control Hub offers residential LTC settings guidance for outbreak preparation and management, information on infection prevention and control, and support with applying national advice. Some of this support is provided via tele-mentoring interventions and webinars for

Figure 1: Measures taken in countries to protect care homes during COVID-19

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Source: ¹³

nursing homes. In addition, the national membership organisation of home care providers has developed a COVID-19-specific National Action Plan.

Funding for care homes has increased in several countries

In recognition that care homes are facing increased costs (e.g. from extra PPE, staff sickness) and/or revenue losses (e.g. from reduction in occupancy), financial support

has been provided in some countries. In Ireland, some of this was given directly to care homes which were able to receive immediate temporary assistance payment to respond to a COVID-19 outbreak. The regional Dutch LTC offices gave LTC providers extra funding if they faced additional costs due to COVID-19. Similarly, in [Germany](#), institutions that incurred additional costs or loss of revenue due to COVID-19 were reimbursed by the

LTC insurance. In contrast, in England and [Sweden](#), additional money flowed to local authorities which had autonomy to allocate it according to their own priorities and this led to variation between local areas in how much was spent on LTC and, in England, some claims that additional funding was not reaching providers.

In some countries, the extra money was earmarked for specific purposes; e.g.

in Austria, some of the €100 million allocated to support the LTC sector was earmarked for expanding residential care bed capacity for people who could not be cared for sufficiently in their own home because of the complexities of delivering home care during the pandemic. In Denmark, Parliament provided DKK 100 million (about €13.4 million) to municipalities to support people in receipt of residential and community LTC with the intention of developing solutions to maintain social relations, quality of life and to prevent loneliness, including the use of digital technologies, reconfiguring spaces to enable limited visits and dedicated staff. In May, the English government allocated £600 million (about €660 million) for infection control in care homes.

“preventing infections entering care homes and managing outbreaks”

A focus on recruitment and retention of staff

In the face of widespread staff shortages, many countries have made efforts to boost staffing levels in care homes through measures to increase recruitment and retention. England and Ireland launched recruitment campaigns to attract newcomers and former staff to the sector. In Finland, retired staff and students that did not fall into risk group have been recruited to maintain staffing levels. Similarly, in Spain care workers without the required training certificates could be legally employed and the [Netherlands](#) enabled nursing homes to recruit care workers more widely (e.g. medical students). Germany relaxed some staffing rules and operational frameworks to relieve pressure on the workforce. The

impact of the relaxation of usual rules and requirements on standards and quality or the spread of infection is not yet known.

Efforts have also been made to retain the existing workforce. In the United Kingdom, Scotland and Wales have raised wages and offered special one-off payments to incentivise staff. Austria has awarded one-off payments of €500 to migrant care workers who have remained in the country to provide care. In Germany, there are plans to raise the minimum wage for care workers and all people employed in care homes will receive a one-off bonus payment of up to €1,000 (increased to €1,500 in four states).

Health care provision within care homes has been strengthened

The lack of health care provision within care homes [■] has created particular difficulties in places where transfer to hospital has been explicitly discouraged, because hospitals were both overstretched and a potential source of COVID transmission (e.g. [England](#), France, Italy, the Netherlands, Norway,). Support has been deployed to LTC homes in some countries to avoid admission to hospital: [Italy](#) and [Luxembourg](#) have required care homes to have a 24/7 medical presence to follow up unwell residents and France, by May, was encouraging physician visits and offering greater remuneration after having told homes to minimise such visits in the early months of the pandemic. Austria requires its hospitals to offer support to care homes in the form of personnel, expertise and equipment. In Ireland, there has also been an agreement that enables the Health Services Executive (HSE) to redeploy HSE staff to private nursing homes on a voluntary basis. In Slovenia, medical teams are deployed to a residential care setting if the regular staff becomes exhausted or overwhelmed. In [Israel](#), the Ministry of Health has made a special team available for period of 7 to 14 days to support residential care settings that are acutely short staffed and a 24h call centre has been established to support LTC facility managers with medical and management advice.

Efforts to prevent and manage outbreaks within care homes

A big challenge during COVID-19 has been preventing infections entering care homes and managing outbreaks. Bans on visits to care homes have been implemented in most countries. However, as the crisis has continued, it has become clear that physical distancing for people in LTC facilities can be detrimental to their wellbeing and therefore guidance and rules have since been amended to allow some contact with families and friends. In Germany and the Netherlands, care homes have created ways for residents to see and speak with relatives by using virus-proof containers, garden sheds, telephone boxes or other solutions.

Testing programmes in care homes expanded as the crisis unfolded but many countries have struggled with either logistical or capacity issues (or both) and so rolling out testing has been slow in many places. Several countries began with a relatively focused approach, only testing those with symptoms or, those with symptoms and underlying conditions, or those who had been in close contact with people who tested positive. Over time, efforts have been made to expand testing including for those in homes without symptoms. Denmark began testing all residents, regardless of symptoms. In the [Czech Republic](#) and, from mid-April in England, all new residents have been required to be tested before moving into homes. Prior to this, in England, people were being discharged from hospital into care homes after testing positive for COVID-19 or while awaiting a test, then from 3rd April care homes were advised to quarantine those individuals but many homes struggled to do so because of limited space or staffing. In most countries, guidance has been issued for the discharge of patients from hospitals to different care settings and since mid-April, most have required testing before discharge.

Like testing for residents, the policy on staff testing has evolved during the crisis period and varies between countries. The Czech Republic and Denmark have stressed the need for repeat testing with asymptomatic staff, or those with a negative test, being retested at regular

Box 1: The Impacts of Policies on Care Home Providers in England

In England, 26,500 excess deaths have been reported in LTC (until 7th August) and yet many of the policies recommended in WHO guidance¹¹ were theoretically in place, leading many to question what went wrong. Survey responses from LTC operators across England¹² at the end of May and early June show how implementation of some of the key policies was ineffective and delayed, with considerable variation between areas. We report some examples in the table below:

Policy area	Policy actions	Providers reported
Infection Control	<i>February–June:</i> Guidance published for LTC settings; government provision of PPE and infection control training	<ul style="list-style-type: none"> Guidance changed frequently and contradicted itself, causing confusion and loss of confidence Government provision only included emergency PPE, leaving providers to pay inflated prices for PPE without national quality control Providers needed more funding and PPE rather than training
Surge workforce	<i>March:</i> NHS and social care advised to share workforces <i>April:</i> Government announced a recruitment campaign for social care and future plans to redeploy staff from the NHS to social care, which are still awaited	<ul style="list-style-type: none"> Negligible perceived support to manage workforce shortages
Coordinated services	<i>March:</i> NHS and local authorities advised to provide mutual aid to LTC <i>May:</i> Improved clinical support promised to LTC	<ul style="list-style-type: none"> Inflexible systems prevented effective collaboration between the NHS and social care, with only a few successful examples Variable support from local authorities nationwide
Testing	<i>April:</i> Tests offered to asymptomatic staff, residents and patients discharged from hospital <i>July:</i> Repeated whole home testing announced	<ul style="list-style-type: none"> Less than half of providers accessed tests by the end of May, when 90% of outbreaks had already happened Hospital discharges were not universally tested on discharge, despite government guidance
Funding	<i>March–April:</i> £3.2 billion (about €3.5 billion) to support local government services <i>May:</i> £600 million (about €660 million) paid to LTC providers to support infection control	<ul style="list-style-type: none"> Prior to the infection control grant, access to funding varied considerably between areas and was often conditional upon the number of publicly funded residents, with differences reported in what funds could be used for

Source: Authors' own

intervals (7–14 days). In Ireland, staff have been screened for symptoms twice a day since early April. The European Centre for Disease Prevention and Control suggest testing priorities should be linked to local levels of community transmission.¹⁰

Guidance on managing outbreaks within care homes largely focused on isolating or transferring residents. In [Turkey](#), the health of residents was monitored and those with a suspected COVID-19 infection were immediately isolated and transferred to a pandemic hospital.

Similarly, where a positive case arises in care homes in [Slovenia](#), people living in nursing homes have been moved to other facilities and Israel and Ireland have worked with hotels to accommodate people either with symptoms or awaiting transfer. Care homes in Israel have been required to establish COVID care units and in the Czech Republic, LTC facilities have been required to reserve 10% of their capacity to accommodate suspected or infected cases.

Conclusions

Our analysis has revealed that the countries for which information was available took a similar set of measures to protect care homes during the first wave of the pandemic. At the time of writing, it is not clear the extent to which single measures have been effective at protecting care homes and more research is needed to establish this. What is clear is that the impact of COVID-19 has not been uniform between (and sometimes within) countries.^{2, 9} Some differences in how countries implemented measures could account for some of the differing

impact. The speed of response differed between countries as did the extent to which approaches sought to clarify accountability. The level of centralisation of response has also varied between countries with some favouring a more locally-determined or state-level response. This largely reflects the individual country's governing structures and LTC organisation. It is likely that the effectiveness of measures will be affected by how they are implemented and the context within which they are enforced.

Box 1 on England demonstrates the same set of measures can impact LTC providers in different ways depending on how they are implemented. It is crucial, as countries face future waves, that consideration is taken not just about the effectiveness of measures but their appropriateness in a particular context and how they will be implemented and enforced.

COVID-19 has disproportionately affected the most vulnerable in society

COVID-19 has disproportionately affected the most vulnerable in society across the world. Countries will be measured by how well they protected their most vulnerable during this pandemic. Following the first wave of infection, there is an urgent need to learn lessons from each other about what worked and what didn't work in order to ensure care homes are put on a stronger footing ahead of any future waves. But there is also an opportunity to make more fundamental changes to care systems, the weaknesses of which undoubtedly exacerbated and dampened the effect of some of the measures intended to protect it. These opportunities have been identified in the WHO European Region's Technical Guidance outlining 10 policy objectives for improving long-term care.¹¹ This crisis has laid bare the inadequacies of care

systems and their inherent inequalities and weaknesses. If anything positive can come out of this period of history it will be a proactive effort to put in place financially and politically sustainable systems that enable the most vulnerable among us to live as independent and fulfilling lives as possible.

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COMPENSATING HEALTHCARE PROFESSIONALS FOR INCOME LOSSES AND EXTRA EXPENSES DURING COVID-19

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Summary: COVID-19 has affected the incomes of some health professionals by reducing demand for care and increasing expenditures for treatment preparedness. In a survey of 14 European countries, we found that most countries have incentivised substitutive e-health services to avoid loss of income. Health professionals have also received financial compensation for loss of income either through initiatives specifically designed for the health sector or general self-employment schemes, and have either been reimbursed for extra COVID-19-related expenditures such as personal protective equipment (PPE) or had these provided in kind. Compensation is generally funded from health budgets, complemented by emergency funding from government revenue.

Keywords: *Financial Compensation, Payment Mechanisms, Incentives, Health Professionals, COVID-19*

Introduction

The COVID-19 pandemic has affected the incomes of ambulatory health professionals in hospitals and in the community in two main ways. First, many health professionals have faced a substantial loss of income due to a reduced demand for care. While some have had their elective work reduced, others have seen patients forgo services. For example, American radiologists faced reduced demand of services due to reduced traffic injuries during the lockdown, and neurologists reported that

services were postponed due to restricted capacities in hospitals and patients not going to clinics for elective care out of fear of being infected by COVID-19.^{1 2} Second, many health professionals faced additional expenditures for COVID-19 treatment preparedness such as reshaping clinics, securing necessary supplies and personal protective equipment (PPE), for which prices have increased substantially.³ Countries have used various strategies to mitigate against the loss of income and compensate health professionals for forgone revenue and additional spending.

This article aims to support policymakers across countries in tailoring policies to tackle health providers' loss of income during the COVID-19 pandemic.

incentivising the use of alternative e-health care

Data were collected from the COVID-19 Health System Response Monitor (HSRM) (up to 10 July 2020) as well as a survey of country experts that were asked questions on how countries have been compensating health professionals for income losses and increased expenditures. The paper focuses on 14 countries including the Czech Republic, Denmark, England, Estonia, France, Germany, Israel, Italy, Lithuania, Luxembourg, the Netherlands, Spain, Sweden and Switzerland.

The payment method of health professionals impacts their potential loss of income

In several countries, certain groups of health professionals, particularly primary care providers (PCPs), are paid *prospectively* or without a link to their activity, i.e. they are paid (predominantly) on a capitation basis or as salaried employees. In these countries, including the Czech Republic, Estonia, Israel, Italy, Spain and Sweden, income losses were relatively small, and there was no pressing need for extensive compensation schedules at the time of this review. However, health professionals who are largely paid retrospectively based on activity such as fee-for-service (FFS) or pay-for-performance (P4P) have proven vulnerable to reduced demand for services and have suffered a substantial loss of income, e.g. general practitioners (GPs) in France.

Countries are incentivising e-health and remote services to facilitate access to care, which also helps to reduce income losses

Box 1: Introduction and incentives to use e-health consultations in Estonia

In March 2020, the Estonian Health Insurance Fund (EHIF) reacted immediately to the suspension of elective care by introducing a fee for remote outpatient specialist consultations to provide an alternative for office visits. The EHIF defined a list of services that could be conducted remotely, with minimum standards of quality and monitoring requirements. The fees for remote services were equal to those for on-site consultations/office visits. In addition, hospitals were eligible to apply for a one-time compensation to scale up their capacity for remote outpatient consultations. The compensation was equivalent to 1.5% of the amount of their annual outpatient elective care contract. Hospitals could apply for this payment if at least 20% of visits (compared to the number of visits during the same period of time last year) were conducted remotely and if at least 20% of these remote visits were performed as video consultations. During the emergency situation, about one-third of consultations were conducted remotely, including more than three-quarters of consultations in psychiatric care. The preliminary results of a survey among 183 patients suggest that more than 80% were satisfied with remote consultations and would use them again.⁵ The EHIF continues to finance remote consultations. However, the service standards and criteria are being reviewed and tightened.

Box 2: Compensatory payments in The Netherlands

Dutch GPs are paid primarily through a combination of (passive) capitation and FFS for each visit (about 75% of their income), with some P4P-like components (the other 25%). In March 2020, GPs, health insurers and the Dutch Healthcare Authority agreed upon compensation for GPs during the pandemic: (1) GPs received a one-time extra flat rate capitation payment (for each registered patient in their practice), regardless of the COVID-19 morbidity rate among their patients; (2) GPs can charge a higher fee for home visits to COVID-19 patients; (3) GPs can negotiate additional financial support to avoid bankruptcy with the "preferred" health insurer that covers most of their patients.

Health insurers compensate for 60–85% of the shares of allied health professionals' turnover to cover fixed costs. Health care providers may be subject to paying back some of the compensation if they manage to limit financial losses during the rest of the year. If this compensation is not sufficient, these health professionals may apply for the general support for businesses.

A widely used strategy to facilitate access to care, that also helps mitigate income losses, has been incentivising the use of alternative e-health care.⁶ Countries have loosened restrictions on digital or phone consultations (the Czech Republic, Germany, Luxembourg, the Netherlands, Sweden, Switzerland), and have paid for remote health services at the same or higher fees as for face-to-face consultations (Denmark, Estonia – see Box 1, France). In England, GPs could get reimbursement for setting up or enhancing their information technology (IT) capacity and equipment. This allowed

health professionals to keep providing services and for patients to receive the necessary care, thereby also securing revenue flow for providers to some extent.

Countries employ various strategies to offset the income losses of health professionals due to decreased demand for health services

Table 1 shows that countries have used different mechanisms to offset the income losses for health professionals. First, health professionals can get non-health care specific COVID-19-related

Table 1: How are countries compensating health professionals for income losses due to COVID-19?

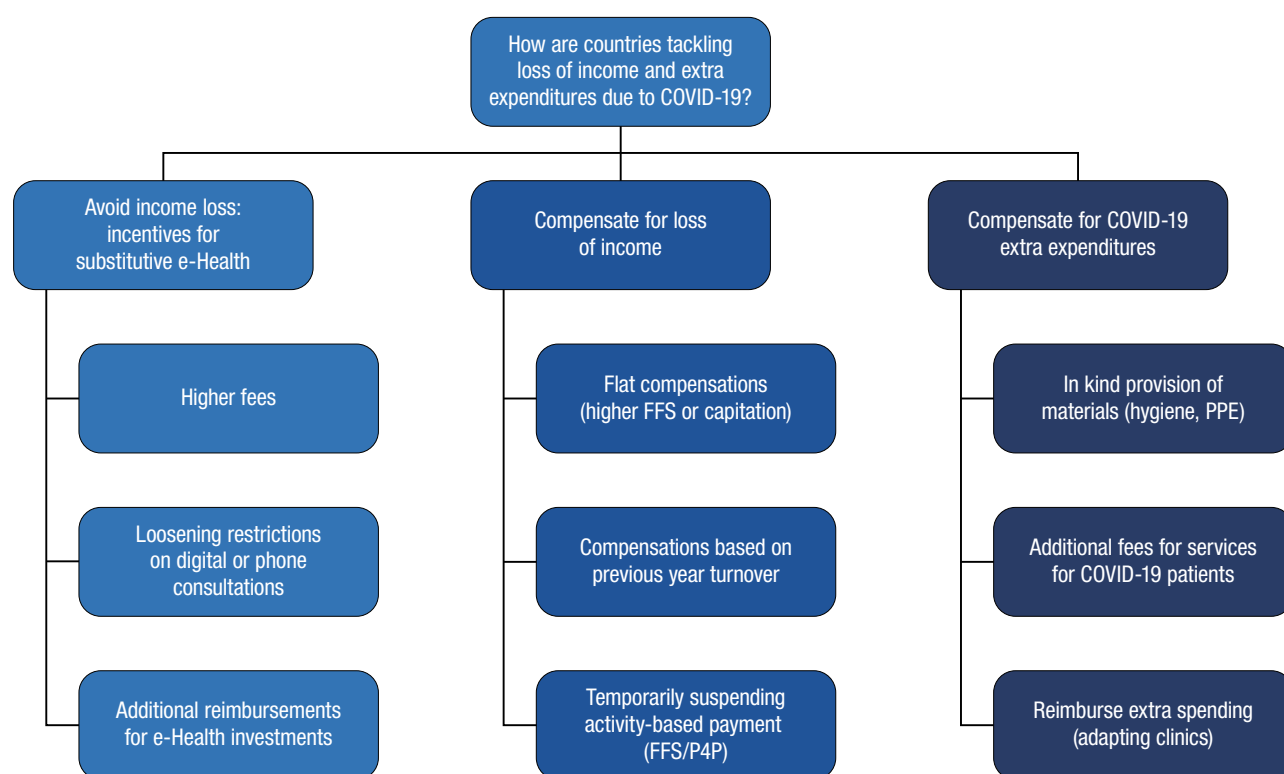
Country	Non-health sector specific	Health sector specific			
		Flat compensation e.g. extra capitation or temporarily higher fees	Compensation based on previous year turnover up to a fixed percentage	Temporarily suspending FFS or P4P while increasing the share of fixed payment	Subsidies to cover fixed costs such as rent and employees
Czech Republic	Self-employed health professionals	PCPs that perform tests at the end of quarantine of patients; Dentists	All providers (under discussion)	–	Dentists and private health care providers
Denmark	–	–	GPs	–	–
England	–	–	–	GPs	–
Estonia	Non-EHIF contracted physicians	–	EHIF contracted providers	–	EHIF contracted providers
France	–	GPs	All health professionals	–	All health professionals
Germany	Solo ambulatory practices considered as entrepreneurs	Physicians, psychotherapists and all allied health professionals	Physicians, psychotherapists, all allied health professionals	–	–
Israel	Outpatient self-employed specialists	–	Inpatient professionals infected or quarantined	–	–
Italy	–	GPs and paediatricians working after hours	–	–	–
Lithuania	–	–	Physicians	–	–
Luxembourg	–	GPs and specialists treating COVID-19 patients	–	–	–
The Netherlands	Allied health professionals	GPs	Allied health professionals	–	GPs
Spain	–	PCPs treating COVID-19 patients	–	–	–
Switzerland	Self-employed outpatient professionals	–	–	–	Self-employed outpatient professionals

Notes: PCP = primary care providers; GPs = general practitioners; FFS = fee-for-service; P4P = pay-for-performance; CCG = Clinical Commissioning Groups; EHIF = Estonian Health Insurance Fund; PPE = personal protective equipment.

compensation, which are available to all self-employed professionals or businesses in some countries (the Czech Republic, Estonia, Germany, Israel, the Netherlands, Switzerland). In Estonia and the Netherlands, this mechanism is mainly intended for those cases where the COVID-19-related compensation payments were not sufficient, whereas, in Israel and Switzerland it is the main mechanism. Second, some countries provide flat compensations for lost revenue, e.g. extra/higher capitation or temporarily higher fees (the Czech Republic, Estonia, Germany, Italy, Luxembourg, the Netherlands). Third, some countries have chosen to broadly

compensate certain groups of health professionals through payments based on the previous year's turnover. In Lithuania primary care institutions continued to receive the planned monthly income of one-twelfth of the annual contract with the National Health Insurance Fund (NHIF). Other examples include compensating income if it falls by more than 10% in Germany (for physicians, psychotherapists, allied health professionals) or 30% in Denmark (for GPs). In the Netherlands, allied health professionals can receive compensation expressed as a set percentage of annual turnover (**see Box 2**). Fourth, as is the case in England, payments for primary care

practices will temporarily not be linked to performance to compensate for the loss of income due to scaled-back services; GPs will instead receive payments at rates that assume they would have continued to perform activities at the same levels as before the outbreak. Fifth, several countries are providing payments to cover fixed costs such as for rent and employees (the Czech Republic, Estonia, France, the Netherlands, Switzerland). Finally, at least in the Netherlands, there are plans to recoup some of the additional payments after the crisis, e.g. through lower future reimbursement levels.

Figure 1: What can countries do to offset income losses and extra expenses due to COVID-19?

Source: Authors' compilation

Countries used different ways to pay professionals for increased COVID-19-related expenditures

Some health professionals have faced extra expenses related to the COVID-19 outbreak, for example because they had to reshape clinics to implement physical distancing measures, hygiene and safety regulations or to purchase PPE. However, compensation for this additional spending varied substantially across countries.

COVID-19 preparedness, i.e. redesigning clinics and waiting rooms, and treatment equipment such as PPE and hygiene products were provided in kind in the Czech Republic, Germany, Israel, Italy or were reimbursed by the government in Estonia, France, the Netherlands, Spain, Switzerland. In kind provision and funding may not always be sufficient, meaning that health professionals in these countries may still be searching for equipment and

paying for them. Where it is not provided in kind, there seems to be a lack of clarity regarding funding or compensation for additional expenses.

Some countries also provided additional fees for services for (suspected) COVID-19 patients (e.g. Germany, the Netherlands for GPs) or have reimbursed extra spending such as to improve e-health platforms (e.g. Spain, England). The Czech Republic implemented new fees for antibody tests, the Netherlands and France set incentives for GPs to treat COVID-19 patients with a higher tariff for visits (**see Box 3**). Germany set higher tariffs for GPs treating patients in long-term care institutions and German hospital professionals received bonuses for treating COVID-19 patients that varied according to the prevalence of the disease in their region.

Box 3: French statutory health insurance (CNAM) compensatory payments to health professionals

In France, community health care professionals are self-employed and payed on a FFS basis. During the lockdown (March–April, 2020), their activity (and income) has dramatically dropped. Teleconsultations were encouraged and paid at the same price as face-to-face consultations. The French statutory health insurance (CNAM) also attempted to support health professionals to keep providing care by helping them to cover fixed expenditures such as rent, staff costs, social security contributions and taxes. It is the first time that such a support system has been implemented. CNAM also introduced higher fees for consultations: one for the management of COVID patients (i.e. reporting the case and providing contact details), and another fee to handle chronic diseases patients (i.e. for a medical check-up and follow-up). Finally, CNAM is negotiating with health professionals over providing compensation to cover costs of increased hygiene measures.

Compensation schemes are often funded from health budgets and complemented by 'emergency' funds

There are several ways in which national health systems fund the revenue losses and additional spending due to the

COVID-19 pandemic, reflecting country-specific contexts including payer mix, payment method, fiscal space and health insurance fund reserves. In some cases, funds were allocated directly to providers, particularly if they are self-employed or paid via FFS. When professionals are salaried employees or paid on a capitation basis, these funds are typically allocated to payer agencies, such as municipalities, Clinical Commissioning Groups and health insurers. In other cases, health insurers have reserves, either because of legal obligations, from past years or from services forgone during the pandemic, and these are being used to pay for extra COVID-19-related expenses. Finally, countries may increase insurance contributions/premiums or taxes in the near future to cover COVID-19-related extra expenses.

“ variety
of strategies to
financially
support health
care providers

Policy lessons

This article has shown that countries have implemented a variety of strategies to financially support health care providers in the ambulatory sector during the pandemic to mitigate their loss of income and to help relieve financial pressures due to additional expenses. Overall, three broad strategies to compensate ambulatory health care professionals can be identified (see Figure 1). First, countries attempt to mitigate reduced demand for elective (non-COVID-19) health care services by increasing the availability of e-health and remote consultations through looser restrictions or higher reimbursement. This has the additional benefit that it may prevent patients from forgoing necessary care and allows the providers to deliver real services instead of simply handing out money that may have to be recouped later. Second, in those countries where professionals lost income from activity-

based payments due to providing fewer services, extra or higher compensation (e.g. through FFS, capitation), suspending activity-based payment, or subsidies to cover fixed expenses such as rent or salaries for employees, are viable options. Third, if not eligible for the aforementioned support, self-employed health professionals could be included in non-health care specific COVID-19-related compensation schemes which are available to all self-employed professionals or businesses. Other compensations for COVID-19 related expenses have been given by providing centrally procured PPE and hygiene products in kind, which may also prevent competition among professionals for PPE and lower unit cost. Further options include providing additional fees for COVID-19-related services and reimbursing any expenses related to reshaping clinics to comply with physical distancing, hygiene and safety regulations and developing e-health services.

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ADJUSTING HOSPITAL INPATIENT PAYMENT SYSTEMS FOR COVID-19

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Summary: All countries in Europe will have to find solutions to protect hospitals from revenue shortfalls and to adequately reimburse for COVID-19-related costs of care. This article reports on changes to hospital payment systems in Belgium, Bulgaria, the Czech Republic, Finland, France, Germany, Israel, Poland, Romania, Switzerland, and the United Kingdom (England). Hospitals in these countries are paid for treating COVID-19 patients using the usual system, modified Diagnosis Related Groups or new mechanisms. In many countries, hospitals receive their usual budgets or new money to compensate for revenue shortfalls. Only a few countries are paying non-contracted providers.

Keywords: *Financing, Payment Mechanisms, Hospitals, COVID-19*

Introduction to hospital payments and COVID-19

Since the emergence of COVID-19, health systems worldwide have had to respond to a range of different challenges.^[1] With a considerable proportion of COVID-19 patients requiring hospitalisation,^[2] hospitals were at the forefront of the pandemic in many countries. Hospitals have had to cope with the influx of COVID-19 patients, or with the consequences of preparing hospitals for an anticipated influx. Hospital services have been restructured, intensive care unit (ICU) capacity expanded,^[3] elective admissions cancelled, and patient pathways reorganised.

All of these challenges have had implications for hospital financing. First, the costs of care related to COVID-19

patients can be substantial and these costs could not be anticipated at the time when hospital budgets or hospital payments were determined. In addition, hospitals have had to invest in purchasing new ventilators or protective personal equipment (PPE) to prepare for COVID-19 patients. Second, in many countries with activity-based payment systems, hospitals have experienced revenue shortfalls because they had to cancel elective procedures or because patients avoided being admitted to hospitals. Third, non-contracted acute care facilities (including private hospitals) have been used in some countries to provide care (both for COVID-19 and other patients), and they have had to be compensated for the services provided.

This article aims to support policymakers across countries who have to respond

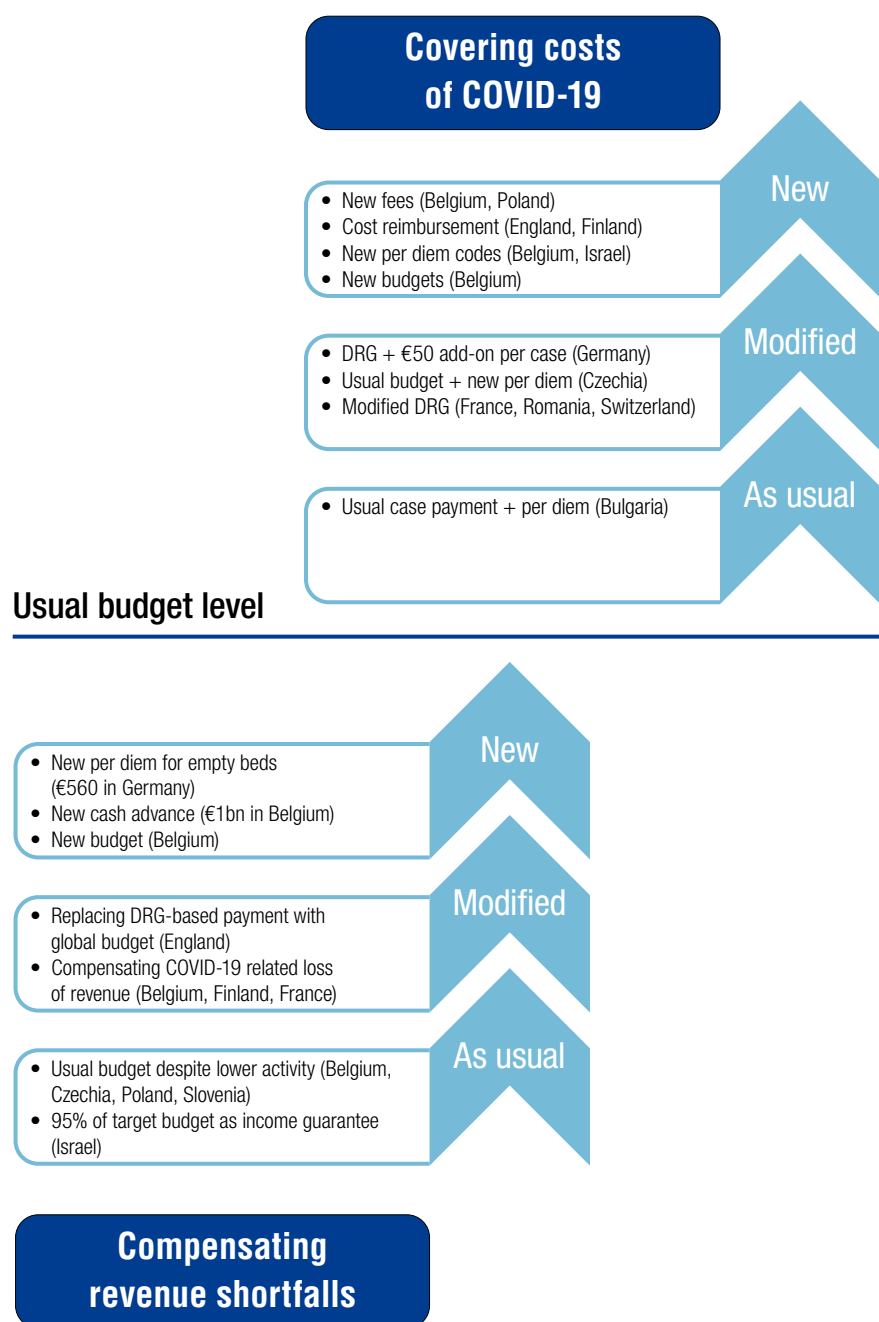
to these challenges by taking decisions about the payment of hospitals: Should payment be adjusted to reflect the costs of COVID-19? Should payment be kept the same irrespective of activity to compensate for revenue shortfalls? What mechanisms can be used to channel financial resources to non-contracted providers? We identified hospital payment system adjustments in countries reporting to the [COVID-19 Health System Response Monitor \(HSRM\)](#), then checked with national experts about further changes (up until the end of July 2020) to understand whether and how countries have changed their hospital payment systems in response to COVID-19. The paper focuses on a selection of countries including: Belgium, Bulgaria, the Czech Republic, Finland, France, Germany, Israel, Poland, Romania, Switzerland, and the United Kingdom (England) but also draws on examples from Cyprus, Malta, Slovakia, and Slovenia, where relevant.

In many countries, hospitals receive their usual budgets or new money to compensate for revenue shortfalls

In many countries, compensating revenue shortfalls resulting from the interruption of usual activities has been a more important problem than paying for COVID-19 patients. **Figure 1** shows that numerous countries have responded to these revenue shortfalls through a range of approaches, which differ considerably, depending on the pre-existing payment system, amongst other factors.

In Poland, where most hospitals receive a Diagnosis-related group (DRG)-based budget (determined by the previous year's activity), hospitals in the public hospital network continue to receive their usual monthly instalments despite considerably reduced activity. Hospitals outside of the network can apply to receive monthly instalments for contracted services under the assumption that these will be provided later during the year. Similarly, in the Czech Republic and Slovenia, hospitals continue to receive their regular monthly instalments of a DRG-based budget despite a substantial decrease of activity. Under normal circumstances, this would affect the settlement of the annual bill at the end of the year.

Figure 1: Hospital payment approaches in response to COVID-19



Note: DRG = Diagnosis-related group.

Source: Authors' own compilation

However, in Czechia, a new regulation has specified that hospitals can keep the full budget as long as their 2020 activity is between 79% and 82% of their 2018 activity (depending on the number of COVID-19 patients treated). If hospitals stay below this level, their monthly instalments in 2021 will be adjusted accordingly, while they may receive additional payments for services

provided beyond the 79–82%. In Slovenia, a decision has not yet been taken on the settlement of the annual bill. In Israel, where hospitals are mostly paid based on a mix of DRG-like payments and per diems, hospitals always have a guaranteed minimum income of 95% of the previous year's income, which protects them from income loss – also in the case of COVID-19.

Box 1: Substantial support for hospitals: Germany's Hospital Relief Act

In March 2020, the German government passed the Hospital Relief Act to provide financial support for hospitals with the aims to: (1) compensate revenue shortfalls due to decreased admissions; (2) fund increased treatment capacities; (3) cover additional expenditure related to COVID-19; and (4) provide hospitals with financial leeway.

The most important financial support for hospitals is compensation for revenue shortfalls related to postponement of non-essential surgery and treatments. Until September 2020, hospitals receive a per diem payment of €560 per day for every empty bed. In practice, hospitals receive a per diem-based lump sum, which is calculated by determining the difference between the number of patients currently being treated per day and the average number of patients treated in the previous year. A revision of the Act on 1st July, which introduced a system of tiered per diems (ranging between €360 and €760), where the amount depends on the hospital's case mix index, the average length of stay in 2019 and the reporting of ICU capacities to the intensive care register.

To fund increased treatment capacities, hospitals receive a one-time payment of €50,000 for each additional ICU bed with ventilation capabilities that they set up in the period between 1 April and 30 September. In addition, Länder governments often top-up this payment to cover the full costs of creating a new ICU bed.

To cover additional expenditures related to COVID-19 hospitals receive a top-up payment of €50 for every patient who is admitted during the period between 1 April and 30 June to cover for the increased costs for PPE. Since 1st July, this amount has been increased to €100 and prolonged until 30th September.

Hospitals receive a higher daily nursing fee (an additional €38 per patient per day) to allow them to schedule for an increased level of nursing care.

These support measures are accompanied by several financial and administrative relief measures that aim to further secure the liquidity of hospitals. These include a reduced payment periods for Social Health Insurance funds, fewer billing audits, temporary audit exemptions for hospital treatments of COVID-19 patients and a new additional fee to finance COVID-19 tests performed in hospitals.

In England, where hospitals are usually paid on the basis of a DRG-like payment system with certain adjustments based on quality of care (P4Q – Pay for Quality), a radical decision was taken at the beginning of the pandemic that the normal payment system would be discontinued between April and July 2020. Instead, all hospitals have received a global budget based on the previous year's average monthly expenditures plus an increase to account for inflation. The UK government has also taken a decision during COVID-19 to write-off £13.4 billion (about €14.9 billion) of historic debt of NHS trusts in England. In France, where the DRG-based payment system has remained in place, a guarantee was issued by the Ministry of Health in March 2020 that hospitals would receive additional payments to compensate any income loss when compared to their usual revenues. In Finland, the national government has made available €200 million, and (public) hospital owners can apply for funding to compensate for COVID-19 related deficits.

Other countries have made substantial resources available to hospitals through new payment approaches. In Germany, a

new law was approved at the end of March guaranteeing that hospitals will receive per diem payments (€560 per day) for every empty bed until the end of September 2020 (see also **Box 1**). In Belgium, the federal authorities created a short-term cash advance to hospitals (of €1 billion), to compensate for revenue losses – and also to cover the extra costs of COVID-19 patients. However, a proposal currently suggests that the cash advance will be counted towards any further COVID-19-related hospital payment adjustments (e.g. an income guarantee, a budget for capacity expansion, and per diems for hospitalisations).

In Switzerland, financial compensation for the lost revenue resulting from the cancellation of elective admissions has depended on cantonal decisions, and some cantons were quicker to react and provided more generous compensation than others. In general, hospitals – in particular private ones – could apply for bridging credits and short-time work compensation just as any other business entity in the country making a loss and being at risk of job losses. If hospitals apply for short-time work, they can reduce their salary costs,

and 80% of the difference between the current salary and the normal salary of their employees will be covered by the government.

Hospitals are paid for treating COVID-19 patients using the usual system, modified DRGs or new mechanisms

Figure 1 also provides an overview of payment systems used by different countries to pay for COVID-19 patients. Several countries have – at least initially – used their regular hospital payment system. In Bulgaria, hospitals are paid using a mix of case payment (based on an existing general case definition), per diems (for every day a patient is treated on an ICU). In Israel, hospitals were initially paid based on existing per diem codes for internal medicine wards and ICUs. However, since mid-April new per diem codes have been created for patients treated on dedicated COVID-19 wards of geriatric and general hospitals for moderately/severely ill COVID-19 patients (including with ventilation). These payments are excluded from the usual budget cap.

Box 2: Poland: Channelling new funding to hospitals, while protecting them from revenue loss

The central government is responsible for financing COVID-19-related hospital services. Funds are transferred (based on a monthly report) to the National Health Fund (NHF), which in turn uses them to pay for health services. The payments are made based on reports and bills submitted by providers to the NHF outside the usual contracts for providing health care services. Only providers included in the list of providers dedicated to performing services related to COVID-19, are entitled to receive these dedicated funds.

In order to pay for COVID-19 related services, the NHF has established a new reimbursement catalogue with prices. According to the catalogue, providers are paid lump sums for assuring readiness to provide services and FFS for the actual provision of services. Over time, the catalogue has been updated to reflect the changing needs of the population. Originally, it included six items such as hospitalisation, hospitalisation in an ICU, isolation in a designated facility, transport, readiness to provide hospitalisation, and readiness

to provide transport. This list has been extended to 33 items, with some items split into more detailed procedures. Hospitals exclusively treating COVID-19 patients receive a lump sum and payment for each COVID-19 service provided, as well as funds for readiness to provide services.

Additional funds for health care services have been released by the NHF to cover extra costs without reducing regular payments to hospitals due to the cancellation of services not related to COVID-19. During the first months of the pandemic, hospitals in the public hospital network continued to receive their 'usual' monthly instalments, which had been increased by 5% at the beginning of the year. In addition, they received payments for services related to COVID-19, which could add up to substantial amounts if they treated many patients. For these hospitals, the regular lump sum payments have now been reduced. Hospitals outside the network could apply to receive payments for contracted services (in monthly instalments) under the assumption that they would provide these services later in the year. To secure financial liquidity of hospitals, payments are made faster and more frequently.

In France, Germany, Romania and Switzerland, where hospitals are paid using DRG-based payment systems, these systems had to be slightly modified to enable payment for patients with COVID-19. For example, coding guidelines for diagnoses and procedures were adjusted to enable hospitals to code for isolation treatment for patients with confirmed coronavirus. In addition, hospitals in Germany receive a top-up payment for every hospital case (including for non-COVID-19 patients) treated between 1 April and 30 September to cover the additional costs of PPE; and the average daily nursing fee was increased by €38 (see Box 1). In the Czech Republic, hospitals receive a new per-diem for COVID-19 positive patients (€2,237 per day for treatment in an ICU and €88 per day on other ward) in addition to their usual monthly instalments. In addition, the usual monthly instalments have been increased by about 1% in order to account for the additional costs of PPE.

In Belgium, where hospitals are usually paid based on a mix of global budgets, DRGs, and fee-for-service (FFS), new FFS billing codes have been created, e.g. for physicians treating COVID-19 patients, as well as for ICU care and for specialist

services. In Poland, the National Health Fund has established a reimbursement list, which includes fees for hospitalisation, hospitalisation in an ICU, isolation in a designated facility, and lump sums for readiness to provide hospitalisation. Over time, the list has been extended to include 30 COVID-19-related fees for inpatient and outpatient care (see also Box 2). In England, providers were given the possibility to claim additional reasonable expenditures related to COVID-19, if the new global budgets did not equal actual costs (e.g. if additional staff had to be employed). Similarly, in Finland, the central government will compensate hospital districts (i.e. hospital owners) for additional costs related to the care of patients with COVID-19.

Concerning necessary investments, governments in several countries (e.g. the Czech Republic, England, Israel, Malta, Slovakia, Slovenia) have directly purchased ventilators, beds, and/or PPE and distributed these to hospitals – at least during the early stages of the pandemic. In Germany, hospitals received a lump sum payment of €50,000 for every new ICU bed set up to prepare for the expected influx of patients. In England, between 3 April and 19 May, NHS

hospitals were allowed to make capital investments of up to £250,000 (€278,000) without requiring national pre-approval.

Only a few countries are paying non-contracted providers

Only relatively few countries seem to have put in place specific rules to pay for services provided by non-contracted (public and private) providers, either to increase capacity for treating COVID-19 patients or to compensate for reduced capacity in public hospitals, which are busy taking care of COVID-19 patients. For example, in England, the NHS made a block contract with the vast majority of private hospitals to make their capacity available for NHS patients, while being reimbursed for services provided based on the full costs of care. Similar agreements with the private sector were also concluded in Malta. In Cyprus, patients who could not be treated in public hospitals due to the closure of departments could be treated by private providers, and costs of care were reimbursed by the Ministry of Health through FFS payments at a slightly reduced rate (20% below usual private sector prices).

“find solutions to protect hospitals from revenue shortfalls and to adequately reimburse for COVID-19-related costs of care

In Switzerland, hospitals that provide acute care but are not included in cantonal hospital plans, could be mandated by cantons to provide care for designated groups of patients during the crisis. In this case, they were paid by DRG using the same tariff as for other general hospitals in the canton. In addition, in order to expand ICU capacities, the Swiss government allowed hospitals to bill ICU related DRGs for all patients treated in non-certified ICUs.

Conclusion

In addition to clinical and organisational challenges, COVID-19 has placed a significant burden on hospital finances.¹ Although a complete overview of all countries currently remains unavailable, all of the countries included in this article have responded relatively quickly to find pragmatic solutions to evolving challenges. However, the adopted approaches differ considerably across countries. Germany stands out as having made substantial additional resources available to hospitals, both to pay for COVID-19 and to compensate for revenue shortfalls (see Box 1). Belgium has also responded very quickly to mobilise substantial additional resources for hospitals. Other countries, such as the Czech Republic and Poland continue to pay the usual monthly instalments to hospitals, which effectively compensates for revenue shortfalls in the short-term. England also stands out as a country

that has taken the dramatic decision to discontinue its normal (DRG-based) payment system (at least during the pandemic) in favour of global budget allocations and cost-based reimbursement.

In view of the ongoing challenges of COVID-19, all countries in Europe will have to find solutions to protect hospitals from revenue shortfalls and to adequately reimburse for COVID-19-related costs of care. A top priority should be for policymakers to minimise the impact of COVID-19 on regular service provision, e.g. by concentrating care for these patients at dedicated wards of designated providers. This may allow other hospitals to continue normal operations, thus avoiding the need to compensate revenue shortfalls. Of course, the easiest (short-term) solution to avoid revenue shortfalls is keeping existing hospital budgets intact. However, this also reduces the incentive for hospitals to restructure service delivery in line with new provision needs during the pandemic.

Concerning the reimbursement of COVID-19-related costs, all countries will likely need to adjust their hospital payment systems, e.g. by modifying DRG-based payments, increasing per diem rates, or adding additional fees to FFS systems. However, these payment adjustments would ideally accompany and support the concentration of care, e.g. by making the designation as a COVID-19 centre a prerequisite for receiving COVID-19-related payments like in Israel or Poland. In addition, given the risk of future pandemics, processes need to be put in place to rapidly adjust payment systems to meet new challenges where and when needed.

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IN AND OUT OF LOCKDOWNS, AND WHAT IS A LOCKDOWN ANYWAY? POLICY ISSUES IN TRANSITIONS

By: Holly Jarman, Scott L. Greer, Sarah Rozenblum and Matthias Wismar

Summary: In the absence of effective treatments or a vaccine, governments depend on public policy to respond to COVID-19. This article reviews key issues surrounding transitions – the “closing” and “reopening” of economies during the pandemic. It identifies a number of key issues such as the use of data to inform decisions and the localisation of lockdowns, as well as key questions about how decisions are made and implemented. Identifying leadership, financing, key stakeholders, data, and communications strategies for different issues has proven crucial to managing transitions.

Keywords: Transition, COVID-19, Social Policy, Leadership, Governance

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Introduction

As there are currently few effective treatments and no vaccinations for COVID-19, physical distancing requirements remain among the most effective means of controlling the spread of the disease and reducing morbidity and mortality. Nevertheless, physical distancing and other public health requirements need to be aligned with measures that support economic activity. Most countries in the World Health Organization (WHO) European region are making and implementing strategic plans to manage the transition away from tough COVID-19 controls as well as developing and implementing plans to reimpose controls during surges. There are a number of common elements to this transition planning, described below.

This article synthesises many of the issues that were found in the course of a series of cross-cutting analyses on transition decision-making [\[1-3\]](#) based on evidence available from the [COVID-19 Health Systems Response Monitor \(HSRM\)](#).

We can understand governments' transition planning in terms of six categories. First, **policy capacity**, meaning a government's core capacity to make and implement COVID-19 related policy decisions. Second, policy measures addressing **geographic variation** in COVID-19 spread, prevalence and impact. Third, policies addressing specific **sectoral risks** such as those posed by school systems, higher educational institutions or sectors with many high-density workplaces. Fourth, **operational guidance** issued by governments, such

as rules on how to sanitise or change the layout of businesses. Fifth, policies to ensure **adequate capacity** in health and public health systems. Finally, many governments introduced or modified **social policy stabilizers** with the aim of limiting the impact of the pandemic on people and businesses.

“the total number of cases only makes sense when balanced against testing rates and test positivity

Across each of these categories, governments face challenges that fall within five domains: leadership, financing, stakeholders, data, and communications. The first domain is **leadership**, where challenges include basic questions of who has authority in a given area (the head of government, regional governments, an autonomous agency, a professional organisation, etc.) as well as challenges arising from the process of decision-making. The second domain is **financing**, where challenges arise because many of these measures directly cost money and it comes from somewhere. The third domain involves challenges in managing **key stakeholders** and the extent to which they are involved in informing decisions, for example the extent to which guidelines on issues such as hygiene in service establishments are written with or by trade associations. The fourth domain involves the **data** deemed necessary to make decisions (e.g. what indicators of COVID-19's spread are being used, and on what level of aggregation, from local to national). The fifth domain is **communications**, with challenges relating to the level of publicity and transparency for the scientific advice being given to governments or the approach to communicating guidance on physical

distancing, personal hygiene and the relevant symptoms one must experience to warrant testing.

Table 1 elaborates upon these categories and domains, providing a conceptual matrix that can be used to identify the priorities and decisions being taken in any given jurisdiction in light of the approaches and issues elsewhere. The next section identifies in more detail the kinds of challenges that countries are facing as they make transition decisions.

Policy capacity: Policymakers are taking advice, considering data, making plans and using metrics

Most countries have established task forces with executive authority, advisory groups, or groups that mix the two. In [Belgium](#), a “Group of Experts in charge of the Exit Strategy” (GEES) was set up on April 6th to advise the National Security Council in defining the national transition strategy. For this, the GEES relied on indicators such as the decrease in the number of daily hospitalisations and the flattening of the curve of deaths linked to the virus. The transition phase out of lockdown began on May 4th, then the reintroduction of more stringent controls began in late July.

The expertise that seems to be consistently useful includes epidemiology, population health expertise, expertise in health care and public health infrastructure, and expertise in logistics and business sectors. Behavioural and social sciences' appearance, and the decision as to who represents those fields, is less consistent. Governments also tend to identify clear and useful measures and metrics to understand when it is safe to open and when lockdown needs to remain or be re-imposed. Metrics and measures that have been deemed to be of value include:

- R0 (pronounced “R naught” which estimates how many people each person with COVID19 is infecting. However, this is a dangerous statistic on its own since it is an estimate, with potential error, and is also unrevealing when transmission is concentrated in specific settings such as prisons or abattoirs)

- total number of new cases (interpreted in light of testing rules and rates, which can produce undercounts)
- excess mortality (which shows the number of deaths above what we would have been expected under ‘normal’ conditions. It is arguably a useful measure for understanding policy effects, since it is not dependent on testing, but there is often a time lag in the data being reported)
- hospital capacity forecasts (availability of intensive care beds and normal beds)
- the testing rate (daily tests per 1,000 people)
- the test positivity rate (those that test positive for coronavirus which is an indirect indicator of whether enough testing is being done. A high test positivity rate, above 3% or 5%, suggests that there is inadequate testing and unmonitored spread)
- measures of adherence to policy requirements such as physical distancing.

These metrics and measures should be adapted to or complemented with measures to identify vulnerable populations and people at different levels of vulnerability to complications (e.g. co-morbidities) in order to identify particular risks. All of them, and possibly others, are necessary to inform an effective response. The total number of cases only makes sense when balanced against testing rates and test positivity, for example. Age-stratified excess mortality takes time and effort to calculate, but it is a more reliable measure of the severity of the pandemic and its impact across the population than a straight count of COVID-attributed deaths.

Clarity about government intentions, processes and decisions is a common objective and can be fulfilled through a published plan that is used or revised in transparent ways. Most countries are transitioning away from controls in multiple stages that account for different levels of risk across activities, sectors or geographic areas. [France](#) used a “traffic-light” system in which regions labelled “green” eased restrictions faster than “red” regions where the virus was still active. Several countries are using targeted

Table 1: Checklist to help policymakers systematically approach transition decisions

	1. Leadership (who has authority)	2. Financing	3. Key stakeholders	4. Necessary data	5. Communications	6. Other
1. POLICY CAPACITY						
Establish task force/advisory group						
● Epidemiologists						
● Population health experts						
● Health care and public health infrastructure experts						
● Economics, business, logistics experts						
Identify key measures and metrics, e.g.,						
● R0						
● Cases						
● Excess mortality						
● Hospital capacity						
● Testing rate						
● Test positive rate						
● Measures of adherence to policy requirements						
● Risks and spread among specified vulnerable individuals/populations						
Create transition plan						
● Description of multiple phases with measures at each phase						
● Plan for geographic variation (<i>localized variation + national borders</i>)						
● Assessment of sectoral risks (<i>spread of disease + economic vulnerability</i>)						
● Operational guidance						
● Plan to measure and assess systemic capacity						
● Details of social policy stabilizers						
● Metrics for decision-making						
Communications strategy, e.g.,						
● Targeted at individuals						
● Targeted at high risk populations						
● Targeted at employers						
● Targeted at potential social policy beneficiaries						
● Publish transition plan, rationale and metrics						
● Acknowledge potential to increase lockdown measures						
● Communicate criteria for increasing lockdown measures						
2. GEOGRAPHIC VARIATION						
● Is transition plan regionalized? Y/N						
● close off regional borders (<i>at which phases?</i>)						
● close off national borders (<i>at which phases?</i>)						
● quarantine measures for international travellers						
● pause or change immigration policies/procedures						
3. SECTORAL RISKS						
● Primary and secondary education						
● Higher education						
● Childcare (<i>institutional, e.g., nurseries</i>)						
● sports (<i>outdoor activity</i>)						
● sports (<i>professional</i>)						
● High touch retail						
■ Essential retail						
■ Small retail						
■ Large retail						
■ Shopping centers						
● High touch services						
■ Restaurants						
■ Hotels						
■ Hair salons, etc.						
■ Cinemas and large venues						
■ Childcare (<i>individual</i>)						
● Construction						
● Health sector						
● Social care sector						
● Prisons						
● Transportation						
● Science, e.g., laboratories						
● Food system						
● Manufacturing						
● Export sectors						

	1. Leadership (who has authority)	2. Financing	3. Key stakeholders	4. Necessary data	5. Communications	6. Other
4. OPERATIONAL GUIDANCE						
● Capacity (how many people can be in enclosed space)						
● Physical distancing (how far apart, under what circumstances)						
● Masks (when required)						
● Hygiene (institutional, e.g., how should restaurants be cleaned)						
● Hygiene (personal, e.g., all employees should wash their hands)						
● Workforce protections (necessary equipment, environment, procedures, contracting)						
5. SYSTEMIC CAPACITY						
● Testing supplies and sites						
● Contact tracing system, workforce, technology						
● PPE acquisition and distribution						
● Research funding and prioritization						
● Regulation of private companies, e.g., test manufacturers						
● Routine health system capacity, e.g., workforce, beds, routine treatment/prevention						
● Crisis health system capacity, e.g., field hospitals						
● Community triage (which care takes place where)						
● Dissemination of innovation (technology + practice)						
6. SOCIAL POLICY STABILIZERS						
● Vulnerable populations, definition, support						
● Unemployment insurance						
● Income protection, including for precarious/independent workers						
● Short-time work						
● Health care access						
● Labour market policies						
● Food support						
● Housing						
7. OTHER						

Source: Authors' own

local lockdowns, as with Leicester in England or Guterslöh in Germany. Some subnational governments, such as [Saxony](#), have produced their own regional plans with detailed criteria governing future lockdowns.

A plan that explains the measures and metrics being used as governments add or reduce restrictions can, it seems, aid planning and public communications. It can include an explanation of the core criteria and thresholds for making a decision, plans for handling geographic variation (e.g. whether border controls can be imposed within a country or at international frontiers, why, and when), how policymakers assess sectoral risks (e.g. of opening schools or universities), operational guidance, transparency about the measurement of health system capacity, or clarity about social policy stabilizers such as unemployment benefits.

Finally, a clear and coherent communications strategy is a priority for governments, even if not all of them succeed consistently. Most communications strategies have dimensions targeted at individuals (e.g. with regard to physical distancing or personal hygiene), plans for communicating with particular geographic areas and local leaders (including during local lockdowns), high risk populations such as diabetics, hypertensives, people over 60 or people in jobs that put them at increased risk; communications to employers about the procedures, costs, and benefits of opening at a given time; and communications to social policy beneficiaries of the available support, in part to discourage vulnerable people exposing themselves when they need not. The strategy can include publication of the transition plan, its rationale, and metrics, and in order to prepare for what might be a long struggle it should clearly

acknowledge the potential of increased lockdown measures and the criteria for deciding to lock down an area or sector. See also the policy snapshot looking at health communication channels across European countries.¹

Geographic variation: There are regional differences in lockdown requirements and the loosening of restrictions

In many countries, the risks and the burden of COVID-19 vary considerably, and not just between urban and rural areas, but often within them in a pattern that is often not clearly understood. Most countries are adopting regional lockdowns, with some areas under looser controls than others, including [France](#), [Spain](#), and [Greece](#). Many governments are making clear their criteria and decision processes for closing down particular areas or loosening restrictions, and whether

they will police movement internally. This might have benefits for transparency and adherence.

The possibility of international travel is likewise going to vary. On the one hand, explaining the logic of quarantine decisions for international travellers, and policies for issues such as people transiting at airports, will aid a resumption of safe travel. There is also a tendency to loosen controls at borders with countries at a similar level of perceived risk (e.g. Austria, Germany, and Switzerland). There was a time when [Estonians](#), for example, were allowed to travel to Latvia, Lithuania, and Finland providing that they did not exhibit symptoms and had not travelled abroad within two weeks. Many strategies and plans try to make clear the criteria for such decisions. Coordination procedures would help ease decision-making in this regard and would support planning if measures have to be temporarily reversed.

Sectoral risks: Sector specific guidance allows for different levels of activity depending on the associated risk

Many countries have issued sector specific guidance that takes into account the different levels of risk inherent in different activities. The potential impact of school closures is a key issue given the uncertainty about their contribution to disease spread. This sector presents complex problems since childcare and schools are crucial to parents' participation in labour markets and the reopening of the economy.

In other cases, our review of plans suggests that decisions on sectoral guidance depend on assessing risk and balancing it, in some cases, against the economic importance of the sector (e.g. manufacturing and export sectors). The benefits of outdoor exercise and risks of individual sports are also much debated due to their overall positive contribution to health and wellbeing. Likewise, policies regarding retail tend to distinguish small and large retail (measured by size of business or number of people on the premises) as well as essential retail of any size, and shopping centres. In this concern with risk, "high touch" activities such as

restaurants, concert venues and haircutting are all subject to different risk assessments in different governments. Explaining the policies to the public and the decisions underlying them might have value, given the high public visibility of these issues and the challenges of re-establishing high-touch services, leisure travel and tourism.

Some countries have specific policies addressed at enclosed populations such as care homes (see the article in this issue by Langins et al.) or prisons, as well as the employees in them who can rapidly carry an outbreak in one of them into a surrounding community. Prisons and detention centres in England, for example, are expected to follow guidance for isolating infected prisoners or admitting them to hospital as well as ensuring staff are physically distancing where possible and able to access appropriate personal protective equipment (PPE). Likewise, certain undeniably important industries such as abattoirs and social care (e.g. residential nursing care or care workers who travel from house to house) bring particular risks and can benefit from specific guidance. In late June, over 1,500 people tested positive for the virus after an outbreak at a meat-processing facility in Gütersloh, in the north west of [Germany](#).

Operational guidance: Governments are setting operational guidance in collaboration with industry

Across many of these sectors, countries are issuing guidance with some common elements. In order to maintain physical distancing to the greatest extent possible, countries are setting limits on the enclosed physical capacity of locations including shops, restaurants and public transport. In [Malta](#) and [Cyprus](#), the government issued mandatory conditions and guidelines for businesses, services and public transport to follow when reopening. Some countries are promoting guidance on institutional hygiene measures, and personal hygiene measures including the use of masks, or working in more or less formal partnership with trade associations. Most countries are working with relevant stakeholders to ensure greater compliance with safety measures. The [Danish](#) government discussed with unions and industry representatives to initiate a gradual

increase in on-site work, as opposed to remote work. Businesses are being encouraged to utilise outdoor spaces where possible to supplement capacity. Some governments are putting in place measures to support the use of outdoor space, such as pedestrianising urban spaces (which can then be used by restaurants, which might enable reopening at reduced risk of transmission). Other regions and municipalities, including Berlin, London ⁹ and Paris, are expanding bicycle lanes to reduce the use of public transportation.

Systemic capacity: Countries are working to secure systemic capacity requirements in health care, public health and research

It seems that most governments view transition planning as more likely to work when supported by adequate capacity in essential systems such as health care, public health and research. Countries are addressing capacity requirements by securing testing supplies, recruiting or reassigning contact tracers, commissioning technological solutions to contact tracing, and acquiring and distributing PPE. [Germany](#), for instance, emphasised contact tracing and sought to establish a five-person team for every 20,000 individuals (see the article in this issue by Hernandez-Quevedo et al. on contact tracing operations and the role of apps). Many countries use an app that records proximity using Bluetooth technology. If the app's user comes into contact with someone who then reports that they are infected with COVID-19, the app notifies the user and instructs them to self-isolate. Some countries are also prioritising research on relevant measures including improving on the validity of antibody testing and vaccine development. Monitoring health system capacity and its changes on a day to day basis matters here, in order to understand the level of risk being taken at any given time.

In terms of health care systems, countries are addressing capacity requirements by issuing guidance to hospitals about routine treatment and prevention activities, by setting up field hospitals and by overseeing community triage efforts. In [Polish](#) regions where there are two designated single-infection (COVID-19) hospitals,

one of them resumed their former activity on June 1st. Should incidence rates increase or a second wave of infections materialise, the hospitals will be able to revert to single-infection units dedicated to COVID-19 patients. Some are also actively working to disseminate innovation, both technology and good practice in a way that supports spreading clinical knowledge.

“no
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Social policy stabilizers: Supporting transitions through social policy

Governments are also using social policies to support transitions. There are three key issues for social policy. First, there is variation in the extent to which social policy cushions economies against the ongoing enormous demand shock of the pandemic. Restrictions on business hurt businesses and can hurt employment as well as government tax revenue. This creates pressure on policymakers to reopen. Second, there is variation in the extent to which it enables people to survive lockdown. If people's basic ability to survive depends on violating public health orders, many of them will violate public health orders. Supportive social policy enables people to adhere to public health rules. Third, there is variation in the extent to which social policy supports public health. Measures that protect income, housing, and similar necessities can increase adherence to lockdown measures since it means people are not forced out to work when it is unsafe to do so. In this regard, France, Germany, Italy, Malta and the United Kingdom all implemented some unprecedented measures. The approaches to social support are diverse: for example, [Spain](#) provided masks at no cost to

every resident, while [Austria](#) provided additional financial assistance to particular categories of people, including students and older people.

Transition planners in practice consider the extent to which social policy measures are or are not supportive of public health measures, and enter into discussions on that basis, including by making the case that measures which predictably kick in upon renewal of a lockdown will limit the damage and improve adherence to public health measures. Social policy measures that stabilize economies and enable public health policies can include special measures for vulnerable populations (e.g. the homeless), unemployment insurance, income protection measures, including for precarious or independent workers (e.g. in the arts) and even basic income schemes, short-time work (*kurzarbeit*), measures to ensure health care access, labour market policies such as special support for high-risk workers to stay home, food support for people cast into food insecurity, and housing support.

Conclusion

There is a great deal of variation in how countries are approaching transitions. In many cases there is no clear path to take, with uncertain and rapidly developing science and difficulties in adapting general scientific findings to particular circumstances. Thus, countries are defining vulnerable populations in different ways, while others have paid less attention to some vulnerable populations, e.g. migrants, or were slow to include data, e.g. care homes; likewise, there is huge variation in the definition and handling of high-touch activities like hairdressers or the arts. The extent to which compliance will continue also relies on public trust, public messaging and law enforcement actions, all of which will be tricky for governments to balance.

Table 1 provides a checklist, informed by our rapid review of the decisions, for topics that analysts and policymakers should consider as they develop, implement, and fine-tune transitions strategies for what might be a very long period of crisis.

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WHO'S IN CHARGE AND WHY?

CENTRALISATION WITHIN AND BETWEEN GOVERNMENTS

By: Scott L. Greer, Holly Jarman, Sarah Rozenblum and Matthias Wismar

Summary: Successful response to the COVID-19 pandemic requires coordination within and across governments. Within governments, heads of governments gathered together power and authority early in the response, concentrating power and energy at the centre of government. Across governments, different governments adopted differing approaches to coordinating pandemic response between central governments, regions, and local government. In many cases, policy was temporarily centralised in federations, with the central government making more policies than usual. In the second wave, there seems to be less centralisation, particularly in federations, and regional or local governments are more prominent.

Keywords: Centralisation, Federal countries, Governance, COVID-19, Executives

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Public health planners have long argued for a “command and control” approach to pandemics.¹ Governments almost universally adopted that approach early in the pandemic. The result was that for a few months in 2020, politics looked very different in many countries. Policymaking became far more centralised and hierarchical than usual, with less regional and ministerial autonomy and more empowered heads of government. Normal politics is slowly returning, even as the pandemic continues. The challenge is to learn lessons about ways to coordinate during and after a health crisis that are sensitive to the complexities of politics.

There are two different kinds of centralisation visible in the pandemic so far. One is *within governments*. In this case, the head of a government – any

government, from a town hall to a country – gathers together the power normally dispersed across different ministries, politicians, and agencies. The other is *between governments*. In this case, power that is normally in the hands of one government, such as a local government, or regional governments such as Italian or Spanish regions or the states of Austria or Germany, shifts to the central government.

Both kinds of centralisation were at work across Europe in spring and summer 2020. Within government, heads of government centralised power at the expense of ministerial and agency autonomy, whether by running policy directly, by empowering ministers, or by working closely with existing agencies. Hands-off approaches were seemingly not politically viable for heads of government. In

intergovernmental relations, the response in many countries was a degree of centralisation as well as an unusual degree of coordination, but basic constitutional mechanisms and political incentives are hard to override for long, and countries with problems of intergovernmental conflict, blame shifting, and poor coordination started to see them re-emerge quickly.

Centralising within governments: taking control of the COVID response at the top

In early March 2020, COVID-19 moved from being a public health or health ministry problem to being, in every sense, a whole of society problem requiring (at least) a whole of government response. Furthermore, it was clear that citizens were looking to their governments, and that the political stakes of success and failure were enormous.

In country after country, heads of government reacted by taking control of responses, on their own or with the health minister. *De facto* power moved from ministries to the head of government, often working through a special task force or sub-cabinet. In some countries, this meant the health ministry was highly visible and important; in others, the head of government clearly dominated. At least 21 European region countries passed emergency legislation.

As the first wave of COVID-19 spread across Europe, the day to day response was frequently centralised through different tools. As reported in our previous policy snapshot,² in [Canada](#), Estonia, Finland, [France](#), Israel, Serbia and Ukraine, the pandemic response was led by the Prime Minister's Office. In other countries, such as the [Czech Republic](#), [Greece](#), Lithuania and [Slovenia](#), the Minister of Health was at the forefront of the governmental response to COVID-19. Finally, heads of government work in tandem and share equal responsibility with Ministers of health in a subset of countries, including Estonia, Lithuania, [Latvia](#) and [Malta](#). A second tool, often found in special COVID-19 legislation or existing law, is the creation of a coordinating committee that enhances

intersectoral governance by centralising authority in a body that represents the key sectors involved in response. Most countries have established or activated such a body, led by top politicians or their delegates. The [Russian Federation](#) government established a Coordination Council led by the Prime Minister and the Mayor of Moscow to coordinate all actions at the federal, regional, and municipal levels. Non-federal countries created different types of institutional designs to coordinate the response, such as special government emergency committees (Lithuania, [North Macedonia](#), [Ukraine](#), [Finland](#)), an Operational Intersectoral Headquarter (Serbia) or an interagency working group led by the Minister of Social Affairs (Estonia). A subset of countries empowered pre-existing entities, such as the [Croatian](#) National Civil Protection Authority or the Dutch National Institute for Public Health and the Environment, which became the main coordinating actors in the national response to COVID-19.

Specialist and generalist government have had their objectives aligned

We can take away a general point. Most of government, including health ministries, is what Daniel Fox calls “specialist government.” People in it specialise in particular issues and advocate for attention to those issues. A smaller and more powerful segment of government, typically around the head of government and the finance ministry, is “generalist government.” Generalist government's key job is to make the trade-offs between goals and sectors – between health and education spending, between taxation and spending levels, or between legislative priorities. As Fox writes, “Most practitioners of public health in government are, by definition, specialists. To succeed in the politics of making and implementing policy they must earn and maintain reciprocal loyalty with generalists.”³

In the case of COVID-19, a public health issue had the undivided attention of generalist government for a very long time. Unsurprisingly, generalist government did not simply delegate management of a worldwide pandemic to health ministries or public health agencies. The interesting

variation is in how much attention and respect generalist government gave them. What kind of status, organisation, and strategies led to a prominent place for established public health agencies and actors in these newly centralised governance approaches? In some cases, the public health agency was firmly in the lead, as in South Korea. In others, it was side-lined, firmly subordinated to political leaders, as in France, or even – as in England – eliminated and folded into a new agency with little warning.

The most globally visible case to diverge from this pattern was Sweden. Sweden has an unusually high level of legal autonomy for its government agencies. Legally and politically, the Swedish prime minister or health minister have relatively limited power over its public health agency, and only at a high political price could they instigate conflict by publicly contradicting it. This enabled the Swedish public health agency, led by its high-profile state epidemiologist, to pursue a strategy unusual in Europe of limited constraint on mobility. What is interesting here is whether a country with a less autonomous public health agency would have chosen a different route. It is intriguing that in the one high-profile European country where the public health agency was autonomous and led the response, the chosen response was so polemical.

Centralising between governments

There are many merits to federalism and decentralisation. For example, one virtue is that it means a layer of governments that can take action to compensate for unconstructive behaviour by the central government (as we have seen in a number of the world's big federations).⁴ But policymaking in a decentralised country is harder, with more need for coordination and less unity because governments can be of different political colours. In some cases, as with the current Scottish and Catalan governments, they do not even agree with the central state on its legitimacy. Formally unitary states are not exempt from the need to coordinate. Local governments are often politically important and legitimate and possess resources that are necessary for public health and social policy responses.

Coordinating with them involves a certain amount of inevitable friction and there can be political incentives to create conflict or try to shift blame.

As reported in our policy snapshot on federal countries,⁴ coordination challenges appear in all the major areas of the COVID-19 response. **Table 1** identifies key areas. *Governance* to decision-making: the general procedures that governments within a country use to make and implement decisions. In many cases, regional autonomy has been somewhat curtailed, though many of the measures curtailing regional autonomy are temporary.

In terms of *preventing transmission*, which means mechanisms such as physical distancing and surveillance, regional autonomy has mostly remained. This might reflect the fact that regional governments often are the ones with resources such as contact tracing staff or police. Notably, some countries such as Spain and Belgium, which have complex territorial politics, have at least temporarily centralised the acquisition of personal protective equipment (PPE). In *ensuring sufficient physical infrastructure and workforce capacity*, insofar as there is a pattern it is one of persisting regional autonomy or of central governments acting unilaterally (e.g. by easing restrictions on professional mobility). In *efficient health care service provision*, likewise, there is a mixture of centralisation and regional diversity. In both of these areas, there is a strong case for regional autonomy and regional governments empirically have resources on the ground, but they might lack the ability to coordinate for efficient patient flows without central direction or might not command elements of the legal infrastructure (such as professional regulation) necessary to optimise responses. Finally, and very strikingly, we did not find change in health financing outside a fairly limited change in [Belgium](#). This might make sense in social insurance systems, where there is often some distance between social insurance funds and regional governments, but it is an area to watch. Broadly, there is more political responsiveness in Beveridgean national health service (NHS) model systems such as Spain, the United

Kingdom, Italy, and Canada, where substantial health expenditures come out of general government budgets and where unexpected health challenges can create unexpected problems.

In general, as with much of health politics in federations beneath the confusion there is a basic rationality at work, with central governments handling issues that require large risk pools and regional ones issues that handle local knowledge and resources. Strikingly, we found no case of change in the basic territorial politics of entitlements, which is important. If regional governments did not take the opportunity of the crisis to restrict benefits, and instead expanded them, that will have good effects on public health, including avoiding avoidable new outbreaks.

Given that federations do have clear coordination problems, how do they deal with them? One way is *voluntary cooperation* in which regional governments identify and solve shared problems among themselves or with the central state guidance or control. In Italy, each region adopted its own approach to testing based on national and international recommendations but as testing capacity greatly varied by regions, national guidelines were issued by the central government to outline the basic criteria for testing. With respect to protective equipment, the [German](#) federal government delivered stocks of PPE to the Länder, which were responsible for allocating and distributing the material to regional health care providers. Though there is in those countries regional budgetary autonomy, investment in public health infrastructure and new public health workers positions was coming from the federal government as it is the case in Germany. As for [Spain](#), the transition strategy was released in late April and was meant to be coordinated with the Spanish regional authorities. Finally, regarding inner border closure, the [Austrian](#) state governments were in charge of executing decisions taken at the federal level, but were also free to apply stricter measures, such as quarantine for smaller regions severely hit by the crisis.

The second way is *centralisation* of powers and functions⁵ in the hands of the

central state. This can be for immediate functional reasons, e.g. to acquire supplies at a better price and coordinate logistics, or to reduce popular confusion about closure and reopening measures. In [Germany](#), the “Act for protecting the public health in an epidemic situation of national importance” granted the Ministry of Health (MoH) expanded but temporary power. The federal MoH was consequently authorised to take measures regarding the provision of pharmaceutical and medical devices and to strengthen the medical workforce. These new powers will, however, expire on 1st April 2021. In countries with particularly difficult central-regional politics, the question of whether centralising measures will be temporary or permanent is obviously charged and has not been entirely resolved. In [Spain](#), a Royal Decree declared a state of emergency on 14 March and put all publicly funded health authorities under the direct order of the Ministry of Health. The Spanish MoH was therefore temporarily entitled to implement COVID-19 related measures across the whole country. In [Italy](#), a country whose health care system is highly decentralised, the MoH issued a series of regulations increasing the availability of health professionals and requiring all regions to increase health care capacity. In most cases our data does not show any change to the formal role of local government. Few clearly permanent changes have been made to federal arrangements; this might be a data limitation but, if true, it is an interesting contrast to the centralisation seen in some federations⁶ due to the global financial crisis of 2008–2012.

The third way is *continuing regional diversity and autonomy* when there is a case for local implementation and decision-making or when the political situation makes coordination or centralisation unrealistic, resulting in a variety of responses. Despite the increased role of the central government, Italian regions still retain decision-making autonomy regarding the delivery and organisation of health services, such as whether to conduct COVID-19 tests in the entire regional population or whether to suspend or maintain medical services, such as surgical procedures. In [Spain](#), although all publicly funded

Table 1: Level of coordination of policy responses

POLICY RESPONSES	ACTIVITIES	VOLUNTARY COORDINATION	POWER CENTRALIZATION	REGIONS RETAINING AUTONOMY
Governance	–	Belgium Spain	Austria Belgium Germany Italy Spain Switzerland United Kingdom	Italy Spain Switzerland
Preventing transmission	Health communication	Canada	–	Canada
	Physical distancing	–	Italy Switzerland	Belgium Canada Germany (during the transition phase)
	Isolation and Quarantine	–	Canada	Austria Canada Italy
	Monitoring and Surveillance	Canada	–	Austria Canada Spain
	Testing & Contact Tracing	Canada Germany Italy	Austria	Belgium Canada Italy Switzerland
	Protective equipment (purchasing and distribution)	Germany	Austria Belgium (before the transition phase) Germany (for the acquisition of PPE) Italy Spain	Belgium (during the transition phase) Germany (for the distribution of PPE)
Ensuring sufficient physical infrastructure and workforce capacity	Physical infrastructure	Belgium	Austria Canada	Canada Italy
	Workforce	–	Italy Spain	Belgium Canada Germany Italy
Providing health services effectively	Planning services	Canada Germany	Italy Spain	Switzerland
	Managing cases	–	Austria Italy	Canada Italy
	Maintaining essential services	–	Switzerland	Italy
Paying for services	Health financing	–	Belgium (for hospitals)	Belgium (for nursing homes and facilities for people with disabilities)

Source: © Copyright European Observatory on Health Systems and Policies ⁵

authorities are temporarily supervised by the central government, regional and local public health administrations still retain operational management of health services. [Swiss](#) cantons are free to organise the cantonal response to COVID-19, which has led to great variation in the organisation of testing and treatment across regions. In Germany, measures to expand the workforce involved in treating COVID-19 patients

were instigated by individual hospitals, cities or regions, with limited overall coordination and planning at the federal level.

As we might expect, *decentralising between governments* is also a tactic that is becoming increasingly prominent. Central governments that centralised in the first wave might choose to share more responsibility – and blame – with

their local and regional governments in the second wave. There is a case for local and regional pre-eminence in many areas since local and regional governments have resources and knowledge on the ground that central governments often lack, but there is also a risk that responsibility and blame are being shifted without resources, money, or power.

Lessons learned: Centralisation is not enough, diversity can be an asset

We should not be surprised to have seen a high degree of centralisation around heads of government. The magnitude of the COVID-19 crisis, and the way it affected every dimension of life, meant that it had to be the focus of the entire government. Whole-of-government responses to health problems are famously hard to achieve, but the pandemic caused them nearly everywhere.

We learned that centralisation is not enough. Concentrating power has undeniable advantages if we assume that the concentrated power is used effectively. As we have seen, that is not always the case. Adopting the wrong decisions, a lack of political leadership or a lack of trust on the side of the population may render centralisation of power ineffective. Decentralisation produces coordination problems but diversity can be an asset if it reduces the effect of any one mistaken, delayed, or ineffective policy.

In addition, not all kinds of centralisation are the same. In some cases, individual regional or local governments were more or less rigorous than their state governments would have chosen. Simply taking away their powers might be unwise as well as unconstitutional, but conditional support for them in managing their problems (e.g. construction or improvement of state-wide surveillance systems) might shape their behaviour.

The return of normal politics

A dramatic centralisation of power within governments was always going to be largely temporary, outside cases of democratic backsliding. As the literature on Health in All Policies shows, there are powerful fissiparous forces within government that mean agencies as different as the police, health care providers, and schools, for example, will have distinct interests and be hard to coordinate.^{1,2} Controlling them takes not just impressive energy and focus at the centre of government, but also a shared sense of crisis and mission that inevitably abates. As soon as the perceived importance and consensus on the challenge crumbles, centralisation is

likely to fall apart. Generalist government will move on – if nothing else, to shaping and responding to the enormous effects of COVID-19 on everything from small business to gender equity to housing markets.

Centralisation and coordination problems, in particular within federal countries, are a different kind of issue. COVID-19 did not lead to widespread constitutional change. The regional governments of Austria, Belgium, Germany, Italy, Spain, Switzerland, and the UK all remain powerful and autonomous actors with their own politics, resources, and legitimacy. That they were willing to tolerate, or unable to prevent, centralisation in many cases does not mean that authority and power have actually shifted for good. Indeed, pandemic response, and the politics of blame, might actually make intergovernmental relations more difficult in the near future. We already see public arguments between major regions and their central governments in cases as different as Scotland and the Madrid region of Spain. This trend may be reinforced by the dwindling financial base of public health and health care, due to falling tax revenues and falling social insurance contributions. Very quickly, conflicts around the sustainability of health finance may arise, replacing the investment policies of today with by austerity like measures.

Conclusion

Policymakers should not be too impressed by some of the short-term centralisation we saw in federations. Normal politics is coming back, and will assert itself in COVID-19 response and recovery as well as all the other issues. It would probably be wise to draw lessons about better coordination and alignment that can work outside the kind of rush we saw in early 2020, since many countries are showing far less unity as they enter the second wave of COVID-19. More robust coordination mechanisms, grounded in clear law and political agreements, are hard to build but the pandemic might offer an opportunity to build them since nobody can rely forever on the ability of elected central, regional, and local governments to get along.

Most crises come and go and the after-action report and learning risk being forgotten. COVID-19 is not such a crisis. Until there is a safe and widely distributed vaccine, the need for public health response will continue. Political consensus and societal patience might not. As a result, it is an opportunity to learn from the governance experiments so far and build stronger mechanisms that can serve in this pandemic and inevitable future ones.

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NATIONAL, EUROPEAN, AND GLOBAL SOLIDARITY: COVID-19, PUBLIC HEALTH, AND VACCINES

By: Scott L. Greer

Summary: Developing, procuring, and distributing vaccines for COVID-19 could have very good or bad outcomes for solidarity, public health, and science. The European Union (EU), whose public health role advanced greatly in 2020, has a Vaccines Strategy that goes far beyond earlier EU procurement strategies. The World Health Organization's COVAX partnership pursues a global strategy of vaccines procurement and distribution. Governments are maximising their chances of access to vaccines for their own citizens with various combinations of national deals and international collaboration. There are powerful reasons to expect national egotism. The question is when the chosen case for collaboration makes solidarity the rational approach.

Keywords: Vaccines, Solidarity, COVAX, European Union, COVID-19

Introduction

Every health crisis leads to claims that there will be big changes in public health governance. This time, there might actually be. COVID-19 shone an unforgiving light on political systems of all kinds but also created the impetus for the kinds of dramatic reforms we rarely see in global health governance. Both the European Union (EU) and international organisations such as the World Health Organization (WHO) have absorbed criticism, but they are also both being given new tasks and challenges that might help us control the pandemic while changing health governance for good.

This commentary frames the development of EU and WHO responses to COVID-19 in 2020, and potential future directions,

in terms of a basic idea: Solidarity is a question of the head more than the heart.¹ In particular, it focuses on the next point of crisis: the development of, and access to, vaccines. A vaccine will be attractive to all countries, especially the ones that have not successfully contained COVID-19. Vaccine politics are nevertheless very high-risk. There is the risk of fierce competition over vaccines; a risk of vaccines that prove ineffective or dangerous; and a risk of vaccine hesitancy or rejection. All three could combine in particular places to produce a public health disaster.

Focusing on solidarity focuses our attention on the mechanisms that lead to better outcomes for different groups of people and governments. Whether voters

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Box 1: EU Vaccine Strategy

A safe and effective vaccine, accessible to all in Europe and around the globe, is the really lasting exit strategy from the pandemic. No region of the world is safe until we are all safe.

As time is of essence – we are in a situation of a public health emergency – we have to invest up-front in vaccine development to ensure that successful vaccines are being produced at the scale required as early as possible. This is why the Commission has adopted an EU Strategy for COVID-19 vaccines, setting out a common EU approach to securing vaccine supplies for Member States and their citizens.

On 17 June, the European Commission [presented a European strategy](#) to accelerate the development, manufacturing and deployment of vaccines against COVID-19. An effective and safe vaccine against the virus is our best bet to achieve a permanent solution to the pandemic. Time is of the essence. Every month gained in finding such a vaccine saves lives, livelihoods and billions of euros.

€2.1 billion under the European Support Instrument have been used to secure the production of vaccines in the EU and sufficient supplies for its Member States through Advance Purchase Agreements with vaccine producers. This is part of the European Commission's [vaccine strategy](#).

To date, the European Commission reached agreements with three pharmaceutical companies for the purchase of a potential vaccine against COVID-19 once the vaccine has proven to be safe and effective:

- [AstraZeneca](#) to purchase 300 million doses, with an option to purchase 100 million more; as well as to donate or re-direct vaccines to other European or other lower and middle-income countries.

- [Sanofi-GSK](#) to purchase up to 300 million doses. Member States may donate reserved doses to lower- and middle-income countries.
- [Janssen Pharmaceutica NV](#), one of the Janssen Pharmaceutical Companies of Johnson & Johnson. Once the vaccine has proven to be safe and effective against COVID-19, the contract allows Member States to purchase vaccines for 200 million people. They will also have the possibility to purchase vaccines for an additional 200 million people.

Exploratory talks have been concluded – and contractual frameworks are in negotiations – with:

- [CureVac](#) for the purchase of 225 million doses
- [Moderna](#) for an initial purchase of 80 million doses and the option to purchase 80 million more
- [BioNTech-Pfizer](#) for the initial purchase of 200 million doses and the option to purchase a further 100 million more.

Global cooperation

On 18 September, the European Commission confirmed its participation in the [COVAX Facility](#) for equitable access to affordable COVID-19 vaccines, following its announcement of a contribution of €400 million. On 21 September, the European Commission joined the [statement](#) by Friends of the COVAX Facility to strongly support vaccine multilateralism and the goal of ensuring affordable, fair and equitable access to safe and effective COVID-19 vaccines for all. The European Commission and the 27 EU Member States, Team Europe will initially contribute with €230 million. A contribution of €230 million is equivalent to reserves or options to buy 88 million doses and the EU would transfer these to eligible Advanced Market Commitment countries. This contribution is complemented with €170 million in financial guarantees from the EU budget.

By: European Commission

or elites in different countries feel kindly towards one another is a less important question than whether they recognise that in a pandemic their fates are linked. The key question is: with whom there will be what kind of solidarity of the head? Who will they see as sharing their fates, and – a very different question – who will they trust to pursue their interests?

European solidarity of the head: The shared problem of COVID-19

In late 2019, EU health policy advocates, officials, and experts involved in EU health policies were letting themselves sigh with relief: at least there would continue to be a clear EU health policy,

with a Directorate General and a Commissioner with a mandate letter substantially more ambitious than that of her predecessor.²

In spring 2020, one might have been excused for forgetting that there was an EU health policy.³ Member States were slow to help each other through even obvious moves such as the activation of RescEU, the centrepiece of the EU's civil protection strategy. Closure of borders to goods as well as people meant disorder. Member States ignored their mutual ties of solidarity and instead rushed to keep out foreigners and hoard supplies, creating a bad impression at a crucial time. It did

not help that some EU governments used COVID-19 measures to speed up their democratic backsliding and paid no price.

Such national egotism was no surprise. In the panicky atmosphere of March, few politicians felt that they could be generous. They were all, after all, learning that they were ill-prepared for the pandemic that so many had warned them about. The breakdown nonetheless seemed to pose a real threat to the EU.

By autumn 2020, things were very different. What is surprising about the EU's case is how rapidly it made progress that would have been unimaginable in

late 2019, a process that Eleanor Brooks, Anniek de Ruijter, Sarah Rozenblum and I have explored.⁵⁻⁷

By July, the Member States saw a case for solidarity. At a 17–21 July Council meeting they agreed a €1.7 billion “EU4Health” programme for 2021–2027, and in the same deal RescEU also received a large budget increase of €1.9 billion. That number was a disappointment relative to the original €9.6 billion proposal from the Commission, but it is far larger than the previous Health Programme budget of around €450 million, and it remains a freestanding fund rather than being rolled into the European Social Fund as was planned before the pandemic. EU4Health has three priorities: cross-border threats, availability of medicines, and, more of a novelty, health systems strengthening. EU Member States have understandably been very reluctant to spend on health systems in other Member States, but COVID-19 might have reduced that reluctance by, however temporarily, showing them the extent to which health is a shared problem rather than a domestic concern.

Solidarity in practice has not always lived up to the greatest ambitions. For a particularly clear example: enforcement of the travel rules in and out of Schengen that are agreed by the Justice and Home Affairs Council is up to Member States, and their border guards might not do quite what is mapped out in Brussels.

In anything to do with pharmaceuticals purchasing in Europe, such as joint procurement or pricing transparency, Member States frequently pursue opaque and zero-sum twin-track policies of collective and individual action. We can expect this to continue with COVID-19 vaccines and therapeutics.⁸

Nonetheless, the EU has had a good crisis so far. Jean Monnet famously said that “*L’Europe se fera dans les crises et elle sera la somme des solutions apportées à ces crises.*” [Europe will be forged in crises, and will be the sum of the solutions adopted for those crises.]⁹ The solutions to some crises, for example the 2010 debt crisis, have left the EU worse off. This one looks different: it precipitated genuine EU action for health to an extent we could not have imagined a year ago, and one that

will be just in time for the next challenges of COVID-19 and the inevitable next public health emergency.

European and global solidarity in vaccines

The EU also decided an EU Vaccines Strategy and a forthcoming Pharmaceutical Strategy (see Box 1). The objective of the Vaccines Strategy is to be distributing an effective vaccine within 18 months. The EU will sign Advance Purchase Agreements with pharmaceutical companies on behalf of the Member States and coordinate the distribution of the vaccine. This is far more centralised, and uses the size of the EU market more effectively, than the 2014 Joint Procurement Agreement. As with the development of RescEU, Member States have agreed to much more centralised EU action, and as we might expect they took it in areas where European states are too integrated to separate and too small to manage international markets on their own.

COVAX is the WHO’s scheme for the global identification, production, and distribution of effective COVID-19 vaccines (see Box 2). If the EU’s model is solidarity of the head among the tightly connected Member States, the WHO’s is of a *global* solidarity of the head. COVAX makes the rational case for a collective benefit and builds on the WHO’s strengths as the necessary, central, global player in health as well as the increasingly cooperative infrastructure of public-private partnerships that actors such as the Gates Foundation and key donor countries have built to flank WHO in specific areas. It is a solidarity of the head because we all know how hard it is for countries to thrive while isolating themselves and because we all know how damaging endemic COVID-19 could be for world order and the global economy.

COVAX is an alliance of Gavi, CEPI (the Coalition for Epidemic Preparedness Innovations), and the WHO to orchestrate the identification, production, and distribution of effective COVID-19 vaccines. It has worked to develop a scheme for globally equitable distribution of the vaccines, emphasising early vaccination of health care workers and

especially vulnerable populations. The key moral commitment is to bring every participating country to 20% vaccination before releasing supplies for any country to go above 20%.

In the specific case of vaccines, COVAX is also an appeal to solidarity of the head because the alternative, a thicket of advance purchase agreements, will be inequitable, slow eventual control of the virus, and create the risks for governments that they sign advance purchase agreements on vaccines that turn out to not work well and then find they lack access to ones that do.¹⁰

For those who do not see a globally equitable distribution of vaccines as clearly desirable, the additional carrot is that the size of the scheme makes it possible to place more bets on particular vaccines and production sites, giving humanity more chances to get good vaccines, more opportunity to produce on a massive scale, and a more resilient supply.

Solidarity with whom?

A policy maker in a large, rich, European country had three options: a purely national one of buying vaccines, including through advance purchase agreements; European Union collaboration through the Vaccines Strategy; and COVAX. Outside Europe, the main options are purely national and COVAX. Smaller countries (even if rich) and poorer countries (even if big) lack the option to go it alone and are likely to benefit from multilateral approaches. “Safety in numbers” is always a good strategy for smaller countries – if they can commit to their own solidarity.

Despite efforts to make COVAX more attractive to rich countries, they are so far reluctant to entrust their vaccines demands to it.¹⁰ If nothing else, it would not guarantee them vaccines for more than a fifth of their citizens until a fifth of people in every country had vaccines. Australia, Canada, Japan, the United Kingdom, and the United States have thus opted to sign bilateral purchase agreements.¹¹

While EU Member States can donate to COVAX, they cannot participate in both the EU Vaccines strategy and COVAX. This pits COVAX against the EU model.

Box 2: WHO's role in COVAX and COVID-19 vaccine development and deployment

Effective vaccines against COVID-19 will play a significant role in protecting populations and restarting economies. Within the overarching concept of “No-one is safe until everyone is safe”, through the launch of Access to COVID-19 Tools (ACT) Accelerator, WHO has facilitated a ground-breaking global collaboration to accelerate development, production, and equitable access to COVID-19 tests, treatments, and vaccines. Through a combined effort of Gavi, CEPI (the Coalition for Epidemic Preparedness Innovations) and WHO, the COVID-19 Vaccines Global Access (COVAX) Facility has provided a platform for countries to benefit from a portfolio of safe and effective vaccines so that their populations can have access to effective vaccines.

Within the ACT-Accelerator, WHO has played a critical role in policy formulation, defining the product allocation framework, norms, standards, ensuring safety and regulatory standards, and country support. The convening role of WHO in each of the above areas along with research communities, industry representatives, international organisations and donors, and regulators has consolidated the global fight on the COVID-19 pandemic. WHO is working closely with global and regional partners to ensure country preparedness to equitably deliver

vaccines to its prioritised population groups, when a safe and effective vaccine is available.

While the vaccine-characteristics of COVID-19 vaccines remain to be ascertained, WHO Europe has geared up its support to its Member States with “strategic decision-making considerations” for COVID-19 vaccine deployment and vaccination. Through a regional coordination mechanism, WHO Europe has convened representatives of the European Commission, European Centre for Disease Prevention and Control (ECDC), US Centers for Disease Control and Prevention (CDC), UNICEF and Gavi to monitor the country preparedness, COVID-19 vaccine deployment and vaccination in the WHO European Region.

Solidarity is key not only to ensure access to COVID-19 vaccine, but also to ensure that countries support each other in sharing best practices and experiences both before and during the vaccination implementation. The role of WHO and other global and regional partners will be key to identify areas that need specific technical assistance and provide the required support; and this can only be achieved if Member States, WHO and other partners work in tandem – “solidarity being at the heart of the response”.

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EU Member States have responded by choosing the EU approach to procure their own vaccines, donating to COVAX as a contribution to global health rather than their own public health.¹⁰

EU Member States appear to be treating COVAX as a problem of international health and development assistance rather than their own countries' route to safety – a life preserver that they can toss to the less fortunate, rather than a lifeboat for all of us.¹² This helps to explain why COVAX is nowhere near the funding it requires to carry out its full strategy.¹³ Promises to donate unused vaccines (some states seem to have ordered far more doses than they could use*) bring back memories of the H1N1 vaccines problems in 2009–10. In that pandemic, countries that bought too many vaccines during the crisis tried to sell or give ageing vaccines to poorer states amidst recrimination. Much of the thinking about vaccines since then

has tried to imagine ways to avoid such a result,¹⁴ but it is not clear that it will be avoided.

Even if the United States resumes constructive engagement in the world in 2021, there is a strong chance that investment in the global public good of mass COVID-19 vaccination will be a plaything of great power politics, with rich countries looking after their own citizens, middle-income powers often trying to develop their own industries and geopolitical strategies as well as public health,¹⁵ and the smaller and poorer countries trying to use whatever combination of bilateral and multilateral strategies they can. Forceful exercises of state power and huge expenditures among the rich countries; foreign aid and Gates support for the poor. On the bright side, with 170 countries having sent expressions of interest, and impressive early action by COVAX members, it is likely that COVAX will work even if without some very large and rich countries. Complete failure of global solidarity is unlikely.

There is also the problem that even politicians whose intentions are good will not think that other politicians' intentions are good. A reasonable politician might indeed think it unwise to trust the good intentions and competence of major powers, or international coalitions such as COVAX. The desire not to be taken advantage of means that politicians with multiple options will not place a single bet or be too impressed by calls to collective action. And all politicians, no matter their country, have options if they choose to use them.

Risks include vaccine hesitancy and public backlash

To add to the difficulty, identifying vaccines and determining their safety is going to put every pharmaceuticals market access regime to the test. There is a high risk of vaccine hesitancy and a backlash even against a very safe and effective vaccine. For example, there is no good reason to expect that citizens will trust a vaccine based on synthetic biology, or that

* It appears that between them the US and UK have committed to purchase 600 million doses of vaccine: <https://www.statnews.com/2020/08/28/plan-to-expand-global-access-to-covid-19-vaccines-nears-fish-or-cut-bait-moment/>

populations who have been reminded by the pandemic why they do not trust their government will rush to trust its vaccine.

A rushed vaccine that produces significant negative side effects could be a catastrophe for both COVID-19 control and the credibility of vaccines in general. Global geopolitical competition and domestic politics are already leading countries to overplay their achievements and start administering vaccines in contexts that can only with far too much charity be called clinical trials. To have an apparently desirable vaccine will be a coup for any government, and many governments have incentive to claim it even if their vaccine is not safe or effective enough to pass disinterested scrutiny.

Likewise, pharmaceutical regulators proud of their hard-won autonomy from politics are coming under tremendous political pressure, and it is not clear that all of them will emerge with the autonomy and credibility intact. The wish for a vaccine, particularly among countries whose nonpharmaceutical interventions have failed to control the outbreak, is likely to lead to the triumph of availability over safety or effectiveness in some cases. A grim but plausible scenario unites these different forms of international dysfunction in the form of intense conflict over access to vaccines that are not safe, effective, or accepted by the population.

Solidarity of the head in practice

This is probably a suboptimal outcome for all of us, even if it could be worse in the absence of COVAX. As WHO Director-General, Tedros Adhanom Ghebreyesus, put it in August, “Vaccine nationalism only helps the virus.”¹⁶

Avoiding such an outcome is going to nonetheless be difficult. Rich countries have well-documented ways to shift agendas and forums in order to maintain their dominance in international politics.^{17 18} The rise of independent wealthy donors such as the Gates Foundation, which revolutionised global health, does not change the centre-periphery dynamics. One could arguably model many current developments in global health governance as an argument between the United States government

and one of its richest citizens. Rising international actors have shown no greater global solidarity than the older powers, even if their mere presence affords poorer countries a useful increase in their strategic options.¹⁹ We already have seen spectacularly egotistical and sometimes criminal behaviour in the rush to acquire equipment earlier in the pandemic²⁰ and there is no reason to imagine a vaccine will be different. International politics is an unforgiving arena.

The situation is nonetheless not as bleak as it could be – or as bleak as it would have been had the world approached COVID-19 with the governance and policy approaches of a decade ago. COVAX has already spread vaccine development and preparation, and is likely to be helpful to many poorer countries. The European Union is finally developing both a health policy and a vaccines policy to match its longstanding integration. There are daunting challenges ahead, since identifying and administering a safe and effective vaccine to the world will put every country's governance and every international organisation to the test. Very bad outcomes are possible. But in Europe and in the world, there is still a strong chance that we will come to see the response as an ultimate success.

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COVID-19 Health System Response Monitor

The COVID-19 Health Systems Response Monitor (HSRM) is an innovative platform which collects and organizes up-to-date information and enables cross-country analyses and comparisons of responses to the pandemic, as well as mapping wider public health initiatives, across the European region.

It was developed by the European Observatory on Health Systems and Policies with the World Health Organization Regional Office for Europe and the European Commission to systematically monitor health system responses to the COVID-19 pandemic.

<https://www.covid19healthsystem.org>

By combining this unique approach with links to important websites and essential data relevant to the pandemic and its impact, the COVID-19 Health Systems Response Monitor is a key resource for policy makers and those responding to the crisis.