# CRISIS PREPARATION IN THE AGE OF LONG EMERGENCIES

What COVID-19 teaches us about the capacity, capability and coordination governments need for cross-cutting crises

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THE UK AND CRISIS MANAGEMENT: TEN CRITICAL COMPONENTS

If/when a prolonged, cross-cutting emergency happens again in the UK, whatever its cause, what capabilities would we want to see in place to enable the country to handle the crisis as effectively as possible?

The government should consider:

1. regular audits of the capabilities of key crisis response institutions (p.55);
2. plans and simulations that emphasise agility and adaptation (p.58);
3. multi-department planning for major crisis scenarios, including Treasury input (p.61);
4. better live data- and evidence-gathering, from a broader base (p.64);
5. reform of the emergency procurement framework (p.85);
6. crisis management training for many more civil servants (p.85);
7. getting serious about building local capability (p.103);
8. transforming central–local coordination mechanisms (p.104);
9. taking a long, hard look at how devolution works in a crisis (p.124); and
10. learning how to learn from other countries in real time (p.124).

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Foreword and acknowledgements

If – or when – a sustained, all-encompassing emergency happens again in the UK, whatever its cause, what capabilities would we want to see in place to enable the country to handle the crisis as effectively as possible?

That is the question this study, by a team of researchers at the Blavatnik School of Government, has set out to help answer, looking at lessons from the first six months of the COVID-19 pandemic.

The UK went into the pandemic with a strong reputation internationally for crisis preparedness and crisis management. This was tested severely by COVID-19. This was partly because the pandemic, as an experience, differed profoundly from previous twenty-first-century crises that had triggered the government's agreed response mechanisms. However severe, previous crises like serious acts of terrorism, floods, disruptions to energy supplies, transport disruptions, and human or animal health scares tended to be of considerably shorter duration and to directly affect only a small proportion of the population. The COVID-19 crisis lasted two years, and affected everyone, everywhere.

If, as a variety of credible forecasts predict, this type of cross-cutting 'long emergency' – whether public health, environmental or security – becomes a more frequent occurrence, then preparing for the era of long emergencies is a major challenge for governments across the globe. There is great benefit to countries learning from one another's experiences in the search for improved crisis management, and indeed in all matters of government and public policy. That exchange of lessons between countries is something we hope this report, and future discussions around it, will play a small part in stimulating. In this spirit, the last part of this report looks in detail at the comparative experiences of Singapore, Australia, Germany and Italy.

Acknowledgements

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Introduction to this study

The COVID-19 pandemic, lasting just over two years, was the most enduring, severe population-level emergency faced by the United Kingdom – and many other countries – since the end of the Second World War in 1945. The estimated number of deaths attributed to COVID-19, at some 216,000,[1] exceeds – by many multiples – fatalities among the British military since 1945, the number of British people killed by acts of terrorism and other malicious acts, or the number of people killed by British natural disasters like floods. The only remotely comparable events since 1945 in terms of lives lost in the UK were also pandemics: the UK government estimated that some 33,000 people died in the flu pandemic of 1957–58, and some 80,000 in the flu pandemic of 1968–69.

The economic costs of COVID-19 had no post-war precedent either. One authoritative estimate of the UK government's fiscal interventions over the course of the pandemic provided a range from £311 billion to £407 billion,[2] representing a range of somewhere between one-eighth and one-sixth of gross domestic product. Within the wider economy, output fell by a quarter within two months of lockdown and did not recover fully until well into 2022. Only wartime has seen fiscal and economic impacts on such a scale.

Only wartime has seen impacts on such a scale.

Perhaps inevitably, much of the debate about the ongoing impact of the pandemic and how it was handled, in the UK and elsewhere, focuses on the unprecedented (in peacetime) state intervention in everyday life, and what that has meant for health outcomes, economic outcomes, educational outcomes and other crucial national outcomes. But lockdowns, and the decisions around them, are far from the only important issue when it comes to what the pandemic has taught us about the nature of modern crises and about governments' ability to manage them.

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1   *Our World in Data,* January 2023
2   https://researchbriefings.files.parliament.uk/documents/CBP-9309/CBP-9309.pdf

COVID-19, the state, and the management of crises

In common with other countries, the UK state was challenged by the COVID-19 pandemic in several fundamental ways.

This study identifies three:

1) The crisis management functions of the state were tested to the extreme, particularly with regard to the duration and population-wide impact of the pandemic.
2) Capabilities (such as testing) were needed at population scale within very short timeframes, requiring the mobilisation of state and private sector capability at incredible pace.
3) A complex, multi-agency government response was needed for a nationwide emergency at all levels of government. This required very complex coordination across many different parts of government.

The pandemic tested and stretched not just every aspect of the crisis-response system, but state capability as a whole.

In this way, the pandemic tested and stretched not just every aspect of the crisis-response system, but state capability as a whole. It is these aspects of the pandemic – crisis management capacities, overall state capability, and whole-of-government coordination – that are the focus of this study.

A crisis the system was not designed for

Over the 12 years preceding the COVID-19 pandemic, successive UK governments modelled national risks and published their analyses in annual national risk assessments covering the most likely harms arising from natural events, serious accidents and malicious actions. These assessments routinely listed pandemics (along with other potentially nationally devastating events) as major risks. But a central theme of this report is that the UK's crisis management system – which, at the onset of the pandemic, was highly regarded globally – was principally designed for crises which were, compared to COVID-19, one or all of the following:

*   shorter in duration (such as an act of terrorism, a flood or a cyber attack);
*   more geographically localised in impact (floods, by definition, and even the most serious acts of terrorism in the UK this century have not had wide geographical impact);
*   more sector-specific (the British state has managed long-lasting and complex crises like energy blockades, foot-and-mouth and other animal diseases, and ash cloud aviation disruption – but while these have had knock-on economic consequences, they have remained, by and large, single-sector issues).

The UK state's initial crisis response when faced with COVID-19, then, came from a system which was highly competent and deeply experienced in shorter and less serious emergencies. Many of the early challenges faced by the UK arose from this. Relatively early in the first lockdown, the government decided to overhaul the governance of the state's response to the crisis to 'bed in' for a longer-lasting emergency affecting the entire population. Similarly, key parts of the way the state sought to intervene in the crisis were overhauled, including pre-existing mechanisms and structures.

There is therefore much to study and learn from this early part of the pandemic. But the extent to which the state should act on the lessons of this part of the pandemic experience depends on the extent to which such cross-cutting, population-wide and prolonged crises represent the new reality.

'Long emergencies'

A pandemic of the severity of COVID-19 had not hit the UK since the influenza epidemic at the end of the First World War almost exactly a century earlier, and it was more than half a century since the most recent serious flu epidemic. It is therefore not unreasonable to hold the view that these are once-in-a-century or half-century events, and that caution should be exercised in over-interpreting the lessons from them. There is an argument that optimising the system for the management of events on the scale of COVID-19 might actually reduce its effectiveness in dealing with less serious but more likely crises.

> The foundational assumption for this study is that prudence dictates that, in the light of COVID-19 and other serious, sustained global crises, states should rethink their crisis-response capabilities.

This study, however, is predicated on the view expressed by several scholars, politicians and other individuals that more serious and sustained crises are likely to occur with increasing frequency in countries like the UK. It is beyond the scope of this study to try to prove that proposition to a satisfactory level of probability. The foundational assumption for this study is that prudence dictates that, in the light of COVID-19 and other serious, sustained global crises, states should rethink their crisis-response capabilities. In the words of Lord Hague, former UK Foreign Secretary and Senior Vice-President of the Royal United Services Institute, 'once-in-a-lifetime events have become the new normal'.[3]

Three different types of longer-duration emergency are worthy of consideration in this context:

1) Another pandemic or similar national emergency: a 2021 study from the University of Padua,[4] analysing four centuries of epidemic data and trends in both pathogen development and human behaviour, calculated that the probability of individuals experiencing a COVID-19-style pandemic in their lifetime – already 38% – could double in the next few decades.

2) A severe national crisis arising from a malicious act, serious accident or natural disaster. Examples could include the sabotaging of physical infrastructure on which the UK (and other countries) are dependent, such as the UK's undersea cables, which provide much of the country's digital infrastructure; a war between China and Taiwan wiping out much of the globe's technological hardware, especially advanced microchips; a major nuclear accident; or a serious weather event (which will become increasingly common because of climate change).

3   'William Hague, *The Times*, 20 August 2022
4   https://www.pnas.org/doi/10.1073/pnas.2105482118

3) A less severe but very protracted crisis, such as an energy shortage of prolonged duration, or a conflict- or climate-related refugee crisis of a scale well beyond the recent challenges of Syria, Afghanistan and Ukraine.

All of these scenarios, which cannot sensibly be dismissed as unlikely, would stretch, as the COVID-19 pandemic did, the crisis management model of the UK and many other states. Moreover, these potential 'long emergencies' have interlocking and sometimes mutually reinforcing features. This is already apparent. The Russian invasion of Ukraine greatly exacerbated energy supply problems, but did not, on its own, cause them. It also gave rise to a third refugee crisis in less than a decade, following the Syrian crisis of the mid-2010s and the fall of Afghanistan in 2021. Whether or not the COVID-19 pandemic, which dominated the years 2020 and 2021 in the UK, proves to be a once-in-a-century event, the year 2022 – with the requirement on governments to provide unprecedented energy support and help thousands of war refugees from Ukraine – hints that the era of long, or at least longer, emergencies is already upon us.

The purpose of this study

This study aims to support the development of thinking and debate around how the UK and other countries can learn from the experience of COVID-19 to adapt their crisis management and other emergency-response capabilities for this era of long emergencies.

Overview of this study

As a starting point, the study rejects the view that the UK performed uniquely badly in managing the COVID-19 pandemic. The report involves detailed analyses of four comparator countries (Germany, Italy, Australia and Singapore), as well as drawing on specific information from additional countries' experiences where appropriate. No single county got COVID-19 management 'right'; different countries did different things well and badly at different times.

Countries' responses varied not just because of different political decision-taking but because of the differences in specific characteristics, laws and political systems that exist between nations. For example, some of the contact-tracing capabilities used in the early stages of the pandemic in countries like the Republic of Korea were not available to countries like the UK because of differences in the accessibility of personal data. Another example concerns constitutional structures: federal states like Australia and Germany had clearer delineations of roles between central and subnational government levels than non-federal states.

Nonetheless, from the UK's perspective, it's important to note that many aspects of the handling of the early stages of the pandemic attracted criticism at the time. This report covers the first half of 2020, which roughly corresponds to the first six months of the COVID-19 pandemic. It was not until the later roll-out from December 2020 of the country's vaccination programme – the fastest in Europe and one of the fastest in the world – that the UK's COVID-19 death rates started to move closer to the European average, having been worse than average in the emerging data for most of that year.

This study confines itself to the first half of 2020, which, as well as being the key period for mobilisation and coordination, is the critical period for assessing how countries' preparedness played out.

This chronology matters if the right lessons for the future are to be identified. It is likely that future cross-cutting and protracted crises will require the kind of mobilisation and coordination of state and private-sector capabilities that the early months of COVID-19 demanded. Expert advice on complex and potentially little-known threats is likely to be needed again, too. And a game-changing intervention such as the COVID-19 vaccine may not arrive during future crises.

For this reason, this study confines itself to the first half of 2020, which, as well as being the key period for mobilisation and coordination, is the critical period for assessing how countries' preparedness played out. Its four chapters focus on the three main areas identified above (p.10):

- **Chapter 1 examines the UK's crisis management facilities.** It charts the UK's analyses of and preparations for a pandemic and other emergencies over the preceding decade or so. It looks at how those plans were and weren't implemented, and what lessons arise from that. It looks at the governance structures for crises, how experts played into that, the strains placed on the system by the weight of the COVID-19 crisis, and the eventual overhauling of the system. It then tries to draw appropriate lessons and recommendations for the future central co-ordination of long-duration crises.

- **Chapter 2 looks at how the British state sought to mobilise capabilities across a range of areas of intervention.** This is not an exhaustive account of all the interventions undertaken by the government, as such a task would be beyond the capacity of a small study. Rather, it picks six important areas where the state was compelled to make major interventions, some predicted and planned for, and some not. These cover three of the major healthcare aspects of the pandemic – personal protective equipment, testing, and contact-tracing – as well as economic support and education, before finally looking at the early decisions on the vaccine programme. The chapter examines common themes around each of the interventions, including what can be learned from the different structural models for running each of the efforts; the extent to which prior planning on the one hand, and agility of the response to the specific scenario on the other, mattered to the outcome; and the extent to which different interests – public health, economics and educational – were co-ordinated.

- **Chapter 3 considers the coordination across the different levels of government.** This looks separately at what happened within England on the one hand, and what happened between the UK government in London and the devolved nations of the United Kingdom on the other. It considers lessons on where local capabilities might best be used, and the extent to which local infrastructure is sufficient to cope with prolonged emergencies. It looks at the structural, legal, financial, capability and cultural aspects of the relationship between the central and the local in a crisis. It offers two different sets of recommendations, depending on the appetite for radical reform of the government of the day – as major changes would go to the heart of the relationship between the national government in London, councils and other local bodies in England, and, to some extent, the devolved administrations in Edinburgh, Cardiff and Belfast.

- **Chapter 4 provides a detailed comparative analysis of each of these issues in the chosen comparator countries of Germany, Italy, Singapore and Australia.** Examining some ten different themes ranging from the status of crisis management as an activity within different national systems, to the importance of public trust, the agility of systems to respond, and their ability to learn quickly from international experience, this important part of the study seeks to learn from the best practice – and mistakes – of other countries, to help frame the wider conclusions of the report.

A note on methodology and scope

This study has been carried out by a team of researchers from the Blavatnik School of Government, University of Oxford. It has been funded by the Wellcome Trust. The Wellcome Trust has sought no editorial control, and the report's contents are entirely the responsibility of the authors.

This piece of work aims to be a contribution to the study of how states can more effectively respond to crises in the future by learning appropriate lessons from the experience of COVID-19. Its focus is coordination and capabilities rather than specific interventions: it is not the purpose of this study to examine the efficacy of lockdowns or other measures, or the processes by which the UK and other countries arrived at decisions about measures. Finally, though the authors have drawn on the academic literature as background and are situated in a research-intensive university, this is a practice-focused study (led by a Professor of Practice) rather than a piece of academic research. The primary target audience is those involved in crisis preparation, not the scholarly community.

This study is based on a wide range of written sources. It has also benefited from informal background interviews with a range of individuals in each of the five countries with first-hand understanding of crisis preparation and response, many of whom served in government or in related areas during the COVID-19 pandemic. Mindful of individuals' duties to properly constituted inquiries, the authors have used these conversations as background only, including to help identify useful published sources of information. Accordingly, the study does not name or quote any of the interviewees. All information given about the UK in this report is derived from publicly available sources.

COVID-19 has already been the subject of extensive contemporary commentary and much scholarly research. Moreover, in the UK, as in some other countries, official judicial inquiries are in train. It is emphatically not the purpose of this study to try to make findings on key issues likely to be strong themes of official inquiries. The objective of this report is to look to the future, and consider what can be done now to prepare for the next 'long emergency', including by learning from what worked well during the COVID-19 pandemic. This study does not seek to malign those doing their best at the time, but rather to help those facing similar challenges in future.

Executive summary

Executive summary

The world frequently experiences crises. Some arise because of natural factors. Others are caused by accidents. Some are caused by deliberate, malicious action. Given this harsh reality, countries worldwide tend to have a set of capabilities designed to deal with crises of various types.

A pandemic is highly unusual type of crisis in many ways. First, as the word implies, it is global, whereas most crises occur in a more geographically limited way, often within a single nation state. Second, it affects most, if not all, of the population, whereas other crises may only affect specific cohorts. Third, pandemics are relatively rare – unlike, say, floods or acts of terrorism. Decades rather than months and years tend to pass between them. Finally, when pandemics do come, they can inflict fatalities on a much greater scale than the crises governments normally deal with.

Although a pandemic is by definition global in its impact, the national government remains the fundamental unit of response. Even within areas of significant pooling of national sovereignty, such as the European Union, there was much differentiation between countries' approaches to managing COVID-19. The starting point for crisis response remains the national capital. There is no reason to think this will change in the near future.

Changing nature of crises – the age of long emergencies and the focus of this study

For that reason, this study is aims to consider what national governments might usefully learn from the COVID-19 pandemic. This is timely because the nature of those crises seems to be changing.

This report title refers to 'the age of long emergencies'. It is predicated on the idea that some of the unusual features of the pandemic – particularly its prolonged nature and whole-of-society impact – will probably be seen more frequently in crises of the future

than in those of the past century. If that is so, governmental crisis management systems – configured as they are to deal mainly with shorter crises of with more circumscribed, albeit still tragic, impact – need to be re-examined.

The aim of this report is to be forward-looking and capability-focused. It does not seek to judge the conduct of individuals. It is not intended to examine in detail specific decisions taken in the midst of the crisis, but rather the state infrastructure in place to support the response to a crisis. To do so, the study looks in depth at how preparations for various different types of emergencies played out in the context of the specific circumstances of COVID-19.

The focus, therefore, is on the experience of the first part of the pandemic, loosely defined for the purposes of this study as the first six months of 2020, a period encompassing the arrival of the first case in the UK in January through to just before the lifting of the first lockdown on 4 July. It is the start of the pandemic that tells us most about how the preparations played out: in the second half of 2020, the UK's (and other countries') experience of the crisis started to be impacted by innovations put in place rapidly in the first half of 2020, most transformatively the extraordinarily rapid development of effective vaccines. One of the reasons to focus on the lessons of the first six months is that we cannot assume such a decisive intervention will happen in future crises, so structural challenges such as the ability to mobilise large-scale operational and procurement capability rapidly will remain hugely important.

'Long emergencies' require a system that can tap into its planning and expertise and innovate and improvise, through flexible response networks backed up by sufficient surge capacity, resources and capabilities.

This study looks at three aspects of the crisis management system in the UK:

1) Crisis management structures and capabilities at the centre of government **(Chapter 1)**
2) The mobilisation of capabilities **(Chapter 2)**
3) The coordination between different tiers of government **(Chapter 3)**

The study then looks at the same issues in relation to four international comparators: Italy, Germany, Australia and Singapore **(Chapter 4)**.

CHAPTER 1
Crisis preparedness and crisis management in the face of COVID-19

Ahead of the COVID-19 pandemic, the Global Health Security Index noted that what it termed national health security was 'fundamentally weak around the world'[5]. But within that bleak analysis, the UK was regarded as better than most, appearing second to the United States in rankings of pandemic preparedness.

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5   See GHS Index, 2019. https://www.ghsindex.org/wp-content/uploads/2019/10/2019-Global-Health-Security-Index.pdf

By the end of the summer of 2020, however, fundamental questions about the way in which the central crisis management system had responded to the outbreak of COVID-19 were being asked; and they continue to be asked. The second quarter of 2020 saw a total revamping of the command, control and coordination mechanisms of the state which had been set up nearly twenty years earlier, including the replacement of the mechanism known as COBR by more bespoke, COVID-19-specific arrangements.

Four key issues that matter for future crises emerge when examining this period.

The first is the question of whether prior risk identification had been translated into preparation – in other words, the relationship between risk assessments and national strategies on the one hand, and remedial, well-funded action on the other. The UK had, since at least 2008, undertaken what were, by global standards, relatively sophisticated analyses of potential catastrophic risks to the country, and had long identified a pandemic as among those likely to have the greatest impact. A full-scale government exercise to prepare for pandemic influenza was held in 2016. Yet it is hard to trace significant major expenditure and effort commensurate with this risk, whether in line departments, in the centre of government or in the local resilience infrastructure. Specifically, it is acknowledged that problems identified as part of the 2016 pandemic flu exercise known as Cygnus remained unaddressed. The obvious remedy to call for is greater funding for resilience needs identified in planning exercises. But governments, for understandable reasons, find this difficult, and will find it especially difficult in the coming years, given the fiscal situation in most countries. The first recommendation of the report, then, focuses on how the funding that is available can be targeted better.

> **REPORT RECOMMENDATION 1**
>
> To help target funding and preparatory activity more effectively, the government could conduct, as part of resilience planning, an assessment of the capabilities of key institutions charged with key aspects of the response to a crisis, so that whatever funding is available is prioritised. Parliamentary scrutiny could assist in this process by having a regular (but infrequent) formal stocktake of such plans and their readiness, either as part of its scrutiny of departments' annual reports, and/or via some other mechanism such as the Joint Committee on National Security Strategy. Sensitive details could be redacted as necessary from the public domain.

The second lesson is about agility and adaption: striking the right balance between detailed scenario planning on the one hand, and on the other, setting up agile capabilities for an adaptable response that can flex depending on the specifics of the crisis and how people react to it. The UK's pandemic plans were specifically for an influenza pandemic. This was not an unreasonable choice given historical experience, and was not unusual internationally. Much of that planning gave rise to useful outcomes. But the limited ability of the UK system to pivot more quickly to the different reality of COVID-19 is something that can be learned from. It is also worth reflecting, in relation to adaptability, on whether the plans were sufficiently cognisant of the human response to the crisis. The pandemic flu strategy assumed a particular death toll and planned for the consequences of that, but did less to prepare for the actions and wishes of citizens who were trying to avoid being part of that death toll.

> **REPORT RECOMMENDATION 2**
>
> The UK's planning system for the most serious emergencies should be reviewed in two key respects. First, different variations of the same broad scenario (a bomb, a serious terrorist or cyber attack, an ongoing energy crisis) should become routinely embedded

in exercises, with the specific aim of assessing the adaptability of the plans. Second, and relatedly, this should be done with a view to strengthening the ability of the system to predict dynamically the impact of different scenarios on population behaviours and different sectors of society.

The third lesson is about mobilising and coordinating a whole-of-government response. The ability to join up the activities of different departments and agencies has historically been seen, with some merit, as a key strength of the UK system. However, once again, this is – inevitably – more polished and practised in smaller, more localised crises. Furthermore, it was limited in crisis *planning*, which relies on a lead department to prepare for scenarios and so lacks intensive cross-departmental input. For example, the government admitted that the Treasury had done no serious planning in advance for the economic aspects of a pandemic (fortunately, the improvised work on financial assistance during lockdown was impressive and effective). Similarly, little had been done in the way of pandemic planning within the education sector. Finally, the structures for decision-taking and crisis steering had to be completely overhauled mid-crisis to ensure an fast and integrated approach.

Another aspect of an effective whole-of-government response that was central in all five countries studied for this report related to expertise and data: convening and using expert advice and information, and assembling data at speed. A perceived strength of the UK system going into the pandemic was its ability to gather, and draw on the advice of, scientific experts quickly; this has indeed been a significant asset for the UK in crises over the years, and was so during COVID-19. But there are still lessons to reflect on. The UK system aims to assemble an agreed view of the situation for political decision-takers, but in a crisis where extremely significant information is absent, emerging and uncertain, the concept of a commonly recognised and accepted picture is strained. Moreover, while the science community is used to drawing on evidence from other countries, national crisis management systems are not. In a genuinely international crisis like a pandemic, the ability to draw quickly on useful information from elsewhere is essential. Finally, the early months of the pandemic gave rise to serious concerns about the ability of the state to gather and use data from throughout the different parts of its own territory.

REPORT RECOMMENDATION 3

For risks likely to give rise to 'longer' emergencies, the 'lead department' approach to crisis preparation should be replaced by centrally led, genuinely collective ownership of plans. Economic and social policy considerations must be more firmly mainstreamed into crisis management planning. All major crisis scenarios will need to have input from the Treasury (not just in terms of the costs to the Exchequer of direct interventions, but also in terms of the wider economic impact), and will also require operational plans from the public services likely to be affected centrally and locally.

REPORT RECOMMENDATION 4

Reforms of the UK's crisis management system should include experimenting with putting a wider range of expert scenarios in front of political decision-takers. Capabilities in the central crisis management system need to be strengthened to assemble and analyse international data much more quickly, and the connectivity between local information-gatherers and the centre of government must be improved.

Mobilising capabilities at speed and scale

An absolutely critical part of the story of the COVID-19 response, in the UK and elsewhere, was how governments dealt with the need to source equipment or capabilities at astounding speed and unprecedented scale. In some cases, resources could not – by definition – have existed ahead of the pandemic (for example, diagnostic tests). In others, they did, but supplies were insufficient (for example, PPE). This is, once again, a key difference between an all-encompassing emergency like COVID-19 and many of the shorter, more localised crises governments had been used to facing. For those more 'contained' crises, existing resources – though they had to be effectively and speedily coordinated – were sufficient.

The second part of the report examines six of the most important interventions the UK government made in the early parts of the pandemic that demanded either the creation of completely new capabilities and equipment, or the massive increase in supply of existing capabilities and equipment.

Three of these interventions were to do with public health. These were the sourcing of personal protective equipment (PPE); COVID-19 testing; and contact-tracing. While the second and third of these were grouped together in a single programme, and are consequently sometimes joined in the public mind, they were in fact very different activities with very different outcomes, and the lessons are, in consequence, distinct.

Two of the interventions related to wider policy. These were the economic support package, and the impact on the education of children.

The final intervention chosen for analysis is the foundational work put in place during the six months covered by this report which led later to the successful procurement of COVID-19 vaccines.

In terms of the key conclusions:

- The UK's problems with **PPE** are one of the most apposite examples of confidence about preparedness not surviving contact with the reality of such a severe, intense and prolonged crisis. Stockpiles were insufficient. The existing complicated set of arrangements for sourcing PPE was set aside, and a hastily arranged and hugely expensive procurement effort was set up in parallel. This effort was hampered by the absence of both commercial skills and an established network of trusted private-sector contacts.

- **Testing** is a more nuanced picture, from which there is much to learn. By the end of the pandemic, the UK was one of the easiest and cheapest places in the world to get a COVID-19 test. But in the period in question, the lack of ability to source tests led to a forced and fateful decision to suspend testing in March 2020. Once again, existing plans failed, and the state struggled to mobilise private sector capability, before developing an innovative set of quasi-competitive relationships with academia and industry, which led ultimately to success. The tragedy for the UK is that this success came after a very poor and extremely costly start, where the country squandered its advantages in the science of transmissible disease by not being able to produce enough tests.

- In marked contrast to the development of mass, effective testing after a slow start, the **tracing** system for the NHS has been seen to struggle continuously throughout the pandemic, and did not achieve the turning point that the testing side did. As with PPE procurement, plans and capacity going into the pandemic were insufficient, but improvising new structures for tracing without absorbing existing capabilities led to serious deficiencies. It proved simply impossible to develop an entirely new system for tracing using private companies alone, and the knowledge and (limited) capacity that existed at local level was largely ignored. Moreover, the government invested significant hopes in the development of an app to boost its contact-tracing efforts but, like other countries, confused two objectives: the more limited objective of alerting people to possible infection and the much more ambitious one of developing a system that would provide decision-takers with useful data.

- The **economic interventions** proved crucial to stabilising the economy. The most important – the furlough scheme – was able to rely on a well-functioning existing apparatus for its administration via the tax and benefits system. This is in marked contrast to the efforts in public health, and is a crucial lesson for the future. However, there are key lessons around integrating economics into the planning for emergencies and into key decision-taking processes. In particular, there are lessons to be learned from the later part of the period covered by this report, where an optimism bias set in which seemed to deprioritise some of the capability development and resilience work of government based on what turned out to be the false assumption that the pandemic was coming to an end.

- The experience of the **education system** illustrates how the gaps in the UK's pandemic preparation identified in Chapter 1 manifested themselves. In particular, the fact that the plans failed to take into account fully the likely reaction of the public meant that the government ended up falling behind the general population, many of whom began to withdraw from the school system. The sector additionally showed a disconnect between policy and operational delivery that was also evident in other parts of the UK's response.

- Two factors in the first six months of 2020 helped pave the way for the later stand-out success of the UK's **vaccine**. The first is that, in contrast to some of the other areas where large-scale mobilisation was required, the UK had relevant domestic expertise, and the experts started work early and were in discussion with the government early, with the requirements for mass production a feature of those discussions. The second, and crucial, difference was the focused and breathtakingly quick interaction with the private sector to mobilise capabilities, with highly unusual and innovative mechanisms to financially incentivise the private sector to do two things: produce vaccines in sufficient scale; and ensure their delivery to the UK rather than other countries, even if better terms were offered by other countries after the vaccine was developed. Some elements of this hugely successful model offer a template for the future, though other parts will be of limited replicability outside of a full-blown crisis.

Taking the six examples together, the core findings from Chapter 3 reinforce some of the key conclusions already drawn: principally that the breadth and dynamism of the crisis planning really matters, because remedying defective or unactioned planning in a crisis is almost impossible; and that the crisis capabilities of existing institutions need careful attention, because it is extremely difficult to create new and effective institutions within a short space of time. In addition, the analysis in this chapter gives rise to two further recommendations:

> **REPORT RECOMMENDATION 5**
>
> The UK's crisis management function needs to include emergency procurement and commercial skills, alongside a well-maintained set of relationships that allow for the rapid mobilisation of private-sector capabilities to source and distribute whatever might be needed.

> **REPORT RECOMMENDATION 6**
>
> One of the most striking features of the central response was the limited 'reserve' of people with the relevant training the government had to call on. No state facing serious fiscal constraints will be able to fund large-scale redundant capability for what remain, thankfully, rare events. But there is a strong case for training a large number of civil service officials from across government in different types of crisis management, so that they can be redeployed with little or sometimes no further training should future 'long emergencies' arise.

CHAPTER 3
Coordinating between the central, devolved and local layers of UK government

The third chapter of this study looks at the way in which the UK managed the COVID-19 pandemic between its different tiers of government. It does so in two distinctive parts relating to two very different parts of the story around the UK's pandemic response, with very different lessons learned:

- The relationship between the UK government and local authorities in England;
- The relationship between the UK government and the devolved administrations in Scotland, Wales and Northern Ireland.

The story of the **central/local dynamic in England** is a highly complex one. Key points in the analysis in this study are:

- The UK model for managing a crisis of this sort, developed through a combination of law and practice, in theory relied very heavily on local capabilities.
- The fact that the UK had been in a state of high preparedness nationwide for a no-deal Brexit helped foster a previously moribund set of operational crisis relationships between Whitehall and local government in England, with some benefits in terms of how the crisis was handled.
- Local authorities, initially largely excluded from or silent at key decision-taking fora, found ways of making their voices heard in government, and gradually developments such as Local Outbreak Plans began to show impact in the fight against COVID-19 at local level.

- However, none of this could compensate for the hollowing-out of local government capabilities and capacity in the preceding decade. This lack of resource was exacerbated by two things: a lack of financial certainty around funding for the extra costs local authorities were incurring during the early stages of the pandemic, and a lack of trust from central government in local capabilities (leading, for example, to the setting aside of local contact-tracing capabilities in favour of what turned out to be an unsuccessful national capability).

- These factors laid the foundation for a serious problem in the execution of UK pandemic management policy in the second half of 2020. A uniform strategy for England in the early months of the pandemic was, in policy terms, set aside by July 2020 in favour of variable, localised management of further outbreaks. But the England of July 2020 had did not have the infrastructure, capabilities, data or governance frameworks to execute a localised approach effectively. Local capacity was not as strong as it needed to be, and where it existed, was not understood or properly valued centrally. The attempt at variable localised management of COVID-19 was destined to fail.

It is possible to envisage a far stronger network across England of local resilience capabilities across everything from data collection to response mechanisms, building on strong community knowledge. But that is a long way off the current configuration of the state, and would require a wholesale redesign and decentralisation. Accordingly, this gives rise to a very important choice for the UK state:

REPORT RECOMMENDATION 7

There should be a fundamental review of the role of local government in England. It is neither reasonable nor possible to place a statutory burden on this tier of government requiring it to act as a major contributor to national crises while at the same time denuding it of funds and responsibilities more generally. It is not possible to increase the contribution of local government to local resilience without more a more widespread overhaul and genuine strengthening of local government.

It can reasonably be assumed that such reforms will not take place in the immediate future, so to recalibrate the role of local government in the interim, the following is proposed:

REPORT RECOMMENDATION 8

The tactical ability of local government to respond to national crisis should be improved by central-government-backed investment in local data-collection facilities and additional crisis-management staff, extending to local government the benefits of some of the other reforms recommended in this study. In the meantime, no additional statutory burdens should be placed on local authorities in respect of national resilience.

The very different story of **devolution within the UK to its different nations beyond England** was one of the most striking aspects of the pandemic. The first six months exposed, among other things:

- a poor understanding in the UK government of what was devolved;
- a willingness to communicate measures as if they applied to the whole of the UK, despite the fact that the devolution of public health had been explicitly reinforced in the emergency coronavirus legislation;
- weaknesses in the structures for consulting with the devolved administrations and

coordinating their approach with that of the UK government in London, leading to the breakdown of the united 'four nations' approach as early as May 2020;

● a striking disparity between the powers to incur costs through the imposition of lockdowns, and the powers to pay for those costs through furlough, with the former being at the discretion of the devolved governments and the latter being the decision of the UK government in London. This is a recipe for grievance, and so it proved;

● a set of reserved and devolved responsibilities that, at times during the pandemic, made little, if any, sense: for example, the ability of the devolved administrations to set international travel restrictions because of their control over airports, even though border control is a reserved power;

● despite all of the above, much commonality in the measures taken by the different governments in the UK.

An overarching theme of these findings is that the devolution framework, although it contains provisions for emergencies, had never been the subject of detailed thinking in relation to how it would operate in an extreme crisis, nor ever before been in place during an extreme crisis. Despite the obvious political difficulties, therefore, there is a strong case for a fundamental re-examination of how the devolution works in a crisis.

> **REPORT RECOMMENDATION 9**
>
> The devolved administrations, faced with the prospect of future 'long emergencies' and with their extensive discretion over swathes of domestic public service policy likely to continue, will want to review their own crisis management capabilities. But additionally, they and the UK government should engage jointly in a fundamental review not just of crisis management mechanisms but of responsibilities. As well as clear weaknesses in the coordination of the response between capitals, clear anomalies were also exposed, and these should be examined across a range of threats and risks that are likely to occur in the future. Despite the enormous constitutional implications of revisiting boundaries of responsibility in an emergency, the rarity and enormity of the occasions on which such procedures would be invoked should engender a willingness on the part of the devolved administrations to contemplate a genuine 'state of emergency', where some of their powers are subject to limitations for a temporary emergency period.

CHAPTER 4

Learning from international comparators: Singapore, Germany, Australia and Italy

The examination of four other countries' experiences in Chapter 4 provided useful pointers for this study's 10 key recommendations for the UK; and produced a further ten-part list of lessons for all countries (given on pp.166 – 170). Again, it is important to remember that this report examines only the first six months of the pandemic, and therefore its findings are primarily about the sorts of plans, structures, capabilities and operational arrangements in place at the onset of COVID-19, and how they were adapted in the first half of 2020 – not the various initiatives undertaken later, as the crisis dragged on.

The graphs on pp.28 – 37 allow a crude comparison between the four countries on some key measures – though in most cases only up to July 2020, the end of the period this report covers. Over the course of the whole pandemic, and with caveats around the difficulties in comparing national datasets, a crude comparison of death rates is as follows: Italy suffered around the same death rate per million as the UK; while Germany's

was significantly lower; and Australia's and Singapore's very substantially lower again. That is after the improvement in the UK's data in the later parts of the pandemic, thanks largely to the success of the vaccination programme. These outcomes do not reflect a health-versus-economy type of trade-off: the UK's economy did not outperform these comparator countries or other similar economies. Any comparison of mortality, however, must allow not only for difficulties comparing data between countries, but also for differences between countries in underlying factors affecting COVID-19 mortality such as climate or demographics, which are beyond any government's control.

In three of the comparator countries examined – Germany, Australia and Singapore – the first six months of the pandemic were broadly regarded within the countries as periods of relatively successful management of the disease. Some of the major causes for reflection and lesson-learning came later. For the UK and Italy, the reverse holds true, and the way national 'performance' was perceived domestically improved over the course of the crisis (within the UK, this was especially true in England). This study, with its focus on the first six months of the crisis, may therefore give an unduly rosy or unduly bleak picture of different countries' experiences compared to the pandemic viewed as a whole. However, to draw out the main lessons on preparing for future long emergencies, the first six months matter most. Within that focus, it is worth noting the key drivers of successes and failures for each country.

Singapore, the city state, is a very small country in terms of both population and geography, and is highly centralised. It benefited from a culture where 'rainy day' planning and capability development is valued and incentivised, as well as from previous infectious disease outbreak experience (SARS in 2003 and MERS in 2015), where lessons were learned well. Public authorities enjoyed a high degree of public confidence and trust, making their communication of risk more effective. A particularly strong lesson from Singapore is the impact of having a large and wide-ranging set of public officials who are trained and skilled in crisis management, and can be surged into crisis work from other responsibilities when needed without further training. Based on most metrics, the Singaporean state's management of the pandemic was highly successful. There were significant problems, however, for example with large numbers of infections of migrant workers. Moreover, not all of the state's measures are easily replicable in other countries, not only because of Singapore's size and unusual political system, but because of wider cultural factors. For example, the country was the first in the world to develop a contact-tracing app (as early as March 2020), but it did so in a way that gathered, used and stored far more data than would likely be tolerated in Europe.

Australia had a very strong legislative and administrative framework for crisis management, developed over the course of nearly two decades, including specific provisions and plans for public health. Its crisis management capabilities were also in sustained use in the period preceding the pandemic because of the prevalence of serious fires in the country. Australia's government took the approach of going 'hard and early', most notably with extraordinarily tough border controls – an approach the UK, as a much less geographically isolated country, decided was not feasible. Australia was relatively successful in sourcing tests early on.

A particularly striking feature of the Australian system was the strong role, enshrined in legislation, for state governments. By and large, state governments had capabilities that were broadly up to the challenge – local contact-tracing preformed reasonably well, for example – though because Australia kept cases so low in this period, they were not tested as severely as they might have been. While mechanisms for coordinating measures between states didn't work perfectly, the relationships between Canberra and the states generally worked well. However, significant challenges emerged later in Australia after

this successful early management of the outbreak, particularly with slower rates of vaccination and, consequently, slower reopening.

Germany's crisis management system was, like the UK's, well developed in terms of planning and institutional arrangements. But, as in the UK, the system lacked experience with real epidemics or other long-term and large-scale crises, and as a consequence there was limited political priority given to crisis preparation in Germany in terms of making updates or acting on recommendations. Despite this, Germany's early experiences in the pandemic were much smoother than those of the UK. Capabilities were mobilised rapidly at both national and local level, with the network of local contact-tracing proving notably effective in these early stages, drawing on very impressive testing capabilities generated by the national government. The Robert Koch Institute proved to be a continuously trusted source of rapid expert advice. The relationships between the federal government and the states were not wholly without tensions, but they proved very adaptable, and tweaks could be (and were) made to optimise who was doing what. Like Australia, Germany's most significant challenges came later in the pandemic; in particular, after a period of deceptive calm in the summer of 2020 led to a failure to prepare for the next wave of the pandemic.

Italy was the first European country to be hit by the virus in a significant way. Its early experience presaged many of the problems that would be seen later in the UK. In particular, the country found it very hard to mobilise capabilities and procure the necessary equipment and other resources to deal with the pandemic. In a country with some similar characteristics to the UK in terms of asymmetric devolution of power, the initial response was centralised in terms of decision-taking, but poorly coordinated with local authorities. This aspect of crisis management improved significantly over time, beyond the period covered by this report.

The experience of Italy, and what the UK and other countries could have learned from it in real time, illustrates the importance in crisis management of being able to absorb information rapidly from elsewhere. But this report's international evaluation provides other lessons too, with the various approaches taken by different countries offering insights about what works in a crisis and what doesn't, and the underlying conditions required for success. A ten-point synthesis of lessons from the five countries under study in this report is provided on pp.166 – 170, with the hope that it may prove useful to any country. For the UK in particular, this multi-country examination provides a final recommendation.

> **REPORT RECOMMENDATION 10**
>
> The UK system should learn from other countries in its crisis preparation; should, by default, include in its models for crisis management the ability to source and absorb qualitative and quantitative data from other countries during a crisis; and should build a network of contacts within other crisis management centres that can be activated during a multinational or global crisis.

Conclusion

Taken together, these ten UK recommendations – along with the ten global lessons on pp.166 – 170 - aim to provide a basis for developing crisis management systems within government for the age of long emergencies. They seek to build on what worked and did not work in the different countries in the first six months of 2020, when governments were effectively reliant on the capabilities bequeathed to them by their predecessors, and to take forward some of the successful innovations countries made as this unprecedented crisis took shape.

Foreground:
Data snapshots

The following graphs offer a range of relevant data to foreground the chapters that follow.

Graphs A–K
cover the first six months of the COVID-19 pandemic, in line with the focus of this study.

Graphs L–M
give a sense of health provisions and expenditure in the years leading up to the COVID-19 pandemic.

Graphs N–O
cover excess deaths across the whole of the pandemic, and therefore give a more balanced picture of how the five countries fared in terms of mortality than graphs covering the first six months of the pandemic alone.

First six months

Daily new COVID-19 cases per million people, 30 Jan–30 June 2020
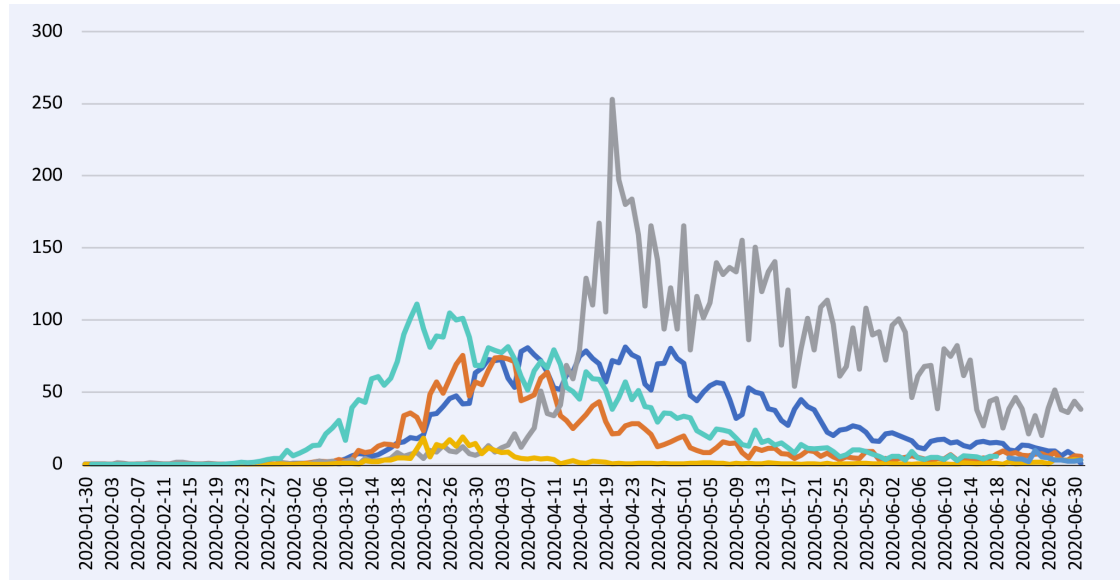
UK ●   Italy ●   Germany ●   Australia ●   Singapore ●

Note that as Singapore is a city-state, case rates in particular will look more like those of other major cities than those of other countries. See p.129–135 for Singapore case study.

GRAPH B
Daily new COVID-19 deaths per million people, 30 Jan–30 June 2020
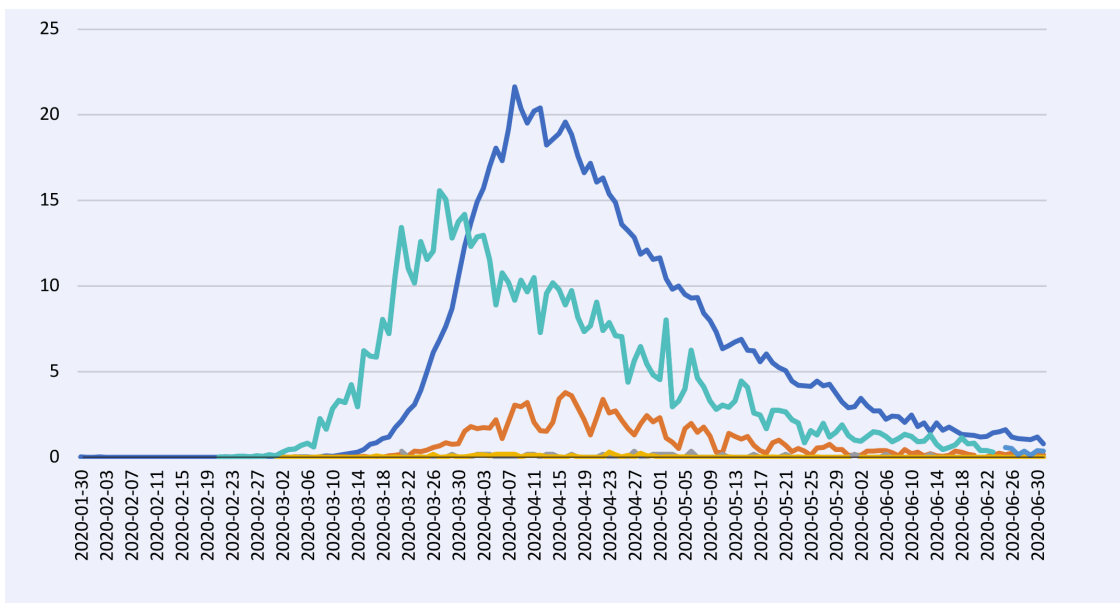
UK ●   Italy ●   Germany ●   Australia ●   Singapore ●

First six months

Total COVID-19 cases per million people, 30 Jan–30 June 2020
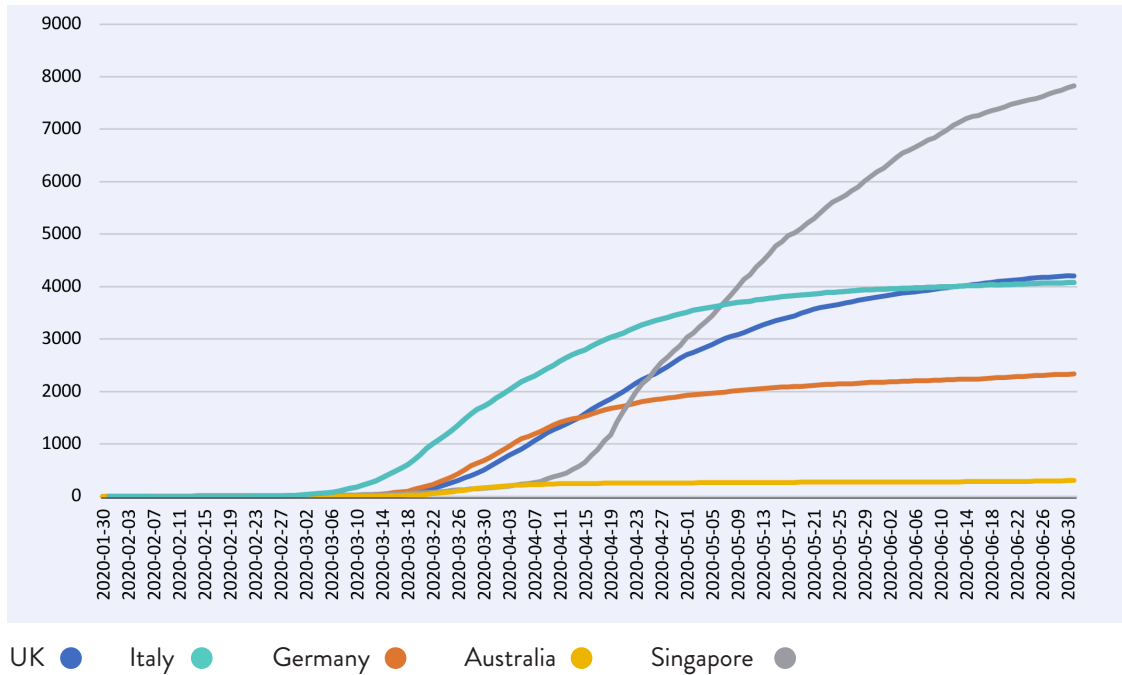
UK ●   Italy ●   Germany ●   Australia ●   Singapore ●

Total COVID-19 deaths per million people, 30 Jan–30 June 2020

UK ●   Italy ●   Germany ●   Australia ●   Singapore ●
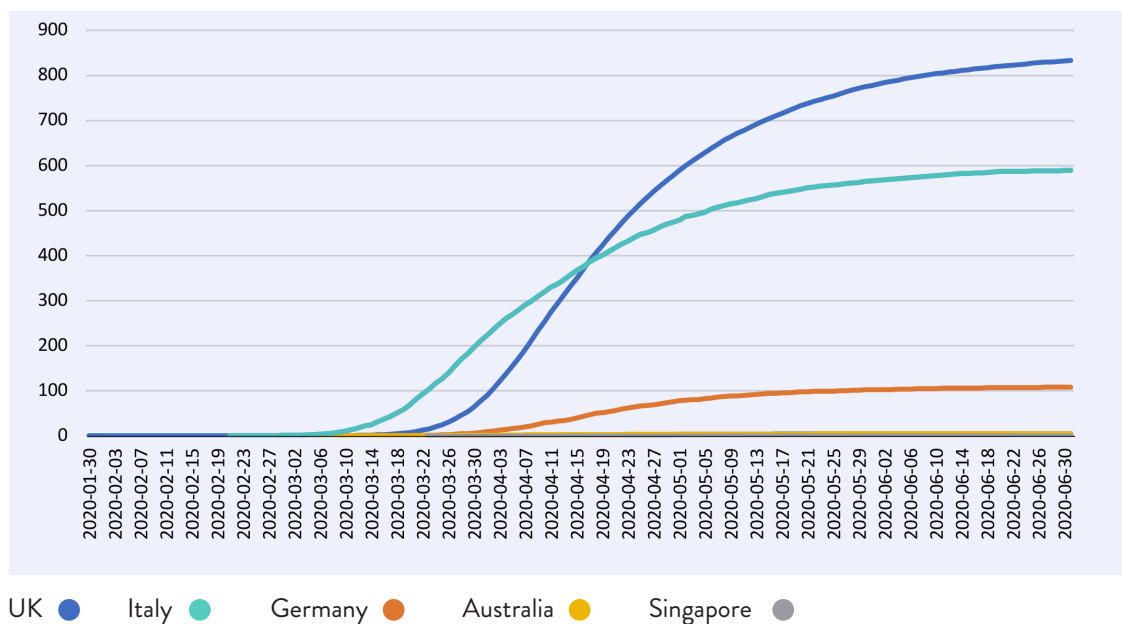
First six months

Excess mortality, 30 Jan–30 June 2020
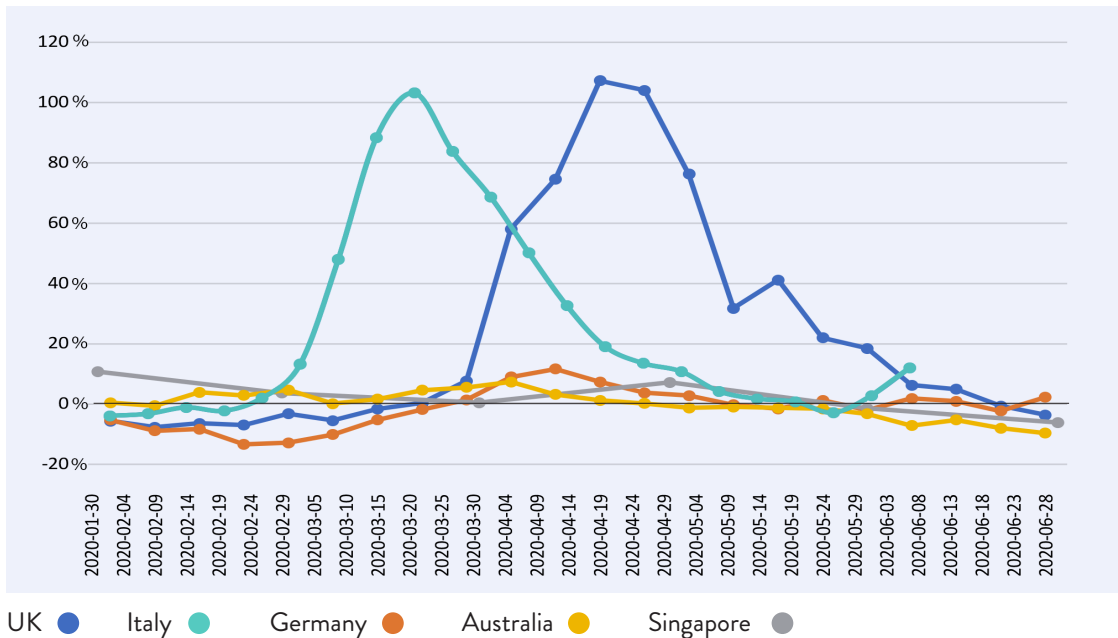
UK ● Italy ● Germany ● Australia ● Singapore ●

Excess mortality is the percentage difference between the reported number of weekly or monthly deaths across the period shown and the projected number of deaths for the same period based on previous years.

Effective reproduction (R) rate of COVID-19, 24 Feb–1 July 2020

UK ● Italy ● Germany ● Australia ● Singapore ●
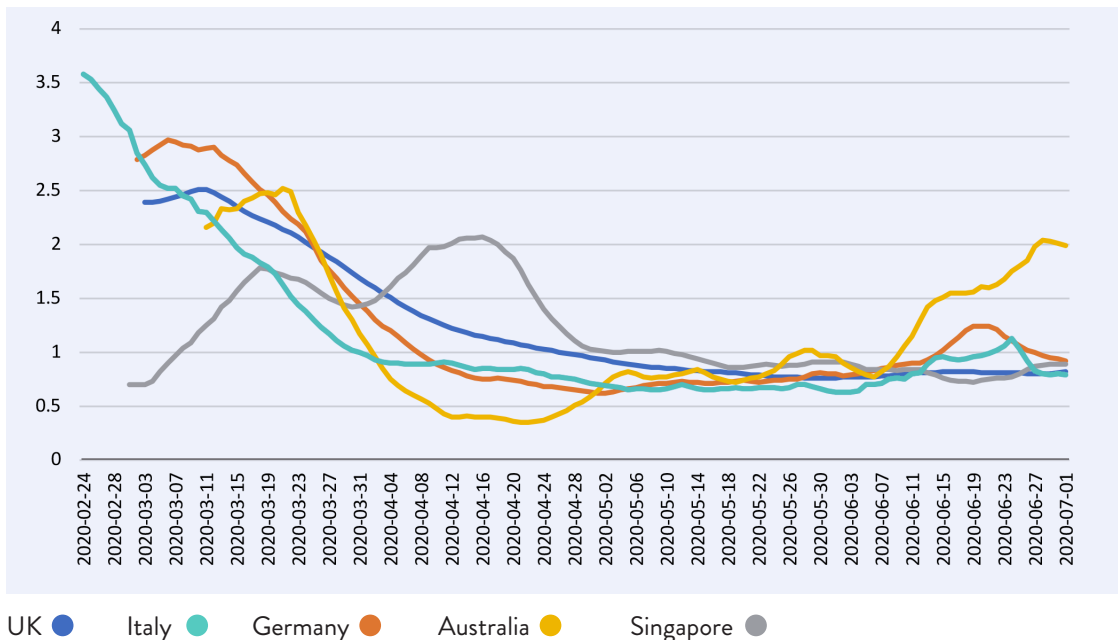
R is the number of people that one infected person will pass on a virus to, on average. An R value of 1 means that on average each infected person will infect one other person. If R is 2, then on average, each infected person infects two more people. If R is 0.5, then, on average, for each two infected people, there will be only one new infection. If R is greater than 1 the epidemic is growing, if R is less than 1 the epidemic is shrinking.

First six months

ICU (intensive care unit) patients per million people, 24 Feb–1 July 2020

UK ●   Italy ●   Germany ●   Australia ●
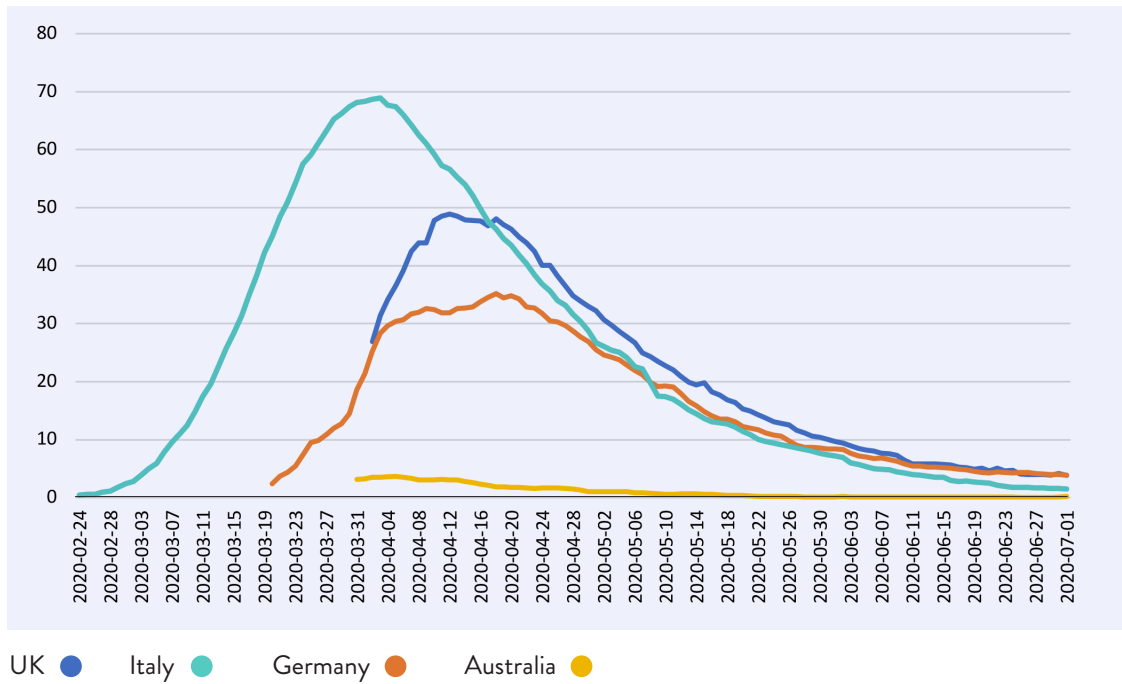
New daily COVID-19 tests per 1,000 people, 2 March–30 June 2020

UK ●   Italy ●   Germany ●   Australia ●
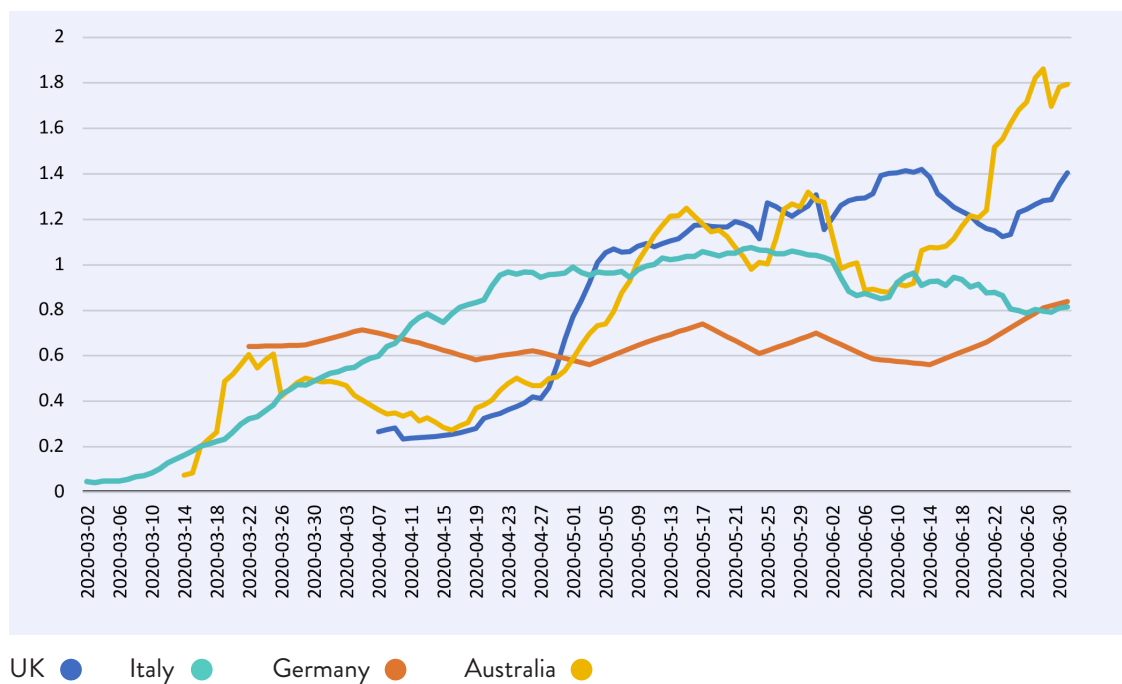
First six months

Cumulative number of COVID-19 tests per 1,000 people, 24 Feb–1 July 2020
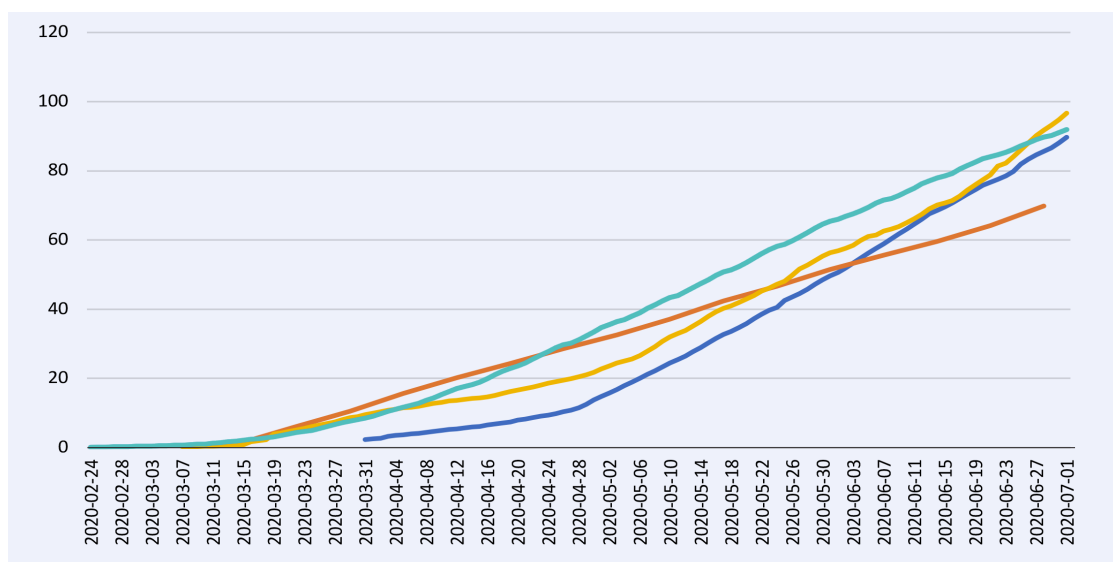
UK ●   Italy ●   Germany ●   Australia ●

Stringency of COVID-19 containment measures, 30 Jan–30 June 2020
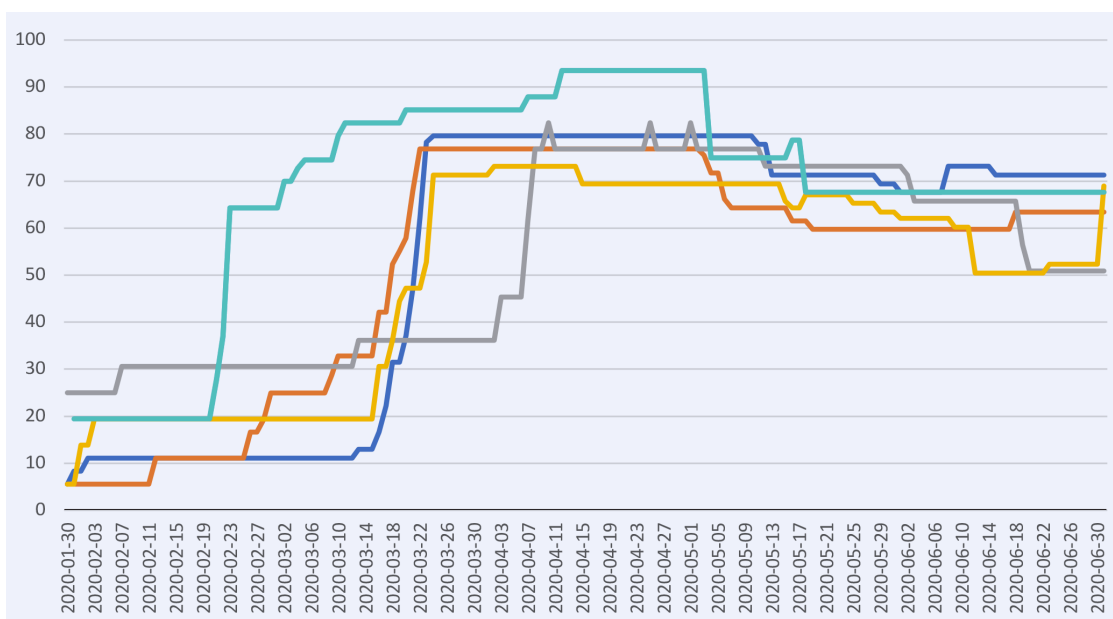
UK ●   Italy ●   Germany ●   Australia ●   Singapore ●

This uses the stringency index of the Oxford COVID-19 Government Response Tracker. The index assigns a score from 0 to 100 based on the following indicators: school closures, workplace closures, public event cancellations, restrictions on gathering size, public transport closures, stay-at-home requirements, restrictions on internal movements, restrictions on international travel, public information campaigns.

First six months

Percentage change in quarterly GDP[1] from same period previous year, last two quarters of 2019 and first three quarters of 2020
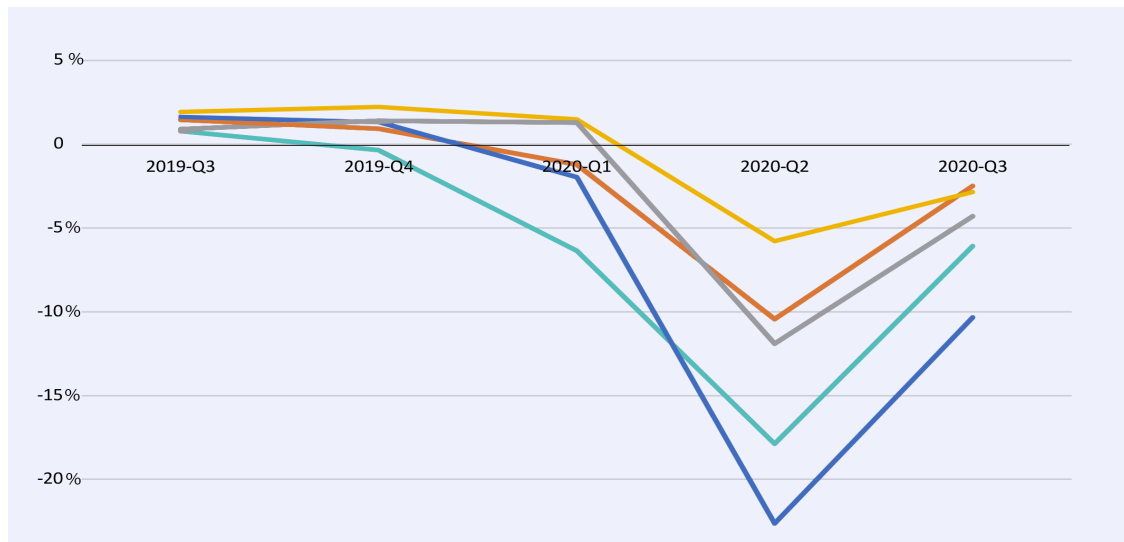
UK ●   Italy ●   Germany ●   Australia ●   Singapore ●

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1   Real GDP

Prior health investment

GRAPH L
Health expenditure per capita, 2000–2021
Expressed in PPP (purchasing power parities), nominal (ie non-inflation-adjusted)

UK ● Italy ● Germany ● Australia ● Singapore ●
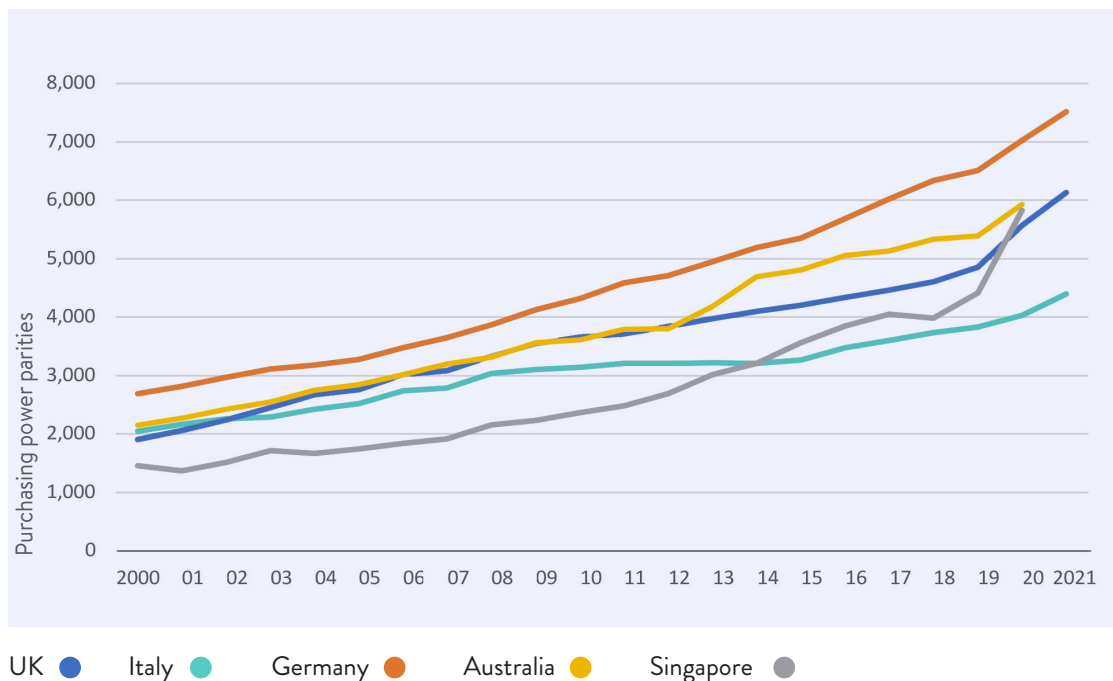
GRAPH M
Hospital beds per 1,000 people, 1960–2018
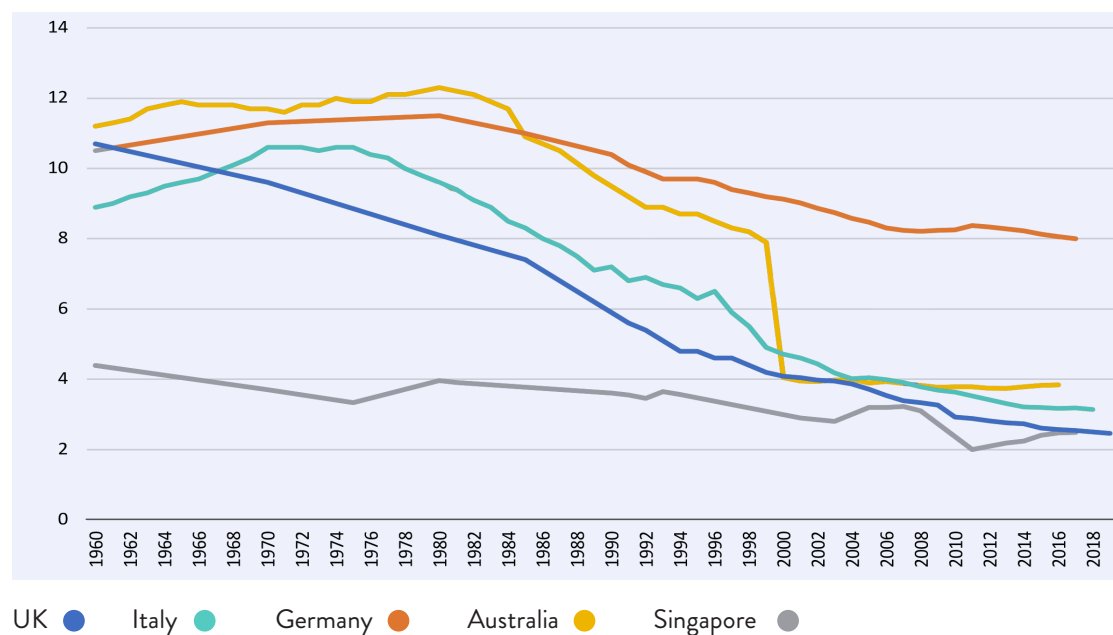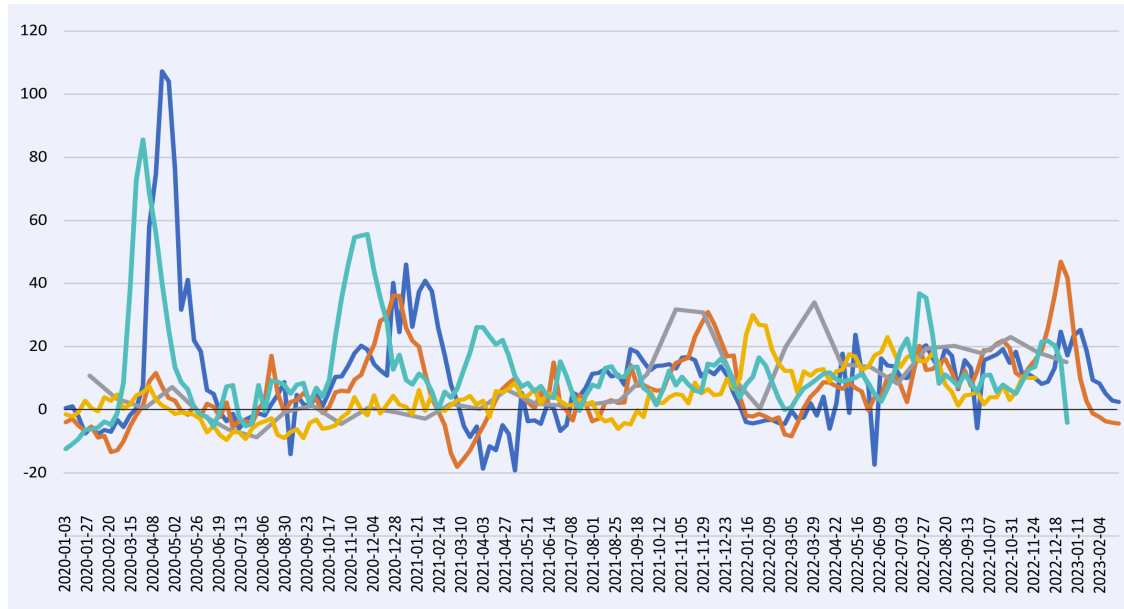
UK ● Italy ● Germany ● Australia ● Singapore ●

Whole pandemic

Excess mortality, January 2020–February 2023

UK ●   Italy ●   Germany ●   Australia ●   Singapore ●

Excess mortality is the percentage difference between the reported number of weekly or monthly deaths across the period shown and the projected number of deaths for the same period based on previous years.

Cumulative excess mortality, January 2020–February 2023
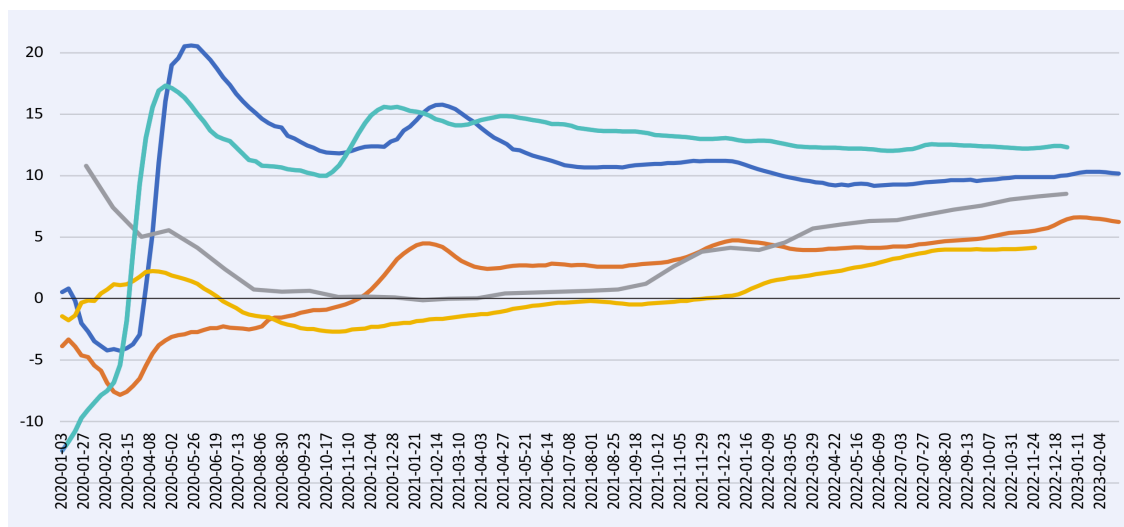
UK ●   Italy ●   Germany ●   Australia ●   Singapore ●

Cumulative excess mortality is the cumulative difference between the reported number of deaths since 1 January 2020 and the projected number of deaths for the same period.

Sources

Graphs A, B, C, D, E, F, G, H, I, M, N, O:
Our World In Data. Edouard Mathieu, Hannah Ritchie, Lucas Rodés-Guirao, Cameron Appel, Daniel Gavrilov, Charlie Giattino, Joe Hasell, Bobbie Macdonald, Saloni Dattani, Diana Beltekian, Esteban Ortiz-Ospina and Max Roser
https://ourworldindata.org/coronavirus
Information on individual data sources and methodology:
https://github.com/owid/covid-19-data/tree/master/public/data

Graph J:
Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford
https://www.bsg.ox.ac.uk/research/covid-19-government-response-tracker

Graph K:
OECD (2023), Quarterly GDP (indicator). doi: 10.1787/b86d1fc8-en (accessed on 7 March 2023; measure codes: PC_CHGPY and PC_CHGP). Original source: Quarterly National Accounts
https://data.oecd.org/gdp/quarterly-gdp.htm
Exception: Singapore data:
Department of Statistics Singapore: Detailed Statistical Time Series, Gross Domestic Product with measure codes: 'Gross Domestic Product In Chained (2015) Dollars, Year On Year Growth Rate, Quarterly' and 'Gross Domestic Product In Chained (2015) Dollars, Seasonally Adjusted, Quarter On Quarter'
https://www.singstat.gov.sg/find-data/search-by-theme/economy/national-accounts/latest-data

Graph L:
World Health Organization Global Health Expenditure database
apps.who.int/nha/database

Graph M:
Our World In Data
https://ourworldindata.org/grapher/hospital-beds-per-1000-people
Original source: World Bank, World Development Indicators

Foreground: Medical context

This section gives essential foregrounding information about the scientific and historic context to the COVID-19 pandemic. Of particular importance for analysing the preparedness of the UK and other countries are the facts that:

- The global health community saw a *flu* pandemic as very likely to occur;
- The global health community was also alert to new and emerging diseases as potential causes of a pandemic, and those that had caused concern in the years preceding the outbreak of COVID-19 – and that therefore informed the UK's and other countries' approaches – included SARS and MERS.

COVID-19

COVID-19 is a contagious disease. Contagious diseases are caused by pathogens (disease-causing micro-organisms such as viruses or bacteria). COVID-19 is caused by a virus called SARS-CoV-2.

Although COVID-19 is often referred to as 'coronavirus', in fact coronaviruses are a large family of viruses, of which SARS-CoV-2 (the virus which causes the disease COVID-19) is one.

Pandemics

An **epidemic** is a rise in the number of cases of a disease beyond what is normally expected in a geographical area.

A **pandemic** is the spread of a disease globally. (Essentially, it is an epidemic that spreads to more than one continent.)

There can be epidemics of known diseases, but pandemics tend to be caused by new pathogens (as COVID-19 was), or new and distinctly different strains of existing pathogens (for example a novel strain of an influenza virus). This is because new strains and pathogens are completely unfamiliar to people's immune systems, and so may spread more easily (as well as having more potential to cause serious illness).

The international health community makes great efforts to identify and monitor new and emerging diseases or pathogen strains – and to contain outbreaks – so that they do not become pandemics. However, given the ever-evolving nature of viruses and other pathogens, pandemics are ultimately inevitable. By 2020 a pandemic had long been expected (the only question being when and what), and further pandemics are expected in future.

Over the past 25 years, more than 30 new (or newly recognised) infectious diseases have been identified around the world. Examples prior to COVID-19 that have led to global concern include SARS (Severe Acute Respiratory Syndrome), MERS (Middle East Respiratory Syndrome), swine flu and Ebola. Of those, only swine flu became a pandemic, but the extent and consequences were much less serious than feared, and the UK was not seriously affected. The others remained outbreaks that could be regionally contained. In all cases, the UK's systems for health protection, run by Public Health England (PHE), were swift and effective.

Pandemic risk has increased and continues to increase. The globally connected nature of the

world and the huge increase in international travel over the last several decades is one key reason. Others include climate change; greater movement and displacement of people resulting from war; the global transport of food; intensive food production methods; and humans encroaching on the habitat of wild animals.

Flu

Flu (influenza) is a different disease from COVID-19, caused by a different virus, from a different family of viruses. However, flu is important to this report, because many countries, including the UK, saw their prime health risk as pandemic flu – and many countries, especially the UK, focussed their pandemic planning accordingly. Until COVID-19, all pandemics since 1900 had been versions of flu viruses (most catastrophically the Spanish Influenza pandemic of 1918.) A flu pandemic was, then, the contingency that the UK prepared for in detail.

A flu pandemic can occur when a new strain of a flu virus emerges against which most people have little or no immunity. (This scenario is different from seasonal flu[1].)

Key characteristics of COVID-19 compared to some other 21st-century viruses of concern

- Highly infectious: more easily transmissible than MERS or SARS (which are also in the coronavirus family)
- Lower case fatality rate than MERS and SARS (a lower proportion of people who have it die) – it caused much higher number of death rates overall, however, because so many more people caught it
- Asymptomatic transmission, in contrast to MERS and SARS (where the contagious stage is at the height of illness, with severe symptoms) and flu (whose transmission is primarily symptomatic)

Disease	SARS	Swine flu	MERS	COVID- 19
Virus	SARS-CoV-1	H1N1	MERS-CoV	SARS-CoV-2
Type	Coronavirus family	Type of influenza virus	Coronavirus family	Coronavirus family
Outbreak	Epidemic: Asia	Global pandemic	Epidemic: Middle East	Global pandemic
Year(s)	2002/3	2009/10	2012	2019-2023
Illness	Severe	Ranges from mild to severe	Severe	Ranges from asymptomatic to severe
Fatality rate	High	Low	High	Low
Transmissibility	Hard to transmit	Highly infectious	Hard to transmit	Highly infectious
Transmission mode	Mainly at height of illness	Primarily when symptomatic, but already infectious a day before sick	Mainly at height of illness	Asymptomatic and symptomatic transmission

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1   A detailed explanation of the difference is available at https://www.ecdc.europa.eu/en/seasonal-influenza/facts/factsheet

Crisis preparedness and crisis management in the face of COVID-19

Crisis preparedness and crisis management in the face of COVID-19

Introduction

Before 2020, the UK believed that it was well prepared for a pandemic, and its health threat capabilities were highly ranked internationally (second in the world in the Global Health Security Index).[1] In the first six months of the pandemic, this belief was sorely tested.

What this chapter of the report will do is set out how the UK's crisis management system was arranged at the start of 2020, and outline its preparations for a pandemic over the preceding decade or so. It will then highlight – with all the benefit of hindsight – those elements of the plans which did not stand up as well as might have been hoped to the demands of COVID-19. This is with a view to learning lessons for the next, undoubtedly different, crisis.

The chapter will also look at the UK's governance structures for crises, the burdens the COVID-19 pandemic placed on that system, and the redesign of those structures at the height of the crisis. It tries to draw appropriate lessons and recommendations for the future central coordination and steering of 'long emergencies'.

This chapter is divided into two sections:

- **The first section, 'Before COVID-19',** details the crisis architecture and planning in place at the start of 2020: the UK's institutional infrastructure for crisis management; the relevant bodies for managing a health crisis in particular; and even more specifically the planning relevant to a pandemic, including practice tests. This section highlights some key areas not covered in pandemic planning that became major features of the COVID-19 response.

- In **the second section**, the experience of the crisis management of COVID-19 in the first half of 2020 is considered, with a view to identifying lessons for the future that would be relevant in any major crisis, regardless of its cause.

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1   The Global Health Security (GHS) Index is an assessment and benchmarking of health security and related capabilities across 195 countries. The GHS Index was developed in partnership by the Nuclear Threat Initiative and the Johns Hopkins Centre for Health Security at the Bloomberg School of Public Health, working with Economist Impact, and launched in October 2019. See the 2019 GHS Index at https://www.ghsindex.org/wp-content/uploads/2019/10/2019-Global-Health-Security-Index.pdf

The need to plan for 'long emergencies' that have nationwide effects and require a whole-of-government response is the main theme of this report. Under that overarching point, this chapter draws three principal lessons:

LESSON 1 **Turning risk identification into preparation (p.53)**

The UK has a relatively sophisticated approach to analysing potential crises. Specifically, it had identified pandemics as a key risk as far back as the first country's first National Security Strategy in 2008;[2] when, in 2010, the new Conservative and Liberal Democrat coalition government introduced a new tiering framework for security risks, a pandemic was categorised as a 'Tier One' security risk.[3] However, translating this into preparatory activity proved more challenging than enunciating the risk. Indeed, a number of gaps in the UK's pandemic preparedness had been identified but not fully addressed ahead of COVID-19. Preparing for longer emergencies in the future will involve raising the status and priority of crisis preparation relative to other functions of government – always a difficult challenge for any country, and even more so in the current economic situation.

LESSON 2 **Planning for agility and adaptation (p.55)**

The UK had careful and detailed plans for pandemic flu, and these heavily influenced the approach in its early COVID-19 response, to an extent that hindered agility. Greater advance thought about how plans might be adapted to different scenarios – as well as greater scrutiny of the political realism of some their assumptions – might have aided the COVID-19 response, and would be useful now for future, different, crises. More broadly, the scale and evolving nature of the COVID-19 crisis called for immense agility and adaptation by the people and institutions of government; again, advance thought about how individuals and institutions can be equipped in advance with crisis agility would be advantageous for the next crisis.

LESSON 3 **Mobilising and coordinating the totality of the government's capabilities (p.58)**

The COVID-19 crisis saw a significant revamping of the command, control and coordination crisis mechanisms of the state. This was needed, given both the gravity of the crisis and the early challenges, but was very difficult to do mid-crisis. Section 1 of the chapter describes some of the changes as they occurred, and, in particular, the broadening out of the command structure for COVID-19 in recognition of the huge demands both of the economic support packages and of keeping non-health-related public services going. Part of this analysis also considers how expertise in science and other disciplines fed into these changing crisis-response architectures.

A critical theme in this chapter of the report is the ability to promote resilience and then be able to mobilise capacity within government. Crises like COVID-19 create a further need to mobilise additional capacity from outside government, and this will be covered in later chapters.

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2   The UK government's National Security Strategy, 2008 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228539/7291.pdf
3   The UK government's National Security Strategy, 2010 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/61936/national-security-strategy.pdf

Before COVID-19: the UK's crisis management system at the beginning of 2020

The UK's institutional infrastructure for crisis management

The features of the system and planning that were in place just before the COVID-19 pandemic had been shaped from early 2000 onwards. They were developed after a number of significant crises at the turn of the century (including the 11 September 2001 terrorist attacks in the United States, the 2001 foot-and-mouth outbreak, several floods, and difficulties at oil refineries) persuaded the then government that better crisis management capabilities were necessary.

Legislative underpinning part of the framework was set out in the Civil Contingencies Act of 2004, and a standing team in the Cabinet Office, the Civil Contingencies Secretariat, was created. Both measures aimed to strengthen the state's ability to deal with natural hazards and domestic emergencies (for example, shortages of fuel or disruption to travel) alongside a separate capability to bring government together to try to fend off the threat from malicious actors like terrorist groups or hostile states.

Later in the decade, further changes were made aiming to improve the UK's ability to respond to strategic threats. A first ever National Security Strategy was published in 2008 by the then Labour government (and updated in 2009); the Conservative and Liberal Democrat government published one in 2010 for a five-year period, and a further strategy for the Conservative-only government was published in 2015.

The five-year plans in 2010 and 2015 were commissioned and approved by the National Security Council, a powerful Cabinet Committee chaired by the Prime Minister, which was established in 2010. This body brought together senior ministers from the security departments and some key economic ones (though, as in most countries, key public services and health were not included) along with senior professionals like the Chief of Defence Staff and the heads of the intelligence services. Responsibility for National Security Council business and the team supporting it sat with the National Security Adviser, one of the UK's most senior civil servants. The Adviser's responsibilities included both the teams coordinating the government's response to malicious threats and the Civil Contingencies Secretariat. As well as supporting the day-to-day work of the National Security Council, the National Security Secretariat was responsible for supporting the development of national security strategies and underpinning processes to ensure their implementation, as well as the crisis coordination capabilities.

> Successive national security strategies sought to identify critical risks to the United Kingdom, and were notable for their recognition of the importance of health security.

This significant increase in central security capabilities allowed the UK to make significant progress in assessing risks to the country. Successive national security strategies sought to identify critical risks to the United Kingdom, and were notable for their emphasis on threats beyond malicious attacks, and specifically for their recognition of the importance of health security. This was reflected in some detail in the development of a classified

National Security Risk Assessment (hereafter 'the Assessment') accompanied by an unclassified National Risk Register ('the Register') published for public scrutiny.

The Assessment assesses the most serious risks that the UK and its citizens could face over the next two years, including environmental hazards, risks to human and animal health, malicious attacks, major accidents, societal risks, and serious and organised crime. The Register contains around 120 risks, is primarily focused on national-level risks, and is based on worst-case scenarios. The government aims to run practice exercises of its crisis-response plans using scenarios based on the risks in the Assessment.

Every government department is responsible for its own risk registers, and outlines which capabilities it requires. At the local level there are community registers covering geographically specific risks. This was part of an evolving framework that had, over the course of the first two decades of this century, placed a significant statutory duty on local bodies, via a legal construct known as Local Resilience Forums, to lead readiness for a major emergency.

The National Audit Office noted that international acclaim for this framework for the identification of risk was one of the reasons the UK was regarded as a global leader in crisis preparations.[4] Another was the crisis-response arrangements. These centred around a rapid reaction coordination capability known as COBR (which simply stands for 'Cabinet Office Briefing Rooms', reflecting their departmental home). COBR is not a permanent entity but convenes as a temporary emergency body of different government officials and departments. Its secretariat come from one of two parts of the National Security Secretariat depending on the crisis: if it is a naturally occurring hazard like a flood or outbreak of disease, the Civil Contingencies Secretariat will take the lead; if it's malicious, other teams in the National Security Secretariat will run the COBR process. COBR meetings – normally referred to as 'COBRs' – can be held on any subject. The participation and chairing varies widely, depending on circumstance – the chairing can vary from the Prime Minister to a mid-ranking permanent official.

COBR's job is to convene all relevant parts of government to discuss and agree a course of action dealing with all the major parts of a crisis. So, for example, if a terrorist attack requires significant closures within cities, the Department for Transport will be tasked with managing that. But given the unpredictable nature of emergencies, especially with regard to civil contingencies, there is a long-established process of convening scientific specialist expertise. The group known as SAGE – the Scientific Advisory Group on Emergencies[5] – was conceived after the foot-and-mouth crisis of 2001. It is intended to be a rapidly constituted body of broadly based specialist scientific expertise appropriate to the crisis it faces. Specific sub-committees of SAGE can be – and are – constituted to provide specialist advice. In some areas, like public health, sub-committees are standing bodies which meet to review changes in the evidence and other developments, and will meet intensively if a crisis arises.

One important feature of the British model of crisis management, which SAGE and its sub-committees play into, is an aim to allow ministers to debate a range of options without having to debate the underlying assumptions. For security issues, for example, a specific product is prepared called a 'Commonly Recognised Intelligence Picture' or

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4   National Audit Office (2021), *The government's preparedness for the COVID-19 pandemic: lessons for government on risk management* (Report by the Controller and Auditor General, session 2021-22) https://www.nao.org.uk/wp-content/uploads/2021/11/The-governments-preparedness-for-the-COVID-19-pandemic-lessons-for-government-on-risk-management.pdf

5   See https://www.gov.uk/government/organisations/scientific-advisory-group-for-emergencies/about

CRIP. The underlying principle is that political decision-takers should receive a single version of the 'truth', and make decisions on the basis of it. While in the case of the COVID-19 pandemic there was no discussion of an 'intelligence' picture, the desire for a commonly agreed single set of facts was captured in the much-used phrase 'following the science'.

A final and important point on the British crisis management system is the nature of the issues it dealt with over the near 20 years of its existence prior to the arrival of COVID-19 on UK shores in 2020. None of the crises managed by its arrangements were anything like COVID-19 in either scale or duration. Extremely serious and damaging terrorist attacks, most notably the bombings of London on 7 July, 2005 and the Manchester Arena attack of 2017, were, by definition, geographically confined and short in duration. Floods were a frequent cause of COBR activation but again these tended to be in specific, albeit larger, geographic areas. Some serious and complex disruptions – such as the appearance of an ash cloud in 2010 which required the closure of most of UK airspace – had a larger geographic and longer duration but did not affect many people outside the aviation sector (or those who were planning to fly) and did not constitute a serious threat to life. The crucial point here is that much of the UK's direct experience of twenty-first-century crisis management – for which the country won deserved praise – was based on managing often very severe but generally short and localised crises. COVID-19 was to prove completely different.

> Much of the UK's prior experience of twenty-first-century crisis management – for which the country won deserved praise – was based on managing severe but generally short and localised crises.

Planning for a health crisis

That said, the UK had not only identified a health risk as being different in nature from other threats and done some planning for the management of one, but had also tried to learn from serious disease outbreaks in other countries. Detailed plans had been drawn up and, on occasion, practised in simulation exercises.

The plans for a health crisis allocated responsibilities to a number of different bodies within England. Health is devolved to the Scottish Parliament, Welsh Senedd and Northern Ireland Assembly (which was functioning at the time of the outbreak of COVID-19). Provision was made in the crisis plans for coordination with the devolved administrations, including for their attendance at COBR. But the fact that the UK government's remit in many areas of public health, even in an emergency, was not fully understood in many parts of the UK system led to tensions in the UK-wide effort to manage the pandemic. This is reviewed in detail in Chapter 3. For the purposes of this chapter, the main institutional responsibilities outlined are for the management of COVID-19 in England.

The prime actors for health crisis risk identification, planning and management at the start of 2020 were as follows:

- **The Department of Health and Social Care**: The UK government department responsible for health.

- **NHS England:** The body that leads the NHS (National Health Service)

- **Public Health England**: An executive agency sponsored by the Department of Health and Social Care but with operational autonomy, whose responsibilities included health protection from infectious diseases. (In 2021 it was disbanded, and its health protection functions now sit with the UK Health Security Agency, also an executive agency sponsored by the Department of Health and Social Care.)

Health crisis planning relied on an evidence base provided by expert advisors, through SAGE and through the government's standing scientific advisors (who sit on SAGE but are government employees with a much wider remit) – notably the Chief Medical Officer for England.

There were standing expert SAGE sub-groups that could advise SAGE in times of crisis. The ones that would prove relevant to COVID-19 were the Independent Scientific Pandemic Insights Group on Behaviours (SPI-B), the Moral and Ethical Advisory Group (MEAG), the Scientific Pandemic Influenza Group on Modelling (SPI-M), and the New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG).

Pandemic-related systems and preparation

There were two particular areas of preparation and systems relevant to a pandemic:

1. Surveillance and containment systems and plans for new infectious diseases emerging around the world. Any new infectious disease has the possibility of becoming a pandemic, and so these plans were aimed at containing them so as to stop them taking hold in the UK. (COVID-19 was, of course, a brand-new disease.)

2. The preparations for a hypothetical flu pandemic (a new version of a known disease).

Both an emerging infectious disease and an influenza pandemic were on the National Risk Register, but an influenza pandemic ranked higher: indeed, since 2008, it had been ranked as the UK's top non-malicious risk.

CRISIS EXERCISES

High emphasis is placed in the British crisis management system on 'exercising': running simulated crisis responses with role-playing by officials and ministers. These exercises are common in areas like counter-terrorism. For public health, two exercises took place in 2016: Exercises Cygnus and Alice. Cygnus was a three-day simulation exercise to estimate the impact of a flu pandemic on the UK, while Alice was a one-day table-top exercise to prepare for an outbreak of Middle East Respiratory Syndrome (MERS). As discussed on p.53–54, not all of the issues they identified were addressed – and this impacted the UK's early COVID-19 response.

When COVID-19 was a phenomenon outside the UK, and in early cases where it was brought into the UK, the surveillance and containment systems were used. Once it was clearly spreading within the UK, the flu pandemic plans were – for better and worse – a guiding force for managing it in the early stage.

1 Surveillance and containment systems and plans for new infectious diseases

The first set of systems and plans that would prove relevant to COVID-19 were those for monitoring new infectious diseases around the world and stopping them from spreading in the UK.

These systems had been used effectively in recent memory, against SARS, swine flu and MERS. Planning for these types of events formed the heart of the UK government's first Biological Security Strategy in 2018.[6] It placed a prime focus on capabilities, on the role of science and on the multiple departments, agencies and other stakeholders that are involved in biological security.

The protocols and capabilities in place for a new disease outbreak included a Public Health England protocol known as FF100 for assessing the first few hundred cases of a novel infection in the UK and their close contacts to gain an early understanding of key clinical, epidemiological and virological characteristics of the disease, inform the development of policy and guidance on managing cases, and help reduce the spread of infection. In anticipation of a high-fatality virus with severe symptoms, specialist centres had been set up to isolate and treat patients who became severely ill. The NHS in England had established procedures for identifying, isolating and treating individuals infected with emerging diseases that could be 'high consequence',[7] and Public Health England had a contact-tracing capability whose aim was to try to contain emerging infectious diseases coming into the UK so that they did not become an outbreak. These contact-tracing capabilities had a ceiling, on the assumption that, beyond a certain point, the outbreak would not have been contained, at which point contact-tracing would cease.

2 Flu pandemic preparations

Before COVID-19, every pandemic since 1900 had been a flu pandemic (the most recent pandemic being swine flu in 2009, which turned out not to be as consequential as feared). The global health community saw another flu pandemic as likely. As noted above, the UK's National Risk Register had since 2008 ranked a flu pandemic as the UK's top non-malicious risk.

The UK had a bespoke strategy for a flu pandemic (the UK Influenza Pandemic Preparedness Strategy 2011),[8] which by 2020 had been supplemented by further response and guidance plans, as well as evidence reviews.[9] This strategy and set of accompanying plans represented the UK's only form of detailed planning for managing a pandemic once it took hold in the UK. As such, it was – for better and worse – the guiding force behind the UK's early COVID-19 response once COVID-19 was clearly spreading within the UK's borders.

> Before COVID-19, every pandemic since 1900 had been a flu pandemic. The global health community saw another flu pandemic as likely and it was ranked as the UK's top non-malicious risk.

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6   UK government Biological Security Strategy https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/730213/2018_UK_Biological_Security_Strategy.pdf

7   'High consequence infectious disease' or HCID is a term used by the UK and other governments. See https://www.gov.uk/guidance/high-consequence-infectious-diseases-hcid

8   Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf

9   See https://www.gov.uk/guidance/pandemic-flu for the full range of documents

The strategy's overarching objectives reveal relatively light expectations on how far healthy individuals would be asked to change their behaviour ('Minimise the potential health impact of a future influenza pandemic by ... promoting individual responsibility and action to reduce the spread of infection through good hygiene practices') and high expectations around the continuation of normal activities ('Minimise the potential impact of a pandemic on society and the economy by ... [s]upporting the continuation of everyday activities as far as practicable').[10]

The flu pandemic strategy was based on a number of careful evidence reviews,[11] including evidence on the effectiveness (or lack of it) of different possible measures to slow or stop pandemic flu spread. It planned on the assumption that once an outbreak of pandemic flu took hold in the UK, the rapid spread of the virus was inevitable. The summary of planning assumptions includes: 'It will not be possible to stop the spread of, or to eradicate, the pandemic influenza virus, either in the country of origin or in the UK, as it will spread too rapidly and too widely.'[12]

The flu pandemic strategy planned on the assumption that measures to contain mixing would be used minimally, if at all.

It also planned on the assumption that measures to contain mixing would be used minimally, if at all. While it makes clear that 'appropriate behavioural interventions'[13] are a key element of a pandemic response, these are around hygiene and self-isolation advice for those who are symptomatic.[14] Wider behavioural interventions are explicitly ruled out or seen as unlikely:

> '**Restrictions on public gatherings and public transport:** There is very limited evidence that restrictions on mass gatherings will have any significant effect on influenza virus transmission. Large public gatherings or crowded events where people may be in close proximity are an important indicator of 'normality' and may help maintain public morale during a pandemic. The social and economic consequences of advising cancellation or postponement of large gatherings are likely to be considerable for event organisers, contributors and participants. There is also a lack of scientific evidence on the impact of internal travel restrictions on transmission and attempts to impose such restrictions would have wide-reaching implications for business and welfare. For these reasons, the working presumption will be that Government will not impose any such restrictions.'[15]

> 'The impact of closure of schools and similar settings on all sectors would have substantial economic and social consequences, and have a disproportionately large effect on health and social care because of the demographic profile of

10 UK Influenza Pandemic Preparedness Strategy (2011), p.19, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf

11 Twelve scientific evidence base papers were developed by the Department of Health to inform and underpin the policy content of the 2011 UK Influenza Pandemic Preparedness Strategy. They can each be found in full at: https://www.gov.uk/government/publications/review-of-the-evidence-base-underpinning-the-uk-influenza-pandemic-preparedness-strategy They are also summarised in a single document, *Scientific summary of pandemic influenza and its mitigation* (2011): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/215666/dh_125333.pdf

12 UK Influenza Pandemic Preparedness Strategy (2011), p.15, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf

13 UK Influenza Pandemic Preparedness Strategy (2011), p.34, paragraph 4.2, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf

14 UK Influenza Pandemic Preparedness Strategy (2011), p.36, paragraphs 4.10 and 4.11, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf

15 UK Influenza Pandemic Preparedness Strategy (2011), p.39, paragraphs 4.21 and 4.22, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf

those employed in these sectors. Such a step would therefore only be taken in an influenza pandemic with a very high impact and so, although school closures cannot be ruled out, it should not be the primary focus of schools' planning.'[16]

'There are no plans to attempt to close borders in the event of an influenza pandemic.'[17]

The approach was the result of careful examinations of the evidence, but the idea that politicians would not be under pressure to take any and all measures, even those with light evidence and high downsides, arguably seems naïve with hindsight.

Again, this approach was the result of careful examinations of the evidence[18] weighed against the obvious social and economic costs of the measures discussed.

The flu pandemic strategy was written with potentially very high death numbers in mind. Advice within it on mortuary provision says 'local planners should … aim to cope with a population mortality rate of up to 210,000–315,000 additional deaths, possibly over as little as a 15 week period'.[19] It is salutary to reflect on its aspirations for maintaining relatively normal life in such circumstances. The idea that non-infected people would keep calm and carry on, or that politicians would not be under pressure to take any and all measures, even those with light or absent evidence and high downsides, arguably seems naïve with hindsight (more on this on p.56).

GAPS IN PANDEMIC PLANNING AGAINST THE REALITY OF THE COVID-19 EXPERIENCE

Plans cannot be in place for every eventuality, but it is worth highlighting some specific elements that were very significant in COVID-19 and where planning had to be done mid-crisis.

a) Little to no preparation for measures to restrict mixing

There was little consideration of, and no planning for, measures aimed at limiting face-to-face contact between people, and the economic, educational and other consequences of such measures. All the planning for lockdown was done during the crisis itself in under a week (see p.56 below).

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16 UK Influenza Pandemic Preparedness Strategy (2011), p.40, paragraph 4.2, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf

17 UK Influenza Pandemic Preparedness Strategy (2011), p.38. paragraph 4.18, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf

18 Summarised in a single document, *Scientific summary of pandemic influenza and its mitigation* (2011), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/215666/dh_125333.pdf, but also online individually at https://www.gov.uk/government/publications/review-of-the-evidence-base-underpinning-the-uk-influenza-pandemic-preparedness-strategy

19 *UK Influenza Pandemic Preparedness Strategy* (2011), p.17, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf

b) No preparation for large-scale testing

There is no mention at all of large-scale testing in either the flu pandemic strategy or the Coronavirus Action Plan of 3 March 2020. The thinking was that testing and contact-tracing would be critical in trying to contain early imported cases from spreading, but that once this battle was lost and the virus was in widespread circulation across the UK, the role of testing would be less prominent.[20]

c) Lack of adaptability from flu pandemic scenario

The UK's only detailed pandemic planning was in its pandemic flu strategy and related plans and documents; there was almost no planning for how the flu pandemic plan might be adapted in the event of a pandemic of a different disease.

The experience of the crisis management of COVID-19, and lessons for the future

The UK experience

This report is concerned with the UK's crisis preparedness (or otherwise) and the consequences of this in the first six months of the COVID-19 pandemic, as well as the approaches taken in those first six months, with the aim of deriving lessons for preparing for future 'long emergencies'. Within those six months, four different phases can be identified.

In the first phase, from the start of 2020 until the end of February, the 'normal' early stages of UK crisis management are evident. The system relied on existing public health measures, and the threat of COVID-19 was treated as a specialist risk largely confined to expert circles, with periodic updates to political decision-takers. Leadership of the response rested primarily and very firmly within the Department of Health and Social Care. Ministers and very senior officials were informed and occasionally held meetings on the subject, but it did not overshadow everything else in government, and, as evidenced for example by the leadership of COBR meetings, did not engage the majority of very senior leadership's time.

The Scientific Advisory Group for Emergencies (SAGE) and its specialist sub-groups were convened and began work at an intense pace. Key facts, such as the transmissibility of the disease, proved very difficult to establish. Evidence from Lombardy, Italy, where a regional lockdown was imposed on 22 February following a serious outbreak, began to shift the mood within government and more generally and the state machine began to mobilise for a more serious and wide-ranging crisis.

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20 See both *UK Influenza Pandemic Preparedness Strategy* (2011) (https://assets.publishing.service.gov.uk/ government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf) and, from the early pandemic, the Coronavirus Action Plan of 3 March 2020 (https://assets.publishing.service.gov.uk/government/ uploads/system/uploads/attachment_data/file/869827/Coronavirus_action_plan_-_a_guide_to_what_you_can_ expect_across_the_UK.pdf)

In the second phase, running from around 1 March to 12 March, the Government machine began to adapt its response to reflect the growing realisation of the severity of the threat posed by Covid-19. A national Coronavirus Action Plan,[21] developed by the Department of Health and Social Care, was published on 3 March, setting out a phased approach which emphasised, in progressive order: 'Contain' (trying to contain the virus by detecting and isolating early cases); 'Delay' (once containment was no longer possible and an epidemic became inevitable, delaying its peak in order to reach the warmer months and to have more time to test and develop vaccines and treatments); and 'Mitigate' (trying to mitigate the worst impacts of the pandemic). A fourth so-called phase, though in fact it ran through every stage, was 'Research' (to understand the virus and policy options, and to develop diagnostics, vaccines and treatments). Initially the government's enactment of this plan took the form of measures that were significant but still below the wartime levels of intervention that would follow. For example, the government's budget of 11 March allocated a significant but not extraordinary sum – some £12 billion – to measures to deal with the crisis. Around the same time, the government permitted a major sporting event to go ahead.

The third phase, starting with the raising of the threat level posed by COVID-19 from moderate to high on 12 March, ran until 10 May, when the government's roadmap out of lockdown was published. In this period, the government ran a national crisis government, entirely consumed by a single issue. The change in posture arose because of a combination of continued bad news from Italy and elsewhere in Europe, a worsening position in the UK, deeper concern over the potency and transmissibility of the disease among experts, which was presented to ministers in models, and a clear change in public behaviour, with large sections of the population in effect locking themselves down. For example, during the early part of this period, as the government debated school closures, school attendance by both staff and pupils declined significantly.

A series of extraordinary measures followed the declaration of the threat from COVID-19 as 'high' on 12 March, foremost among them the imposition of sweeping lockdown measures (initially advisory on 16 March, then, from 23 March, mandatory) and an unprecedented economic support package. Emergency legislation of extraordinary complexity followed within days of the mandatory lockdown announcement.

From the point of view of studying crisis management, this period is crucial, because it also saw the overhaul of the central machinery the government used to grip the crisis. With the severity and breadth of the crisis acknowledged, the machinery of government was reorganised into four ministerially led implementation groups (or 'MIGs'): one for management of the disease and its public health impacts; one for economic measures; one focusing on non-health public services, particularly schools; and one for international measures to fight the virus. Notably, only one of these was led by the Department of Health and Social Care, in a clear broadening of the scope of the crisis machinery. While, for a short period, the COBR mechanism was retained, supported by the Civil Contingencies Secretariat, by mid-April these new 'MIG' mechanisms were driving the UK's response and much of the standing framework for managing crises in the UK had been set aside, overwhelmed by the magnitude of what was occurring. This was accompanied, as Chapter 2 will show, by new, largely improvised arrangements for dealing with key operational requirements of the pandemic like securing PPE and COVID-19 tests.

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21 UK Government, Coronavirus Action Plan (3 March 2020) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/869827/Coronavirus_action_plan_-_a_guide_to_what_you_can_expect_across_the_UK.pdf

The fourth phase ran from early May until the removal of many restrictions in England on 4 July, ahead of their reimposition later in that year. This phase started on 10 and 11 May with the publication of the government's roadmap out of lockdown, which placed an emphasis on a phased, evidence-based plan to steer the country out of lockdown. Part of this involved a new way of assessing the risk posed by COVID-19: a five-scale threat model was published, movements between the different levels of which would likely trigger adjustments in government interventions (either tightening or loosening them, depending on the data). To improve the government's ability to collect and analyse data, and in particular local differences, a new Joint Biosecurity Centre was set up, with the aim ultimately of enabling the government to provide for different regimes in different local areas.

In terms of the central governance of the pandemic during this period, there was another change in early June, when the government moved away from ministerial implementation groups (MIGs) in favour of a structure it had used to prepare for a no-deal Brexit in 2019, with a committee for COVID-19 strategy and one for operations, known, respectively, as COVID-S and COVID-O. These new structures endured for the rest of the pandemic. They reflected an intent to 'normalise' the arrangements for handling COVID-19 on an ongoing basis alongside dealing with wider issues and leading the UK economy and society out of the phase of all-consuming crisis. That 'normalisation' of government business and wider UK life did not materialise until much later, and when it did come, was largely to do with the success of the UK's vaccine development and roll-out.

Lessons

By the end of the period considered by this study the UK had, in effect, reconfigured its crisis management system, moving away from the model in place at the start of 2020 which had, pre-COVID-19, been internationally admired. Much of the explanation for this rests on the fact that the crisis management system was more used to dealing with smaller, shorter and more localised crises, and insofar as there were plans for dealing with a major, enduring, nationwide outbreak of disease, those plans lacked sufficient adaptability to cope with what ensued.

Some legitimate criticisms can and will be made both of decisions taken (or not taken) in the early months of 2020, and of the timing of those decisions. Other legitimate points can and will be made about the new arrangements adopted in that period. For example, in retrospect, it appears that the focus on restarting the economy in the middle of 2020 might have meant policymakers missed the signs of a resurgence of the virus in the UK and lost the opportunity to spend the summer planning for a second phase. However, the more important points are about preparedness, adaptability and the ability to mobilise the full extent of the state's capabilities. For example, by the end of the pandemic, the Joint Biosecurity Centre had won praise even from those generally critical of the government's performance during the pandemic as a whole, but, having been announced only in May 2020, it was not fully operational until well into the second half of that year.

In terms of learning from the experience of COVID-19, several complex, interconnected and difficult lessons begin to emerge. The key points, examined in the rest of this chapter, are as follows:

- Those dealing with a crisis are hugely dependent on the capabilities already in place. Therefore, turning the identification of risk into plans and capabilities is essential. ('Lesson 1. Turning risk identification into preparation', p.53)
- While it is critical to have powerful capabilities and plans already in place, another crucial feature is the ability to adapt to specific situations, and in particular to adapt to how the country reacts to the crisis across a range of different aspects of national life. ('Lesson 2. Planning for agility and adaptation', p.55)
- That in turn requires a broadening of the crisis management system to enable the rest of a well-equipped state to manage a complicated crisis in its totality. ('Lesson 3. Mobilising and coordinating the totality of the government's capabilities', p.58)

These lessons are now analysed more closely in turn.

LESSON 1
Turning risk identification into preparation: The need for rigour in turning risk identification into action well ahead of a crisis

All governments struggle with resourcing preventative action and with building resilient capabilities in advance of a crisis. Actions to prevent the impact of events that may seem unlikely are rarely the priorities of citizens facing day-to-day pressures. Nonetheless, it is a fundamental duty of government to prepare for national emergencies, as the UK itself recognised in its fundamental overhaul of crisis management procedures in the early 2000s. There is also good practice in other countries: as Chapter 4 sets out, planning for 'rainy days' is baked into the system of governance in Singapore, for example.

All governments struggle with resourcing preventative action and with building resilient capabilities in advance of a crisis.

Yet, understandably, putting time, money, leadership attention and expert capacity towards problems that might only emerge in the distant future, if at all, presents very significant challenges for governments in terms of budgets, incentives, and being responsive to the needs of citizens. Ahead of the pandemic of 2020, pre-emptive actions, crisis resources and reserve capacity faced tough competition in almost every country from immediate issues with greater political salience. Reserve capacity had been squeezed in crisis management in the UK and across European countries.[22]

The essential starting point of crisis management is risk identification. Here, the UK had been consistently strong since at least 2008, with its long record of listing a pandemic as one of the foremost threats to national security. A second crucial ingredient is 'exercising' plans for responding to major events (through simulations). Here, the UK had conducted, via Exercise Cygnus in 2016, a full-scale preparatory exercise for pandemic flu.

When the findings of Cygnus were made public in the second half of 2020 it became evident some of the key lessons from it had been either not followed up or only partially followed up. Some progress was made, at least in part. Capacity issues relating

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22 See Tubb, H. (2020). *Crisis management, coordination and capacities*, European Commission: Brussels https://op.europa.eu/en/publication-detail/-/publication/1ffe717c-17e2-11ed-8fa0-01aa75ed71a1/language-en

to mortuaries were dealt with impressively. To take another example, the very first recommendation of the Cygnus review called for a review of the concept of operations to allow for more effective alignment of the various authorities charged with leading the response,[23] and this led to the publication of an operating framework for managing the response a year later.[24] Even then, the experience at the start of the pandemic – with confusion and lack of clear ownership of different parts of the strategy between the NHS, Public Health England and others – showed that not all of these issues had been fully followed up.

Moreover, other areas were clearly not followed up to the same extent. Some of this was about money and procurement activity. For example, the table-top exercise, Alice,[25] based on a scenario closer to COVID-19 than Cygnus, warned of shortages of PPE and ventilators, which were not addressed in time, as later experience showed. Other challenges had similarly not been addressed. Cygnus explicitly recommended that plans be developed for managing school closures and for better coordination with local authorities. Neither had been adequately developed by the time of the pandemic.

Interest in the experience of other countries was absent from much of the preparatory work. The UK had engaged extensively on the international stage in crisis management, but more as an exporter of its own model than as a country learning from the experience of others. Specific experiences in other countries sometimes fed into UK preparatory exercises – for example, Exercise Alice cited the experience of South Korea in managing MERS – but such experiences did not seem to have found their way into the concept of operations or other preparatory planning by the time COVID-19 struck.

Overall, UK preparedness for the pandemic contained, by international standards, significant good practice in identifying the risks and 'exercising' the response, but serious challenges in acting on those lessons, both in terms of finding the financial and other resources needed for doing that and in terms of finding the necessary administrative capacity across hard-pressed organisations to adapt plans in the light of the stress-testing which exercises provided. As a result, during the five years ahead of the COVID-19 pandemic there had been insufficient political priority or government capacity allocated to addressing underlying weaknesses in the state's crisis management system, investing in essential capabilities, or fostering debates about crisis management for crises of the future. A review of pandemic planning arrangements carried out by a cross-government working group in February and March 2020 found that most departmental plans were inadequate, with 82% of plans rated as unable to meet the demands of any actual incident.[26]

As COVID-19 becomes endemic rather than an all-consuming crisis, it is important that governments do not lose sight of the importance of preparing for the next – different – crisis.

The status and salience of crisis management within government will have shifted automatically during and after COVID-19.

23 Exercise Cygnus report: https://www.gov.uk/government/publications/uk-pandemic-preparedness/exercise-cygnus-report-accessible-report

24 Operating Framework for Managing the Response to Pandemic Influenza, 2017, https://www.england.nhs.uk/wp-content/uploads/2017/12/nhs-england-pandmic-influenza-operating-framework-v2.pdf

25 Exercise Alice report: https://cygnusreports.org/wp-content/uploads/2021/10/Report-Exercise-Alice-Middle-East-Respiratory-Syndrome-15-Feb-2016.pdf

26 National Audit Office (2021), *The government's preparedness for the COVID-19 pandemic: lessons for government on risk management* (Report by the Controller and Auditor General, session 2021-22), paragraph 17, p.9 https://www.nao.org.uk/wp-content/uploads/2021/11/The-governments-preparedness-for-the-COVID-19-pandemic-lessons-for-government-on-risk-management.pdf

Memories fade rapidly, though, and as COVID-19 becomes endemic rather than an all-consuming crisis, it is important that governments do not lose sight of the importance of preparing for the next – different – crisis. An obvious recommendation would be to call for greater funding to be directed towards those needs identified in planning, in exercises, and in reviews of actual crises. The coming years are likely to make this particularly difficult for governments, however.

That is why it is important to find methods to ensure crisis planning and the maintenance of adequate crisis management capabilities and states of readiness are not deprioritised. This is the crux of a very difficult problem of governing and administrative incentives, and there is no single answer. However, this study offers a recommendation to require departments and other public authorities to maintain an assessment of their crisis-response readiness.

REPORT RECOMMENDATION 1

To help target funding and preparatory activity more effectively, the government could conduct, as part of resilience planning, an assessment of the capabilities of key institutions charged with key aspects of the response to a crisis, so that what funding is available is prioritised. Parliamentary scrutiny could assist in this process by having a regular (but infrequent) formal stocktake of such plans and their readiness either as part of its scrutiny of either departments' annual reports, and/or via some other mechanism such as the Joint Committee on National Security Strategy. Sensitive details could be redacted as necessary from the public domain.

LESSON 2
Planning for agility and adaptation

Identifying the risk, 'exercising' the response and acting on that response are all critical elements of a robust crisis management system, but they are not enough in and of themselves. In particular, all exercises are, by definition, hypothetical scenarios, and the details of what actually threatens the country will differ from crisis to crisis.

New structures and ways of working were devised in the heat of the crisis and several months after it commenced.

The COVID-19 pandemic illustrated the need for dynamism and flexibility: the main preparatory activity had been based on a different type of pandemic than the one that occurred, and this was compounded by some failures to follow up lessons that would have been relevant. In time, aspects of the UK's response became highly dynamic, involving new ways of mobilising private sector capabilities in sourcing tests and vaccines. These were led from entirely new structures which, under the dispensation of an emergency, worked very differently from mainstream public services. Important institutional reforms like the establishment of the Joint Biosecurity Centre ultimately made a difference. But the important point here is that these new structures and ways of working were devised in the heat of the crisis and several months after it commenced. The fact that it was deemed necessary underlines problems with the flexibility and agility that was available within existing plans and structures; problems which can usefully be examined ahead of the next crisis.

Specificity versus speculation in crisis planning: the problems with following the flu pandemic plan

The British crisis system had, as described earlier in this chapter, prepared in detail for a relatively specific scenario: a flu pandemic. While that detailed planning had many advantages when a real pandemic hit, the close cleaving to the plan was also a problem in the UK's early response to COVID-19.

For example, the flu pandemic strategy made planning assumptions that mandatory measures to contain mixing were unlikely to be imposed or tolerated, and it made the assumption that high death numbers were inevitable should the emerging influenza virus prove serious enough (see p.49 above). When the COVID-19 pandemic hit, the government was arguably slow to pivot from this, remaining focused on the flu pandemic strategy approach while awaiting more data on COVID-19. All involved were well aware that an evidence base for flu would have uncertain relevance to a new disease, but – quite understandably – felt it better to use the best and only evidence they had on the likely effectiveness of different measures than to guess or copy other countries.

This partly reflected the UK's pride and confidence in its world-class science base, and the way scientific advice and evidence were central to risk planning and emergency response. This primacy of scientific expertise and evidence had worked well in smaller health emergencies, and would be critical in COVID-19 in many areas, including to vaccine development and test development – both areas in which the UK led the world.

The problem was that the overall UK approach to health crises was evidence-driven, but in the available timeframe there could be no gold-standard evidence about COVID-19 (and very little evidence of any kind).[27] Given this, there is an argument that the government could have pivoted its approach more quickly – and that the plans themselves should have allowed for this. The prolonged rejection of non-pharmaceutical measures, even as other countries adopted them, lost valuable time for planning properly the measures that were, in the end, implemented (see 'Five days to plan a lockdown', below). The result of the absence of follow-up of certain Exercise Cygnus recommendations (such as planning for school closures), combined with an absence of flexibility in the pandemic plan and an unwillingness to pivot from it, left the country with a very short time to plan for the lockdown that followed.

FIVE DAYS TO PLAN A LOCKDOWN

Lockdown planning did not formally start until 17 March (the day after 'stay at home' guidance had been given, and only six days before the lockdown would come into force). The Department for Levelling Up, Housing and Communities was tasked with drawing up the design of a formal lockdown (other departments, notably the Department of Health and Social Care, had limited capacity and were overwhelmed). This process was conducted within five days and new regulations were drawn up in great haste. It was an intense process, which during the five days became a cross-government exercise. Plans were all prepared by central government; the local level was not involved.

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27 For an account of the scientific uncertainties and the way they were presented within the UK system, see, for example, *Sir Lawrence Freedman, Scientific advice at a time of emergency: SAGE and COVID-19* (August 2020) https://onlinelibrary.wiley.com/doi/full/10.1111/1467-923X.12885

The fundamental task – deciding what was essential to keep open – was a challenging one. Officials were in unknown territory, as there was limited data on transmission levels of the virus within different contexts. Decisions had often to be made intuitively, with officials estimating for themselves what the social contact level was for each activity and how it could be minimised, versus the economic cost of closing.

Departments did not have detailed plans in place for identifying and shielding clinical categories, employment schemes were not available, nor were mechanisms of financial report to local authorities, nor did the Department of Education have plans in place to manage mass disruption to schooling. Plans had to be drawn up from scratch, or through the use of pre-existing mechanisms from previous events/periods. The Treasury and HMRC drew on economic contingency planning designed for financial rescues, developed following the financial crisis of 2007–09; draft policy work on wage subsidy schemes; and lessons learned from other countries, such as Germany.[28]

There are two possible lessons for the future from the ways in which the flu pandemic plan fell short. One is about deliberately considering in advance how plans might be adapted to different scenarios. Military training, for example, sometimes uses a core fact in a scenario (what a building they are required to capture looks like from the outside, which is knowable) and then alters, in various simulations, facts that are not knowable (what the building might look inside where the information is not available to them). Such an approach might usefully be adapted to public health scenarios, running different responses to realistic scenarios and testing the ability of responders to adapt their planning to it.

The second reflection is about use of imaginative projection in planning and simulations. With the benefit of hindsight, the flu pandemic strategy was, on its own terms, destined to come up against both political realities and the behavioural response of the population. As noted on p.49 above, the strategy envisaged deaths into the hundreds of thousands over a short period, and planned for expanded mortuary provision. At the same time, its details assume a relatively high degree of normal activity among the healthy, with an aspiration for 'the continuation of everyday activities as far as practicable'.[29]

The flu pandemic strategy envisaged deaths into the hundreds of thousands over a short period, and planned for expanded mortuary provision.

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28 National Audit Office (2021), *The government's preparedness for the COVID-19 pandemic: lessons for government on risk management* (Report by the Controller and Auditor General, session 2021-22) https://www.nao.org.uk/wp-content/uploads/2021/11/The-governments-preparedness-for-the-COVID-19-pandemic-lessons-for-government-on-risk-management.pdf

29 The strategic objectives of the flu pandemic strategy include: 'Minimise the potential impact of a pandemic on society and the economy by…[s]upporting the continuation of everyday activities as far as practicable' (p.19). A table in the strategy, 'Proportionate response to pandemic influenza', looks at a low-impact, moderate-impact or high-impact pandemic. While it does note that under a 'moderate impact' pandemic 'concern among teachers and parents about infection spread in educational settings may lead to teacher and pupil absence' (p.24), for a high-impact pandemic, it simply notes that 'transport, schools, shops [would be] affected by sickness and family care absences' (p.24) – with no mention of healthy people choosing to stay at home. This is despite also noting that at this level of pandemic the numbers of deaths would '[put] pressure on mortuary and undertaker services' (p.24). See UK Influenza Pandemic Preparedness Strategy (2011), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf

In reality, the government's understandable focus when confronted with COVID-19 was not how to manage the consequences of a death toll on this scale, but how to prevent it reaching that level.

In reality, the government's understandable focus when confronted with the outbreak of COVID-19 was not how to manage the consequences of a death toll on this scale, but how to prevent it reaching that level. The population's priority was identical, and individual behaviour changed accordingly. Footfall in the UK's shops was down by more than 8 per cent on Saturday 14 March, two days before the Prime Minister's advisory 'don't go out' statement on the Monday evening.[30] Sunday 15 March had a more pronounced fall of nearly a quarter. Schools started to tell the Department for Education about declining attendance.

Hindsight is easy when it comes to assessing the realism of the flu pandemic strategy. But it is possible to imagine types of preparatory work and scrutiny that would have better enabled planners to at least question its assumptions at the time. A suggestion is offered in Recommendation 2:

REPORT RECOMMENDATION 2

The UK's planning system for the most serious emergencies should be reviewed in two key respects. First, different variations of the same broad scenario (a bomb, a serious terrorist or cyber attack, an ongoing energy crisis) should become routinely embedded in exercises, with the specific aim of assessing the adaptability of the plans. Second, and relatedly, this should be done with a view to strengthening the ability of the system to predict dynamically the impact of different scenarios on population behaviours and different sectors of society.

LESSON 3
Mobilising and coordinating the totality of the government's capabilities: the need for clear frameworks and mandates for whole-of-government crisis steering

The lessons about both preparedness for a crisis and adaptability when it hits reinforce the importance of join-up within the different parts of the state when it comes to planning for unpredictable, multidimensional and long-lasting crisis. The experience of COVID-19 demonstrated this powerfully in the case of the UK government, with the total revamping of the command, control and coordination mechanisms of the state. One of the most distinctive features of these reforms was how responsibility for the management of the pandemic was broadened from being a response led by the Department of Health and Social Care to a truly whole-of-government effort.

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30 https://www.statista.com/statistics/1107518/daily-footfall-change-in-the-uk-during-coronavirus/

The gradual move to central steering of the UK's COVID-19 response with a broader reach into government

During the first half of January 2020 the government scientific community (including SAGE) and health bodies, in particular Public Health England, were active, and followed well-defined remits and protocols for emerging diseases, with PHE initiating full infectious diseases response protocols during the second week of January.

In the third week of January the Department of Health and Social Care (DHSC) was assigned the task of leading on the threat, meaning the Secretary of State for Health and Social Care was heading the government response. The COVID-19 threat was, then, managed by one department, not from No. 10. At the start of February, the sense inside government was that COVID-19 was a containable problem that Department of Health and Social Care could oversee. This soon, and increasingly, became mismatched with the changing reality, and through February pressures were increasing for a wider government response.

The government began to take a more active stance publicly, communicating that the response to COVID-19 was a top priority, while expressing its confidence in the healthcare system and pandemic planning. But the first strategy on COVID-19,[31] released on 3 March, was still a Department of Health and Social Care plan (endorsed by government). It mentioned engaging with other departments, but it was by no means a national crisis plan covering a national strategy. It was not until 12 March that a full crisis response was initiated and mobilised, with COVID-19 becoming a matter for all of government and the Prime Minister fully taking over from the Health Secretary in leading it.

Revamping in-crisis of the command, control and coordination crisis mechanisms of the state

From there measures rapidly escalated to strong 'stay at home' advice (in a prime ministerial address on 16 March) and then full lockdown (23 March). Not long after lockdown was introduced, the 'traditional' COBR procedures for managing crises were effectively superseded by the four Ministerial Implementation Groups (MIGs), each led by a senior minister, on public health (led by the Department of Health and Social Care); public services (led by the Cabinet Office); the economy (led by the Treasury); and international collaboration (led by the FCDO). Eventually these would be fused into two pan-governmental committees: COVID Strategy (chaired by the Prime Minister) and COVID Operations (chaired by the Minister for the Cabinet Office).

Bringing the various strands together during April was complicated by the prolonged absence of the Prime Minister resulting from a serious COVID-19 infection. And the new structures did not solve every significant problem. They did little if anything to mend difficulties in linking science with policy and policy with operations. Ultimate authority was still sometimes unclear: one striking example is the Health Secretary's commitment to source 100,000 COVID-19 tests per day by the end of April, which does not appear to have had wider sign-off beyond the Department of Health and Social Care, but became both a totemic commitment and a major driver of policy.

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31 UK government, Coronavirus Action Plan (3 March 2020) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/869827/Coronavirus_action_plan_-_a_guide_to_what_you_can_expect_across_the_UK.pdf

That said, the MIG structure brought a number of benefits. One was a clearer mechanism for parts of the state that were affected by the crisis to have input into deliberations about the consequences of lockdown. Another, critically, was a clear ability to focus on major non-health policies like the economy and other public services.

Whole-of-government planning

The fact that this ability to focus properly on major non-health policies came late illustrates an aspect of planning that can usefully be addressed before the next crisis.

This is that the preparatory system had limited reach into essential areas of government that were not the primary focus of the crisis. So, for example, the impact on education was clearly identified in assessing the likely management of a pandemic, but the recommended analysis was not done.[32] The role of the Treasury in pandemic preparations extended to financial controls but not to detailed planning for the economic consequences of a medical catastrophe. The 2019 National Security Risk Assessment recognised that pandemic flu could have extensive non-health impacts, including on communications, energy supplies, finance, food supplies and transport services, but this did not result in a change in approach.[33]

> The role of the Treasury in pandemic preparations extended to financial controls but not to detailed planning for the economic consequences of a medical catastrophe.

This is entirely understandable in a departmental system of government with pressing short-term requirements. It also places an impossible burden on the lead department – which for a pandemic is invariably the Department for Health and Social Care – to 'own' a crisis before it happens, impossible because it will not have the levers to force other parts of government to act on what will be seen as 'its' risk.

Recommendation 3 below advocates a broadening of crisis planning responsibilities, and of the emergency activation when a crisis hits. Despite the powerful administrative incentives ranged against such a whole-of-government approach, there are useful changes to the existing systems that could be made. The year 2019 in fact presented a useful example of how a genuinely cross-government preparatory programme for a major shock can be carried out: this was the extensive preparations for leaving the European Union without an agreement ('no-deal Brexit').

These extensive preparations provide an interesting contrast with preparations for a pandemic or other crisis because the state was not preparing for an unpredictable event; instead it was planning for the potential failure of negotiations to reach an agreement. Because the no-deal Brexit scenario was unprecedented, there was no obvious 'lead' department in the way that Department of Health and Social Care is for public health, DEFRA for floods and the Home Office for bombs and riots. As a result, a genuinely cross-government process was instigated.

32 See National Audit Office (2021), The government's preparedness for the COVID-19 pandemic: lessons for government on risk management (Report by the Controller and Auditor General, session 2021-22) https://www.nao.org.uk/wp-content/uploads/2021/11/The-governments-preparedness-for-the-COVID-19-pandemic-lessons-for-government-on-risk-management.pdf

33 National Audit Office (2021), The government's preparedness for the COVID-19 pandemic: lessons for government on risk management (Report by the Controller and Auditor General, session 2021-22) https://www.nao.org.uk/wp-content/uploads/2021/11/The-governments-preparedness-for-the-COVID-19-pandemic-lessons-for-government-on-risk-management.pdf

The success of the process went untested, because a Withdrawal Agreement was reached – and, given the sweeping legal impact of a sudden and total break with the European Union, it is highly likely that significant problems would have emerged. It is also important to note that the process hindered pandemic preparedness. No-deal Brexit planning took

No-deal Brexit planning hindered pandemic preparedness work because it took up very significant resources, but it had advantages for the actual response because of the cross-government connections it forged.

up very significant resources, especially those of the central Civil Contingencies Secretariat, which allocated 56 of its 94 full-time equivalent staff to prepare for potential disruptions from a no-deal Brexit, limiting its ability to focus on other risk and contingency planning. The scheduling of a pandemic influenza exercise in 2019–20 was postponed to free up resources for Brexit work.[34] The consuming nature of no-deal preparation also fuelled 'crisis fatigue' inside government when the pandemic struck.

However, what the process did show was the ability of the state to commission and draw up plans concerning tax administration, agricultural support, trading arrangements, digital provisions, transport, security and much more, all within one crisis management process where there was no clear public service departmental lead. Moreover, it had advantages for the pandemic response because the cross-government connections it had forged, including those linking local leaders with centrally planned work, would be used again during the COVID-19 crisis. As Chapter 3 sets out, one of the main forums for discussing local responses to COVID-19 was an adaptation of a key forum used for no-deal Brexit planning.

The analysis under Lesson 3 so far, across whole-of-government crisis planning, crisis steering, and in-crisis mobilisation, gives rise to the third recommendation from this part of the study:

REPORT RECOMMENDATION 3

For risks likely to give rise to 'longer' emergencies, the 'lead department' approach to crisis preparation should be replaced by centrally led, genuinely collective ownership of plans. Economic and social policy considerations must be more firmly mainstreamed into crisis management planning. All major crisis scenarios will need to have input from the Treasury (not just in terms of the costs to the Exchequer of direct interventions, but also in terms of the wider economic impact), and will also require operational plans from the public services likely to be affected centrally and locally.

34   National Audit Office (2021), The government's preparedness for the COVID-19 pandemic: lessons for government on risk management (Report by the Controller and Auditor General, session 2021-22) https://www.nao.org.uk/wp-content/uploads/2021/11/The-governments-preparedness-for-the-COVID-19-pandemic-lessons-for-government-on-risk-management.pdf

The role of expert advice

A final aspect of mobilising and coordinating a whole-of-government response, the subject of Lesson 3, relates to convening and using expert advice and information. This is an important consideration in any analysis of the UK government's approach to COVID-19, especially in the early part of the pandemic.

An important perceived strength of the UK system at the onset of the pandemic was its ability to assemble and draw on the advice of scientific experts quickly; this has indeed been a significant asset for the UK in crises over the years and was so during the COVID-19 pandemic. But there are questions to reflect on.

The UK gets scientific advice both from its network of government scientific and medical advisors, who are government employees (though are almost always distinguished external scientists, recruited externally), and from advisory bodies formed of completely independent external experts. The government Chief Scientific Advisor and Chief Medical Officer/Chief Medical Advisor were key faces in the UK, and the advisory body SAGE (the Scientific Advisory Group for Emergencies, which they sat on and chaired) played a very prominent role.

As already noted, SAGE had a pre-assigned and clearly designated role stretching back nearly two decades in the UK's crisis management system. It is an independent expert advisory body. It is chaired and attended by relevant government scientific advisors, but most SAGE members are not government employees. Its mandate, created when the UK's crisis management system in its modern form was established in the early twenty-first century, is to offer expert, independent, evidence-based advice relevant to the presenting crisis. The government website says: 'The Scientific Advisory Group for Emergencies (SAGE) is convened to provide independent scientific advice to support decision-making in the Cabinet Office Briefing Room (COBR) in the event of a national emergency. SAGE is an advisory group and does not make decisions or set policy. Its advice is limited to scientific matters and is a cross-disciplinary consensus view based on the best available evidence at the time. Government considers a range of evidence when making decisions including economic, social, and broader environmental factors.'[35]

One question – raised by SAGE members themselves at the time[36] – is whether SAGE got drawn beyond its mandate during COVID-19. It seems clear that there was an over-reliance on SAGE in the early months for the content and direction of crisis strategies. While scientific input was rightly key, it was not, at least in the first three months of 2020, balanced out by wider deliberations at the heart of government.

For expert advisers, the boundaries between informing key decisions and actually making them were blurred. SAGE minutes from the lockdown period show recurrent discussions about policy and the implementation of policy:[37] examples include discussions how

35 https://www.gov.uk/government/organisations/scientific-advisory-group-for-emergencies/about
36 The SAGE minutes from its meeting on 7 May 2020 hint at this, recording that 'SAGE reemphasised that its own focus should always be on providing clear scientific advice' and noting that a mechanism is needed 'to ensure that participants of SAGE are only required to respond urgently to requests when those matters specifically relate to an urgent science question'. See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065937/S0404_Thirty-fourth_SAGE_meeting_on_COVID-19___1_.pdf. See also Footnote 5 below, linking to a review based on real-time interviews, which found many scientific advisers 'did not want to offer policy advice, but rather to provide evidence'.
37   See https://www.gov.uk/government/collections/sage-meetings-march-2020 and https://www.gov.uk/government/collections/sage-meetings-april-2020 and https://www.gov.uk/government/collections/sage-meetings-may-2020

to set up and mobilise testing capacity and discussions around the need for adequate communication with the public. One review found that 'many scientists did not want to offer policy advice, but rather to provide evidence'.[38]

A different question is about the membership of an advisory group for emergencies. SAGE is constituted as a *scientific* advisory group for emergencies, rather than more generally as an expert advisory group for emergencies, and its membership tends to be limited to experts in the hard 'STEM' subjects (science, technology, engineering, medicine). Though it does and did include behavioural scientists, it otherwise tends not to include experts from disciplines that would be termed social science, such as economists or education researchers. That type of expertise would tend to come from the relevant government departments (and their advisors), but those people would not sit on SAGE. A wider range of expert advisors sitting together in the one emergency advisory group would potentially have been helpful when the impact of the pandemic broadened well beyond public health, but it would have been a significant break with normal practice for that to have happened.[39]

Yet another question on expert advice – a more complex and difficult one – is about how far political decision-takers can or should be involved in scrutinising the evidence and assumptions that the expert advice they are receiving is based on. The highly public – and global – debates over COVID-19 data and on the evidence behind different interventions (for example, over the efficacy of face masks) challenged conventions around what information political decision-takers are and are not expected to master for themselves and reach positions on. Moreover, the communications revolution of the last quarter-century has put data and arguments into the hands of ordinary citizens instantaneously. This greatly enhances the scope for people to question governments' assessments of and decisions about major emergencies with a complex scientific or other expert dimension. Any apparently agreed version of the situation can be expected to be hotly contested.

The UK crisis management system pre-dates these developments. Moreover, part of its traditional strength, particularly with regard to short-duration crises in areas like terrorism, is its ability to give decision-takers a clear set of agreed facts and/or assumptions on which to base policy decisions. The system is designed to allow ministers in particular not to have to spend time interrogating the detail of particular events, but instead to debate the difficult options for how to deal with them, and then decide what to do. In counter-terrorism and some other types of crisis management, the UK adopts the practice (common in other countries and crisis management theory) of producing a CRIP, a document whose name is an acronym for Commonly Recognised Information or Intelligence Picture.

The challenge with taking such an approach in a situation where so much uncertainty prevails for so long, as it did before a detailed understanding of the trajectory of COVID-19 was gained, is that the expert view reflected in the CRIP and in the wider discussions both discourages the probing of the uncertainties and can lead to a narrow range of options, or indeed effectively just one plausible one, making it nearly impossible for policymakers to choose a different option to the one implied by the consensus expert view. As Sir Lawrence Freedman, drawing on his knowledge about expert input and policy

38 Atkinson P., Sheard H M S., Martindale A-M., Solomon T., Borek A. and Pilbeam C., *How did UK policymaking in the COVID-19 response use science? Evidence from scientific advisers* (2022), https://bristoluniversitypressdigital. com/view/journals/evp/18/4/article-p633.xml

39 A full list of participation in SAGE and its sub-groups from 2 January 2020 to 1 July 2022 is at https://www.gov. uk/government/publications/scientific-advisory-group-for-emergencies-sage-coronavirus-covid-19-response-membership/list-of-participants-of-sage-and-related-sub-groups.

choices in the Iraq War, put it in August 2020: '[T]he experience of the early pandemic response … exposed the limitations of a model in which a specialist committee produces consensus statements that spare policymakers any requirement to make choices on matters in which they have no competence', adding that 'a better model, to which the UK may now be tending because of the demands of COVID-19, is a more integrated approach, with more opportunities to engage with the experts as both the advice and the policy is developed.'[40]

These considerations, taken together with previous observations about the relative lack of study of other countries, as well as with the forthcoming analysis in Chapter 3 of the information flow between central and local government, give rise to a further recommendation in this study, on the broad area of data and evidence.

> **REPORT RECOMMENDATION 4**
>
> Reforms of the UK's crisis management system should include experimenting with putting a wider range of expert scenarios in front of political decision-takers. Capabilities in the central crisis management system need to be strengthened to assemble and analyse international data much more quickly, and the connectivity between local information-gatherers and the centre of government must be improved.

Conclusion

The analysis in this chapter has focused on the central planning for and management of crises in the UK. Along with the following two chapters, it shows the relatively limited options open to governments once a crisis starts. The preparatory development of plans and capabilities is, therefore, critical. A significant administrative challenge is turning the identification of potential crises, and lessons learned from simulations of managing them, into specific action. Changes to bureaucratic structures and processes, and in particular a requirement to evaluate readiness and have that independently scrutinised, are suggested to overcome this.

A second challenge arises from the inevitably that the crisis that emerges will have some key differences from the one that has been practised for. Here, some suggestions are made as to how to make exercises more dynamic to test responsiveness to different scenarios, and to better take into account externalities such as likely political reaction and population behaviour. Finally, the historically narrow scope and short duration of crises in the UK has (along with other factors) understandably led to a system focused on getting a single version of information to decision-takers, for decisions framed by a plan led by a single authority within government. There are considerable strengths to these arrangements, but for longer, population-level crises, the risk is invariably that other inputs and the development of plans for major economic and social issues are deprioritised. Recommendations here include trialling new ways of considering expert advice to broaden the options open to decision-takers, and requiring genuine cross-government ownership of key plans.

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40 Sir Lawrence Freedman, *Scientific advice at a time of emergency: SAGE and COVID-19* (August 2020) https://onlinelibrary.wiley.com/doi/full/10.1111/1467-923X.12885. Sir Lawrence was a member of the Iraq Inquiry.

If successful, such changes to the central crisis management system might position the UK, and other countries tempted to introduce similar reforms, with a central crisis preparedness and response system that can adjust to the demands of longer emergencies. But that is a necessary, rather than sufficient, condition for being able to manage such crises. COVID-19 showed the centrality of being able to mobilise operational capabilities at vast scale and speed, and the consequences of not being able to. Those lessons are the subject of the next chapter.

Mobilising capabilities at speed and scale

Mobilising capabilities at speed and scale

Introduction

Having looked at the way in which the British state's central machinery worked in the coordination of the crisis in Chapter 1, in this chapter we will examine the way in which the state sought to mobilise nationwide capability for the most critical parts of the response. It does not examine, much less judge, key policy decisions, such as the use or timing of lockdowns. Instead, it considers how the state sought to mobilise resources and capability to deliver – and manage the impact of – its chosen policies.

It is not possible in a study of this scope to provide a definitive account of everything the state tried to do at national level in the early stages of the crisis. This study instead opts for a selection of important parts of the response, from healthcare to social policy to economic support. Through examining a selection of cases, it is possible to draw out some lessons for future 'long emergencies' about what is needed to enable effective, very rapid and very large-scale mobilisation of capabilities.

The selected examples are as follows:

1) *PPE:* The sourcing of personal protective equipment (PPE) for the healthcare sector and other uses, an analysis that is a useful proxy for wider government procurement efforts
2) *Testing:* The early stages of testing and the development of large-scale COVID-19 testing capability
3) *Contact-tracing:* Aspects of the early stages of contact-tracing capability development, including the decisions on the development of a tracing app
4) *Economic support:* The development of economic support packages following the decision to impose legally binding lockdowns, including, but not confined to, the furlough employment scheme
5) *Schools:* The state's role in managing the restrictions on education
6) *Vaccines:* The critical decisions taken early on in the pandemic on what would become the UK's successful vaccine development and distribution programme.

Some of these programmes were national, UK-wide functions. Others were almost entirely the responsibility of devolved administrations and the UK government was responsible for implementing them only in England (school closures are the most notable example of this). Others had hybrid characteristics, where some of the responsibilities

were UK-wide and others were devolved. This chapter examines only the role of the UK government at national level; therefore when it examines, for example, education during the pandemic, it is looking at England only. A fuller analysis of the interaction with devolved competencies is contained in Chapter 3.

1) PPE: The sourcing of personal protective equipment

The sourcing of personal protective equipment (PPE) was one of four areas in the first few months of the pandemic where large-scale state intervention was required. The other three had a significant degree of novelty: tests and, later, vaccinations for a disease that was unknown months earlier, and a contact-tracing system that in effect did not exist. PPE procurement is worth looking at closely because, unlike tests, vaccinations and contact-tracing, it did *not* involve a significant degree of novelty. Rather, it involved sourcing well-known products that were already held by the system – in other words entirely conventional activity. Any defects in this area are, then, particularly significant as indicators of wider problems in the system.

The UK's problems with PPE are one of the most apposite examples of a misplaced sense of confidence about preparedness going into the pandemic. The simulations of a pandemic through Exercises Cygnus and Alice, notably in this respect the latter, concluded that the country did not have enough PPE for a crisis of national magnitude.[1] However, while Cygnus led to plans for increased makeshift morgue capacity (which proved very effective) and prompted other corrective work on matters like emergency legislation, it did not lead to any significant attempt to increase the stockpiles of PPE. It is therefore difficult to know the basis for the demonstrably high level of confidence regarding PPE supplies.

As the National Audit Office (NAO) report into PPE procurement found,[2] the NHS's preparation for the pandemic in terms of PPE involved an array of complicated arrangements and sub-contracting. There was a further difference in procurement arrangements between PPE needed at any given time, which tended to be bought directly by health and social care providers, and that being stockpiled for emergencies, which was ultimately the responsibility of Public Health England. Public Health England's plans for stockpiling were developed under two guises: first, the Pandemic Influenza Preparedness Programme, and second, preparations for leaving the European Union without a deal, and not having access to PPE supplies for everyday medical use as a result. Taken together, the two schemes stockpiled at best two weeks of the level of supplies needed by primary health and social care organisations during the pandemic.

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1 The Exercise Cygnus report is available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/927770/exercise-cygnus-report.pdf . Alice documentation can be found at https://cygnusreports.org/wp-content/uploads/2021/10/Report-Exercise-Alice-Middle-East-Respiratory-Syndrome-15-Feb-2016.pdf

2 National Audit Office (25 November 2020), *The supply of personal protective equipment (PPE) during the COVID-19 pandemic* (Report by the Controller and Auditor General, session 2019-20) https://www.nao.org.uk/wp-content/uploads/2020/11/The-supply-of-personal-protective-equipment-PPE-during-the-COVID-19-pandemic.pdf

And even then there were problems distributing these limited supplies to the places where they were needed most, and practical limitations on their usefulness (for example, they did not include any gowns).

Four areas of structural problems bequeathed a very challenging position to those trying to respond to the crisis.

Much comment has been made about the subsequent efforts to source PPE at scale and the problems, and later successes, in so doing. But it is worth pausing at this point to consider four areas of structural problems that bequeathed a very challenging position to those trying to respond to the crisis in the spring of 2020, in order to try to learn lessons for preparations for future crises of enduring length.

First, and most obviously, there weren't enough stockpiles. This is explicable in multiple ways, the complexities of the supply chain and the fact that numbers were predicated on pandemic influenza being two of them. But the primary reason was that not enough was bought. This brings to the fore fundamental questions about the ability of the state to translate risk analysis into pre-emptive action. There are important questions raised throughout this report about how much 'at rest' capability countries can sensibly afford to hold outside of crisis times, but protective medical equipment is a conceptually a simple construct where a straightforward decision can be taken about how much to hold. That will always come up against tight budgets, so is a decision for government as a whole.

The second structural problem was the limited state capability to mobilise additional private sector capacity quickly, with not enough of the skills, agility or contacts to do so. In 2018 the government had reorganised NHS supply chains, establishing a new body, Supply Chain Coordination Limited, or SCCL. In the early days of the pandemic SCCL tried to procure additional supplies from its established suppliers but the increases they secured were nowhere near the scale required to meet the challenges of COVID-19. Following a Ministry of Defence-led review of SCCL capability in March 2020 in the face of the emerging crisis, the Department of Health decided it needed to build a new and parallel supply chain for the emergency. This new capability was not being built from scratch; it could of course access and build on SCCL's existing suppliers. But it had to go beyond that, looking at existing suppliers all over the world and the potential for rapid development of new UK manufacturing capability. In this it had little to go on. This meant that in these early months frontline organisations struggled with PPE because of the time-lag between the new Parallel Supply Chain placing its orders at massive scale, and those orders arriving.

The third problem was the limited and imperfect data on requirements on the front line, in terms of quantity and location. At the onset of the pandemic, neither SCCL nor any other national body had information about the quantities of PPE held at local level, nor their estimation of need, and nor did they have any way of getting this data. PPE was distributed to trusts and Local Resilience Forums (LRFs) on the basis of population, adjusted for specific information from the NHS and LRFs at local level. It was not until 4 May 2020 that a functional system had been established to provide daily data on local levels and requirements.

The early PPE problems mattered, profoundly. The NAO report[3] noted that, by the time of its publication in November 2020, employers had reported 126 deaths and more

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3   National Audit Office (25 November 2020), *The supply of personal protective equipment (PPE) during the COVID-19 pandemic* (Report by the Controller and Auditor General, session 2019-20) https://www.nao.org.uk/wp-content/uploads/2020/11/The-supply-of-personal-protective-equipment-PPE-during-the-COVID-19-pandemic.pdf

than 8,000 COVID-19 cases linked to occupational exposure. Once the severity of the pandemic became clear, the rapid procurement of PPE at scale was authorised at the highest levels of government. On 12 April 2020, a senior business leader, Lord Deighton, who had worked with government before on organising the London 2012 Olympics, was brought in by the Health Secretary to lead efforts to acquire greater supplies. This was the first of several occasions where the government brought in a senior business leader in an undefined role in an informal way outside the normal governing system, a model that was to be repeated elsewhere on testing, tracing and vaccine procurement.

Difficulties in PPE procurement showed up a fourth problem: the state did not have the skills, commercial frameworks or contacts to mobilise such an effort quickly. A report in May 2022 by the House of Commons Public Accounts Committee[4] lay the blame for this on weak contracting capabilities in the Department going into the pandemic. This meant that when the government finally 'surged' its buying of PPE, much of it was either overpriced or poor quality, or both, leaving an excess of £4 billion worth to be burned at the end of the pandemic.

The government set up what proved to be controversial 'priority' or 'VIP' lanes for PPE (and other) procurement to allow those in the private sector who may have been able to provide information about where to buy from to be connected in an expedited way to ministers and senior officials, Parliamentarians and others. Inevitably, this gave rise to concerns over the propriety of such contracts. But such 'shortcut' mechanisms in an emergency like COVID-19 were probably essential because the state system did not have procedures in place to triage the information in a systematic and effective way.

PPE procurement is perhaps the classic example where relatively little could be done 'in the moment'. Those responding to the emergency were heavily constrained by the limitations of what was already there.

These difficulties notwithstanding, the new arrangements did, in the end, see huge increases in the volumes of PPE delivered to UK health providers. There were serious challenges and deficient outcomes in this operation. What the NAO called the 'chaotic' global PPE market – understandably so given the global scale of the pandemic – meant that prices went up, new entrants entered the market, quality was hard to assure, and so on. As a result, huge amounts of money were spent (and also misspent) in this period. By the end of May, the government had spent some £7 billion ordering more than 14.6 billion items of PPE.

Given the state of the market, the global competition for PPE and the difficulties getting a robust picture of UK requirements, these deficiencies were perhaps inevitable. PPE procurement is perhaps the classic example where relatively little could be done 'in the moment' – what mattered was both the existing levels of stockpiles and whether or not a system existed that could rapidly source more equipment and target it at the right places. Those responding to the emergency were heavily constrained by the limitations of what was already there. It is probable that slightly earlier mobilisation at scale of the type brought about by Lord Deighton would have mitigated to an extent some of the shortages experienced by frontline health and social care providers. But the fundamental problems would have remained because stocks were too low, and systems insufficiently developed to mobilise the relevant capability quickly. This is a theme that is strikingly prevalent in any analysis of the UK's response more generally.

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4   https://committees.parliament.uk/committee/127/public-accounts-committee/news/171306/4-billion-of-unusable-ppe-bought-in-first-year-of-pandemic-will-be-burnt-to-generate-power/

2) TESTING: The early stages of COVID-19 testing

A second significant challenge faced by the UK was procuring sufficient amounts of tests for COVID-19. This was of course a profoundly different challenge from the sourcing of PPE because by definition tests for COVID-19, unlike PPE, did not exist prior to the pandemic. This was about sourcing new products, not existing ones.

The story of testing in the UK is often mischaracterised because it is wrapped into the story of the Test and Trace Programme. The bundling in of tracing (covered in the next section of this chapter) masks important points about the UK's story on testing, which, following a very difficult start, ended with the UK being one of the easiest and cheapest places in the world to get a reliable COVID-19 test. That final phase of the process, however, came after at least three phases of difficulty in the early stages of the pandemic in getting testing capacity up to the level required for a crisis on this scale. It is worth examining briefly all three of these phases, as well as the work that was going on to build the conditions for eventual, if late, success.

The first phase was the most consequentially disastrous: a period of overconfidence in the UK's starting position on diagnostic capabilities which culminated in a decision to abandon testing in the community in March 2020. The UK did have strong scientific expertise in severe respiratory viruses, and had been researching how to develop tests for emerging new diseases of this type. Confidence was sufficiently high that SAGE noted as early as 22 January that the UK had good diagnostic capacity and 'is days away from a specific test [for COVID-19] which is scalable across the UK in weeks'.[5]

> The UK's story on testing, following a very difficult start, ended with the UK being one of the easiest and cheapest places in the world to get a reliable COVID-19 test.

It was the scalable production and administration of tests, rather than the creation of the tests themselves, that proved so difficult and so damaging in the UK's case. The UK led the world in developing the science needed to test, but lagged behind many countries in the ability to produce tests. By mid-March 2020, Germany was testing 50,000 people per day: that, alongside astute use of its local healthcare systems, is part of the reason why Germany's public health outcomes in the early stage of the pandemic were so much better than those of the UK, where testing capacity under Public Health England, the executive agency responsible, was only around 400–500 per day, as noted by SAGE at the very end of January. As a result of the inability to produce tests on anything like the scale needed, on 12 March the government abandoned testing in the community and, shortly afterwards, transferred responsibility for testing from Public Health England to the Department of Health and Social Care (in England; see Chapter 3 for the devolved aspects of this story). This also meant contact-tracing was impossible: there could be no meaningful contact-tracing without test data.

It is difficult to ascertain the reasons behind this important early failure, which set the UK back months even though the country had started from an advantageous position with its scientific lead in diagnostics. But it is important to try to do so.

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5   See para 115 of the House of Commons Science and Technology Committee report *The UK response to Covid-19: Use of scientific advice*, January 2021, available at https://publications.parliament.uk/pa/cm5801/cmselect/cmsctech/136/13609.htm

An important context was that truly mass testing and tracing was not part of the UK's pandemic planning, nor its early COVID-19 strategy (as set out in the Coronavirus Action Plan of 3 March). The thinking was that testing and tracing were critical in trying to contain early imported cases from spreading, but that once this battle was lost and the virus was in widespread circulation across the UK, the role of testing would be less prominent.

In advance of the pandemic no serious effort had been made to plan for large-scale testing mobilisation.

Whether because of such planning assumptions or because of competing pressures, it appears that in advance of the pandemic no serious effort had been made to plan for large-scale testing mobilisation by Public Health England. In the investigation by the Health and Social Care Committee and the Science and Technology Committee of the House of Commons, the Committees concluded that although Public Health England had told them they had analysed, but rejected, the South Korean Government's plans for mass testing, which had come into being after a MERS outbreak in 2015, in fact no such analysis had been done.[6] That lack of preparation regarding the modalities of mass production of tests is likely to have been the primary reason for the failure to rapidly scale up testing.

A second reason is defective decision-taking procedures and sharing of information: although from fairly early on in the pandemic it is clear that parts of the state knew that significant testing capacity would be needed and other parts of the state knew that no such capacity existed, it took far too long to put these two pieces of knowledge together. It is unclear why Public Health England rejected offers of help from non-governmental laboratories.[7]

The obvious problems with testing capacity prompted the second phase of the approach, starting in mid-March 2020. This phase involved, in effect, a highly centralised, target-driven effort to increase capacity rapidly with no bespoke infrastructure in place to do it. The new approach was exemplified by the then Secretary of State's personal pledge to have 100,000 tests a day by the end of April 2020. Whether this pledge was met or not is questionable and depends on definitions; what is undoubtedly true is that it symbolised a determined effort across the governing system to significantly increase capacity. The fact that this effort was needed arose from the lack of a plan before the pandemic; the experience of it showed the embedded and longstanding capabilities within the system over the large-scale mobilisation of capability. As with PPE, many of the contacts with the private sector were informal in this initial phase.

While this target-driven approach made some progress, it was only ever likely to be an interim measure designed to compensate for the poor start in testing made by the UK. The Test and Trace Programme was formally stood up in early May, and by 18 May 2020 the government felt able to make an announcement on eligibility for testing, reflecting the increased capacity, which extended very widely, not just to critical workers like those in the NHS and social care but also to anyone exhibiting a published list of Covid symptoms.

6   Joint report by the Science and Technology Committee and the Health and Social Care Committee of the House of Commons: Covid-19: Lessons Learned to Date, HC92, October 2021 paragraph 170, p62 https:// committees.parliament.uk/publications/7496/documents/78687/default/

7   Lecture by Lord O'Donnell, former Cabinet Secretary, Institute for Fiscal Studies , 2020 https://ifs.org.uk/sites/ default/files/output_url_files/IFS%252520Annual%252520Lecture%2525202020.pdf, page 19

All these developments meant that by the end of May 2020 the UK had significantly more tests available on a daily basis, significantly more production capability and a standing organisation, Test and Trace, to carry out the work – albeit with an ambiguous relationship with the NHS and in effect building its own organisational capabilities from scratch. What happened then takes us into the final two phases of the story of testing in the UK.

The third, penultimate, phase is one of a missed opportunity where, over the course of the summer of 2020, testing capacity continued to increase but not to the extent necessary to avoid a very damaging shortage of tests when schools returned in September of that year. Transmission rose, and the second lockdown, which government policy had been designed to avoid, became inevitable. There are a variety of theories as to why this happened, and it is difficult to work out with confidence which mattered more. There were some procurement delays and supply chain problems with obtaining testing equipment and screening kits. There was – and remains – a debate about whether the government made the right decision in centralising laboratory capacity at the expense of mobilising more localised facilities – within the NHS, smaller private sector organisations and universities, for example. There remains a debate about whether forecasts of September test needs were dramatically wrong: given what was going to be necessary in schools, the likely need was going to be significantly higher than the old target of 100,000 per day. Finally, and relatedly, those in charge of public spending questioned the necessity of all this as the costs of the pandemic continued to mount: with declining case rates in July and August, there was the sense in some parts of the government that very significant further outlays in testing might not be needed. What happened then is well known: infection rates rose sharply following the return of schools in September and further lockdowns ensued.

> The British state eventually cracked the testing conundrum more effectively than many other countries. The tragedy for the UK is that this success came after a very poor and extremely costly start.

Delays and test shortages afflicted the UK all the way through from the beginning of significant community transmission in February through to the shortages of September 2020. Yet after that period, and outside the scope of this report, a very different picture emerges. The country benefited from a network of internationally respected and recognised, easy-to-administer tests which were also the easiest in the world to get hold of, for free. Such tests became widely used as checks for transport, hospitality and other venues as economies reopened, along with providing a mechanism for managing transmission risk in places like schools and hospitals. In short, the British state eventually cracked the testing conundrum more effectively than many other countries.

The UK did so by completely reinventing some of its processes (in a similar story to its vaccine approach): setting up novel competitive procurement processes, finding unorthodox ways to incentivise commercial partners to innovate, and using regulation and recognition speedily and cleverly (most crucially, a transformative move towards recognising lateral flow tests as suitable for most use-cases).

The tragedy for the UK is that this success came after a very poor and extremely costly start, where the country squandered its advantages in the science of transmissible disease by not being able to produce enough tests. By the time mass-produced, easy-to-get tests were an everyday part of British life, the vaccine had to some extent begun to mitigate the impact of COVID-19 anyway.

So the lessons from the testing part of the UK's experience of the early months of the

> It would appear that the lack of planning and the systemic inability to mobilise capability were more important factors than any particular decisions taken in the moment.

COVID-19 pandemic are particularly important. As throughout this report, it would appear that the lack of planning and the systemic inability to mobilise capability were more important factors than any particular decisions taken in the moment. There was undoubtedly the scientific expertise in the UK to develop testing for COVID-19, and so it proved. There were not, however, either the plans or the systems in place to deliver a scalable testing capacity. Fundamental decisions – such as whether or not to establish the scaled-up testing and tracing programme within or outside the NHS, or how far to centralise laboratory capability – were taken in the moment, effectively from scratch and from a late start, rather than based on prior analysis of the options. There is only so much the individuals in the moment could reasonably have been expected to do in these circumstances.

3) CONTACT-TRACING: The early stages of contact-tracing, including the tracing app

In marked contrast to the eventual development of mass, effective testing after a slow start, the contact-tracing system for the NHS was seen to struggle continuously throughout the pandemic and did not achieve the turning point that the testing side did.

One problem, in common with the testing part of the programme, was that national capability development efforts started too late. It was not until early May that the national contact-tracing programme was launched, when cases were already exceeding 2,000 per day.[8] This was in huge part due to the early struggles with testing outlined above: no meaningful contact-tracing for a partly asymptomatic disease is possible without reliable and scalable diagnostics. The chaos in the UK's approach to testing before the establishment of the Test and Trace Programme greatly set back the timetable for developing contact-tracing capabilities.

Tracing was also, deliberately, a new programme, with leadership outside the NHS and with an ambiguous relationship with it in terms of authorisations, money and governance. This reflected the conscious choice by the government to go for new governance models for the major mobilisation programmes, which in turn reflected both a lack of confidence in the system's existing capabilities and a focus by the NHS on what it saw as its core job of healthcare provision: the NHS did not seek to step in to lead broader national efforts like testing and tracing.

The establishment of the contact-tracing capability outside the normal structures of the NHS and Public Health England was described in the joint report of the Science and Technology and Health and Social Care Committees of the House of Commons as 'an understandable move'.[9] It reflected the belief that the strong scientific expertise of Public Health England was not matched by an organisational capability to deliver on the ground, and a sense that the NHS itself was not in a position to carry out a large-scale contact-tracing operation.

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8   Joint report by the Science and Technology Committee and the Health and Social Care Committee of the House of Commons: Covid-19: Lessons Learned to Date, HC92, October 2021 paragraph 163, p62 https://committees.parliament.uk/publications/7496/documents/78687/default/
9   As above, para 226

The decision to create a new entity to manage testing and tracing, one which would not have any links to the local level in the way Public Health England and the NHS would, meant that whatever local capability there was – local contact-tracing being described as a core requirement of local public health directors by the Parliamentary report – was in effect set aside in the early stages of the pandemic. The tracing aspect of 'NHS' Test and Trace was both a new structure and a fully centralised national programme.

The reasons for this centralised approach, and its consequences, are discussed in Chapter 3 of this study. For now it is worth looking at some of the other lessons from the experience. One important one was an initial disconnection between the government's economic policy and its Test and Trace Programme, the goal of which was to break transmission chains: the Test and Trace Programme disclosed in the summer of 2020 that their estimate of compliance with self-isolation instructions was just 54 per cent, and that a key reason was the lack of full financial support to those who were required to stay at home.[10]

Many of the challenges arose from the fact that a national contact-tracing model was being built from scratch without a clear sense of what to do with hastily assembled capacity. Media stories emerged of contact-tracers paid by well-known private sector contractors staying at home with nothing to do and no guidance on what to do.

A further specific and important example of such challenges was the development of the contact-tracing app. This app became emblematic of early problems in the contact-tracing system. Developing such a system did not feature in the UK's pre-pandemic planning, nor in that of other countries. But the development and uptake of mobile app technology had risen exponentially in the course of the decade preceding the pandemic and, with the resources of the technology industry globally, hopes were high that a significant breakthrough could be made in short order which would greatly enhance the ability of societies to manage the outbreak of an infectious disease in a way that was not open to societies during pandemics in the past.

The bald facts of the UK's changing approach are well known. First, as with other countries, the UK assembled a team to develop a contact-tracing app. This was done under the auspices of an existing body called NHSX, which was charged with developing new technology into the healthcare sector. It was supported by other experts, including from the National Cyber Security Centre. Part of the earliest technical work was establishing that the so-called 'Bluetooth handshake' would work, over what distance, at what minimum strength, to make the technology viable.

Shortly after the team was assembled within NHSX, Google and Apple in the United States announced on 10 April 2020[11] that they were jointly going to develop their own API[12] to act as the basis for contact-tracing technology. The Google-Apple API was developed quickly and could be used with relative ease as the basis for a contact-tracing app, and because of this development, there were calls for the UK team to switch immediately to this approach.

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10   As above, Para 222
11   https://www.apple.com/uk/newsroom/2020/04/apple-and-google-partner-on-COVID-19-contact-tracing-technology/
12   Application Programming Interface, a way for two or more computer programmes to communicate with each other.

That the UK did not do so has been heavily criticised as indicative of a 'not invented here'[13] attitude. The UK's method, as with other initiatives in the pandemic management strategy, was to keep both approaches running to see which would work. But it continued to favour an in-house development strategy and announced a pilot on the Isle of Wight on 4 May 2020. The results of the Isle of Wight pilot were, however, deeply disappointing and the government swiftly moved to adopt the Google-Apple technology. A contact-tracing app was rolled out in England on 24 September.

It is tempting to view the UK's approach as a stubborn outlier, given many other European countries took the Google-Apple approach. The reality is more complex in three ways.

First, and most importantly, the two approaches were trying to do different things. The Google-Apple technology was a far narrower capability aimed only at protecting individuals. The way the technology was configured meant the app would in effect only tell people that they'd been exposed. The government's initial objective was much more ambitious: it would do what Google and Apple's technology did but *furthermore* would provide the state with valuable, real-time, anonymised information on where outbreaks were taking place and so on. Doing this in a way that was not seen to infringe on civil liberties made the technological development even more complicated and ultimately overly ambitious, hence its abandonment.

But, and this is the second way in which the reality is more complex, the UK was not alone in this journey. France and Germany both pursued what had become known as the 'centralised' app model before abandoning it and going for the 'decentralised' one under Google and Apple. Australia doubled down on the centralised model, resisting pressure to adopt the Google-Apple model.[14] And third, although the dominant form of contact-tracing app worldwide came to be the Google-Apple one, there is actually little if any evidence that contact-tracing apps were of much help. By design, as we have seen in the UK, the app did not assist public health authorities with significant aggregate information that might assist in the management of the pandemic. Moreover, even within the stated function of person-to-person warning of possible exposure, the impact of contact-tracing apps all over the world was inconclusive.[15] There is no credible evidence that contact-tracing apps significantly improved public health outcomes at all. The UK did indeed lose time over its indecision between the two models, but it is unclear whether an earlier decision would have had any impact, given the lack of effectiveness of the technology as a whole.

For the future, there are several lessons from this saga. First, while short-order breakthroughs using advanced science and technology may well be gamechangers, as happened with the vaccine, there is no guarantee of this, as the relative failure of contact-tracing app technology shows. Therefore, basic infrastructure at state level to manage things like outbreaks of disease still matters.

Second, although a debate about the trade-offs between effective contract-tracing and privacy and civil liberties was evident, there wasn't a substantive national discussion about

13   See *What Went Wrong With The UK's Contact Tracing App*, Rory Cellan-Jones, BBC, June 2020 https://www.bbc.co.uk/news/technology-53114251

14   See https://www.smh.com.au/technology/there-s-no-way-we-re-shifting-australia-rules-out-apple-google-coronavirus-tracing-method-20200629-p5573s.html

15   For a summary of early literature on the effectiveness of contract-tracing apps, which concluded that there is 'no conclusive evidence on the effectiveness of contact tracing apps') see https://algorithmwatch.org/en/analysis-digital-contact-tracing-apps-2021/

the trade-offs. Envious comparisons were made with South Korea's approach to finding and isolating sources of Covid outbreaks, without acknowledgement of the much greater state powers to check, match and use financial transaction and location records. One of the main reasons for the failure of the UK's centralised app was that it tried to design the trade-off away, and that proved too complicated. It is already apparent when it comes to planning for future large-scale emergencies that a lively debate is underway about the efficacy of lockdowns. A similar discussion might be advisable in respect of the powers of the state on tracing the movements of individuals; the COVID-19 experience suggests it is not possible to have east Asian levels of efficiency in tracking major developments in the population in an emergency with a western European approach to privacy and civil liberties. It is a fallacy to assume that technology will allow societies to design a way out the tension between close tracking and privacy.

4) ECONOMIC SUPPORT: The development of economic support packages

COVID-19 in the UK initially and primarily tested the public health apparatus of the state, but very quickly proved a test of virtually all of the state's capabilities. The experience of dealing with the economic aspects of the pandemic is a particularly telling and complicated one with important implications for the future.

Broadly speaking, the UK's approach can be examined on three fronts. First is the direct provision of support to the economy as the crisis unfurled. The second is how this was affected by preparation for it. Finally, we turn to the issue of how the government's strategy for subsequent waves of the pandemic unfolded in the first part of the crisis in the first half of 2020.

On the first issue of providing a direct response, the UK is seen to have performed well on most available metrics. Unprecedented financial support was quickly developed and implemented for more than 10 million people. This prevented significant unemployment, business closures, and other major forms of severe economic damage. Throughout the pandemic unemployment remained at the historic lows associated with the recent past.

Unprecedented financial support was quickly developed and implemented for more than 10 million people. It was improvised, rather than planned.

One critical aspect of this success was the fact that the state could rely on existing infrastructure to disburse financial support. In marked contrast to testing, where no capability of course existed, and contact-tracing, where a partial but weak set of locally based capabilities were in place but consciously bypassed, the government could use the existing system for social security support, and in particular HM Revenue and Customs' Universal Credit system, to make payments simply and effectively. In terms of emergency state measures taken to support the general population in the first six months of 2020 as the pandemic broke out, the furlough scheme is rightly regarded as the single most effective intervention.

However, even these well-executed interventions should not obscure the fact that it was improvised, rather than planned, and the second lesson is that the UK's pandemic preparedness had, in effect, ignored the economic aspects of a likely crisis, something

that will have to be rectified in the future. This had some important short- and medium-term consequences.

In the early stages of the pandemic, this lack of prior economic planning led to the situation where in the week beginning Monday 16 March the government was telling citizens not to frequent hospitality venues, but those venues were allowed to stay open and had no access to state support. While matters like this could be easily rectified, the lack of prior planning meant that support to businesses was probably slightly later in coming than it might have been – witness what in retrospect proved a relatively modest package of £11 billion announced for the consequences of COVID-19 on the economy in the Budget on 11 March compared to the huge cost of the subsequent furlough scheme announced less than a fortnight later. Furthermore, and perhaps most significantly, the lack of economic planning meant that important gaps, such as support for the self-employed, had not been identified and mitigated and this too had to be improvised. Finally, while it was inevitable that a large-scale emergency support package would be subject to significantly higher levels of fraud and waste than a normal government programme, these were still higher than they might have been and it is possible that more effective mechanisms for targeted support could have been tested.

However, as is clear from the Public Accounts Committee report,[16] no economic modelling of the impacts of a pandemic had been done and neither the Treasury nor the wider economic policy community in the UK government had taken any action as a result of Exercise Cygnus (other than limited work on funding expanded capacity for mortuaries). There had been wholly insufficient consideration of the economic consequences of a national infectious disease crisis and no macro-economic modelling of its impact on the economy. The lesson here is obvious: it is clear that economic analysis must be a far greater part of future 'long emergency' planning in terms of how support is delivered and targeted, how much can be afforded, and what the dynamic impact of changing scenarios – the severity and duration of the crisis, the consequences of specific government interventions, and so on – might be.

> It is clear that economic analysis must be a far greater part of future 'long emergency' planning.

The third and final point to note about the economic management of the pandemic is one of the most important: how the state can learn from the experience of the summer of 2020 when hopes of a quick route out of lockdown and back to normality ultimately gave way to a sense of inevitability of much longer haul for UK society. There are considerable lessons to be learned here. The extent of the economic hit arising from COVID-19 and the consequent lockdown clearly shook the UK's economic policymakers. Very quickly it became apparent that this was the sort of economic shock that led to both a decline in economic activity and pressure on the public finances associated normally only with wartime. Perhaps it is this that explains three commonly expressed concerns about the approach of the UK's economic and financial policy institutions in the summer period.

First, there is now a clear sense of optimism bias in some of the later economic interventions and their potential conflict with public health, the most obvious being the £849 million *Eat Out to Help Out* mechanism operational throughout late July and August 2020 to try to encourage recovery in the hospitality sector, but in the end in apparent conflict with measures needed to contain the virus.

Second, there was a damaging unwillingness to guarantee long-term funding settlements

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16 https://committees.parliament.uk/work/1664/government-preparedness-for-the-covid19-pandemic-lessons-for-government-on-risk/

for some of the permanent parts of the state that were under severe financial pressure. As we shall see in Chapter 3, local government was an obvious example of this, though far from the only one.

Third, and crucially, there was insufficient focus on building up the capabilities for a second phase of the pandemic. *Eat Out to Help Out* reflected an understandable prioritisation of economic recovery, but the facts on the ground suggested there was a lengthy battle with the virus ahead and that therefore sustained attention on remedying some of the deficiencies in the state's capabilities was needed. Testing was ramped up sufficiently to meet the government's 100,000 tests a day target, but when it came to managing the impact on schools when they returned in September, these numbers were insufficient. A common complaint among those charged with ramping up capabilities to deal with the pandemic strategically over the long term was that at the first sign of declining case numbers, the economic policy focus swung to recovery and reopening rather than the building of capabilities that might have helped contain further outbreaks and prevent or limit the need for further lockdowns.

5) SCHOOLS: The state's role in managing restrictions on education

The UK's pandemic plans did not include modelling the locking down of the country and so no plan was in place for the closure of schools. There was therefore no analysis of the impact of closing schools and no plan for managing their closure. Policymakers did, however, instinctively understand the severity of such a decision and sought to hold off on closing schools for as long as possible. This meant that school closures were announced later in the UK than in other comparable countries: France, for example, closed schools on 10 March, eight days ahead of the UK announcement. The day before, the UK, through the COBR mechanism, had confirmed a decision not to close schools: SAGE's view was that the case for treating schools as a major venue for transmission was not made and the wider impacts would be potentially damaging.[17] But this position was swiftly reversed and the UK soon fell into line with most neighbouring countries, with schools remaining fully or partially closed (with the exception of provision for the children of key workers) for much of the period covered by this study.

The experience of managing the role of schools in the transmission of the virus and the consequences of closing them reflect several of the main themes identified in the UK's experience of the pandemic. The following are of particular note:

- **The absence of holistic forward planning across the whole of society for emergencies.** The work done under the auspices of civil contingencies on pandemics

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17 Minutes for SAGE's 5 March meeting say: 'SAGE agreed that school closures would have smaller effects on the epidemic curve than other options'. By its 16 March meeting, the minutes read: 'While SAGE's view remains that school closures constitutes one of the less effective single measure[s] to reduce the epidemic peak, it may nevertheless become necessary to introduce school closures in order to push demand for critical care below NHS capacity.'
5 March minutes: https://www.gov.uk/government/publications/sage-minutes-coronavirus-covid-19-5-march-2020
16 March SAGE minutes: https://www.gov.uk/government/publications/sage-minutes-coronavirus-covid-19-response-16-march-2020

in the centre of government over many years did not adequately reflect the likely impact on schools, and the Department for Education had no plan to manage closures, so once again things had to be improvised.[18] No analysis of the impact of school closure was available to factor in to wider assessments of the case for lockdown, though there was a keen sense that closing schools would have profoundly negative consequences.

- **The static nature of modelling in the plans.** The government was understandably reluctant to close schools, given the severe consequences for children's education, and other important consequences such as the impact on the availability of key workers like NHS staff. This reluctance was foreseen in the pre-pandemic planning, which was partly why no plan had been made in advance to manage closures. What the pre-pandemic planning had not taken into account, however, was the gradual voluntary withdrawal of millions of people from areas of human contact, including in schools[19]. In mid-March, as the news from Italy started to filter through into the British public consciousness, speculation about a national lockdown increased and, particularly once the government issued informal stay-at-home guidance short of full lockdown, significant numbers of parents and teachers began to withdraw from schools. By the time the government announced the legal closure of schools with effect from 23 March, schools were in effect closing themselves. Indeed a handful had already done so on their own initiative.

- **The challenges of data-gathering in schools.** Gathering data as to what was happening on the ground in schools proved to be a further challenge, which in turn reflected wider challenges of connecting policy to operational delivery. Although in budgetary terms the Department for Education is one of the UK's largest, it is primarily a policy department that by design has little direct connection to the operational aspects of national schooling in the thousands of schools in England. Making hugely consequential operational decisions stick on the ground was difficult. Guidance to schools (and, in particular, universities) on how to implement lockdown tended to come very late and with significant ambiguities, leaving many schools struggling. Furthermore, the ability of Whitehall to connect with schools' requirements came under important strain over the summer as plans for full reopening took shape. It quickly became apparent in September 2020 that inadequate testing capacity and procedures in schools was a contributory factor towards pushing the country into later lockdowns. Nevertheless, despite the increase in testing capability nationally by this point, with many sectors well supplied with tests, there was an obvious and vital disconnect in terms of identifying need and mobilising the capability to deliver it between the centre of government and local schools.[20]

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18 Exercise Cygnus report, Lesson Identified No14, at https://www.gov.uk/government/publications/uk-pandemic-preparedness/exercise-cygnus-report-accessible-report

19 There is mention in the pandemic flu strategy of the possibility that 'concern among teachers and parents about infection spread in educational settings may lead to teacher and pupil absence' (p.24), but it is clear from other sections that the strategy does not envisage this being significant enough to trigger school closures by the government: 'the general policy would be that schools should not close … although school closures cannot be ruled out, it should not be the primary focus of schools' planning.' (p.40). See UK Influenza Pandemic Preparedness Strategy (2011) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213717/dh_131040.pdf

20 For an early example of concern about the lack of testing capacity in schools on their reopening in September, see this paper from the Tony Blair Institute, 28 June 2020 https://institute.global/policy/back-september-test-our-schools

6) VACCINES: The development and procurement of COVID-19 vaccines

As is well known, the stand-out success in the UK's pandemic story is the country's vaccine success: it was the first country in the world to secure a vaccine for its citizens, and it delivered the fastest roll-out of mass vaccinations in any major country. Some of that success is down to avoiding some of the problems in other areas already identified in this chapter, for example in procurement contracts. Some related to the use of specific authorities and financial guarantees likened to wartime powers. It is worth analysing the specific factors so as to evaluate their relevance for future crises.

The UK was the first country in the world to secure a vaccine for its citizens, and it delivered the fastest roll-out of mass vaccinations in any major country.

As in other areas where the UK struggled in the early stages of the pandemic, mobilising a large-scale national effort to develop a vaccine was not part of pre-pandemic planning and no mechanisms were in place for doing so. However, two features of the vaccine story stand out which ultimately helped deliver a more positive outcome. The first is that, unlike in some of the other areas where large-scale mobilisation was required, the UK had domestic expertise in the subject, and discussions started early, with the requirements for mass production a feature of those discussions. Scientists based in the UK were quick to identify the possibilities for a vaccine for COVID-19 following the initial outbreaks in China, and began working on it immediately. By February 2020, the University of Oxford's Jenner Institute had begun discussions with the UK BioIndustry Association about how large-scale production might be brought about, given that the Institute itself had only trial manufacturing capability. Specific discussions with AstraZeneca ultimately led to the production of one of the most successful COVID-19 vaccines in the world. This meant that by the time the Vaccine Task Force was established in May 2020, there was significant work to build on.[21] By contrast, the two distinct parts of Test and Trace suffered from the opposite problem; in particular, as we have seen, a decision had been taken effectively to reconfigure contact-tracing from scratch.

The second, and crucial, difference was the focused and breathtakingly quick interaction with the private sector, with highly unusual and innovative mechanisms to provide financial incentives for the private sector to do two things: first, to produce vaccines at a sufficient scale, and second, to ensure their delivery to the UK rather than other countries. This strategy of making the UK the best possible customer for vaccine-producing companies involved what would in ordinary times be considered vast sums of money: around £900 million of guaranteed orders were placed for products that might never be effective, and significant upfront funding was provided for vaccine manufacturing capabilities in the UK. The strategy was to provide a level of funding high

There was focused and breathtakingly quick interaction with the private sector, with highly unusual and innovative mechanisms.

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21 Kate Bingham, 2021 Romanes Lecture, 23 November 2021, University of Oxford
YouTube: https://www.youtube.com/watch?v=tG_a0P2qybE
Download lecture transcript at: https://www.ox.ac.uk/sites/files/oxford/media_wysiwyg/Kate%20Romanes%20Lecture%20text%20KB%2023%20nov%202021%20%28clc%29-1.docx.copying.rtf

enough to spread risk: dozens of potential vaccines were identified and deals signed with several on the assumption that not all would deliver.

Although the Vaccine Task Force, like the Test and Trace Programme and the comparable PPE effort, sat outside the NHS, the NHS's considerable infrastructure was used astutely in the UK's vaccine programme, first as a way of providing volunteers and infrastructure for clinical trials, and later for the fast distribution of the vaccine to British citizens (the NHS offered a large-scale delivery mechanism that was trusted by the public).

While the UK's scientific leadership in diagnostics had in effect been squandered and the UK had struggled to test enough in the first part of the pandemic, the UK's leadership in life sciences was capitalised on and helped develop the vaccine.

The success of the UK's vaccination development and procurement programme leads to important questions about its replicability in less serious situations and in future crises. There is little question that the vaccine programme's ability to harness specific skills and mobilise private sector capability so well provides at least a partial template for emergency mobilisation in the future. And the problems encountered by the UK's vaccination programme also merit examination to see to what extent they could be remediated in future.

> The ability to harness specific skills and mobilise private sector capability so well provides at least a partial template for emergency mobilisation in the future.

A core challenge will be the replicability of the suspension of normal spending controls. The UK state's approach across different aspects of the pandemic was to suspend these and adopt emergency procedures. In the case of the vaccine, doing so was absolutely essential – the head of the vaccine task force, Dame Kate Bingham, has highlighted specific opportunities being missed when normal processes were imposed, leading to the cessation of specific lines of work. That said, the government suffered heavy criticism, notably over contact-tracing capabilities, when the relaxation of normal spending controls did not deliver the same transformative outcome. Moreover, in the case of the vaccine, individual decisions like guaranteeing just under £1 billion worth of orders made sense as a risk calculation for government ministers, given the overwhelmingly larger economic costs of lockdown. In less clear-cut cases, particularly in a long-term period of fiscal retrenchment, it is likely – and understandable – that governments will be reluctant to relax spending control procedures in all but the most severe circumstances. That is not to say, however, that reform of such controls should not seriously be examined. In particular a set of procedures that incentivised more focus on the desired outcome could make a considerable difference.

The two related areas where the experience of the vaccine task force merits very serious reflection for the future are the skills of the civil service and the government's relations with the private sector. The early work of the task force was to some extent hampered – or at least, their costs of doing business increased – by a lack of fluency in scientific matters within the government at both political and official level. That is part of the reason why a conscious decision was taken to bring in outside expertise to lead the effort. The second reason, in common with the experience of the search for PPE and the development of mass testing and contact-tracing, was that the skills to negotiate effectively and at speed with the private sector did not exist within the government/ civil service, or, where they did exist, were not easily able to be redeployed. The task force assembled, at astonishing speed, a commercial infrastructure that reflected the realities of the commercial world and drove through effective deals for the government. Ultimately, after a very difficult start, the same happened with COVID-19 testing. Both

A central theme of this report is worth remembering: in future 'long emergencies', there is no guarantee that a game-changing intervention like the COVID-19 vaccine will emerge. So the hard and often unrewarding work of building a more resilient society better equipped for future long emergencies is vital.

were created from scratch – so a crucial lesson from the UK's vaccine story, and from this wider chapter, is that to cope with future 'long emergencies' it is vital that the state develops frameworks for mobilising private sector capacity, and people with the knowledge and skills to use them. The UK can draw on the successes of the Vaccine Task Force in doing so.

Finally, a central theme of this report is worth remembering: in future 'long emergencies', whether health-related or otherwise, there is no guarantee that a game-changing intervention like the COVID-19 vaccine will emerge. So the hard and often unrewarding work of building a more resilient society better equipped for future long emergencies is vital.

Conclusions

Having examined six different aspects of the UK's early pandemic response from the perspective of mobilising capability in response to a population-wide emergency of long duration, four general conclusions are drawn.

First, for those charged with taking decisions in a crisis, the quality of existing plans (and of prior exercises based on them) is hugely significant. Of particular importance is the breadth of the planning, as well as the dynamism within the plans and what that says about the ability of the system to react.

Those charged with reacting to the pandemic could only work with what they had been bequeathed; in multiple different areas of pandemic handling there were only a series of bad options open to policymakers and little for them to draw on. Schools provide a particularly important example. The possible closure of schools was not effectively modelled in preparations for the pandemic. This had immediate implications when COVID-19 started to spread significantly within the UK, because schools started to empty regardless of the government's stance on closure. The lack of modelling then had ongoing ramifications: the Department for Education had given no serious thought as to how education for children might be run in a lockdown, and practicalities like replacement arrangements for examinations were hastily improvised in ways that later had to be changed because of public concern. The lesson here is that plans, and the exercise of those plans, must take account of the potential for wider impacts beyond the core sector in which an emergency arises, and must consider the possibility of wholesale disruption of everyday life, and make plans for managing it. This extends to other key public services not analysed specifically in this report, such as borders, policing, courts, transport and other areas.

Second, the quality and resilience of existing state infrastructure matters, because it is profoundly difficult to build new, large-scale capacity and capability at great speed.

The experience of PPE procurement, testing and tracing, and even some of the obstacles overcome by the vaccine task force show that getting new large-scale capability mobilised at pace is fiendishly difficult. Using or co-opting existing capabilities when

they are available is preferable – so reviewing the strength and surge capacity of existing capabilities is an important part of pandemic preparedness. The experience of the UK in the early stages of the pandemic shows the benefits of being able to deploy an existing system: the provision of financial support through HM Revenue and Customs' existing Universal Credit system had a rapid impact that was in line with policy intentions. By contrast, in both contact-tracing and the acquisition of PPE, serious concerns about the ability of existing infrastructure to handle the hugely expanded demand led to the bypassing of those organisations and a decision to restart from scratch. Public Health England in particular was sidelined but not, until the end of the period covered by this report, formally disbanded. The new systems ran in parallel rather than absorbing the existing, if imperfect, capability, which undoubtedly wasted existing capability. So the effectiveness of institutions, and the confidence of public and political leaders in them going into a crisis, are also important. The health of the public realm matters when a crisis hits.

Third, it is vital to have the skills and frameworks already in place to mobilise new, large-scale capability from private providers when it *is* needed

Even if preparatory plans had been cast more widely than they were in the case of the UK's pandemic preparedness, and had included the building of capacity and capability within the civil service, there would inevitably have been areas where the specific of a nationwide crisis demand the development of new and large-scale capabilities – and this will be true in any future 'mega-crisis'. Such scenarios are very likely to involve mobilising the private sector at global scale.

In the case of both the vaccine and, in time, testing, innovative frameworks were put in place to allow the government to deal effectively with large-scale private sector providers. While neither was without significant glitches and tensions, ultimately, they worked. These frameworks had of necessity been hastily developed; the government had to use unsatisfactory stop-gaps while they were developed (for example using personal connections, creating much criticism and controversy); and, according to the public evidence given by leaders, they were deliberately designed outside the normal processes of government. Lessons can be drawn from these sometimes fraught but ultimately successful endeavours so that next time such frameworks can sit within government processes, and do not have be assembled from scratch.

It is striking just how much of the UK's early attempts to build capability in sourcing PPE and testing and tracing, and even to some extent vaccines, were rooted in requests to informal contacts to ask well-connected associates for help. This attracted much criticism and controversy. However, it should be remembered that it also reflected – rightly or wrongly – the absence of a framework to look more systematically at private sector capabilities and a lack of confidence that 'traditional' civil service skills would achieve the right engagement in such areas. In future, the government should think about having outline frameworks for contracts with key industries in the event of an emergency which are more quickly mobilisable, and can be adapted for the circumstances of the particular emergency. Such frameworks would need to be developed by people with deep commercial skills.

Finally, the state's own standing capability needs to be expanded. Governments will find it very difficult, if not impossible, to retain an 'at rest', normally redundant capability which may never be used and is designed to be used rarely. However, it is striking that during the pandemic, very few of the UK's half a million civil servants or five million other public sector workers were easily redeployable into different roles to support the crisis response. In many public authorities, both centrally and locally, the vast majority

of the burden fell on a small number of people within the organisation. Resilience of key staff was an issue in many of them. However, because of a lack of skills elsewhere in the organisation it was not always possible to rotate key people out because of the length of time needed to train new people with the skills needed to manage crisis.

Recommendations

These four conclusions give rise to a further two recommendations:

REPORT RECOMMENDATION 5

The UK's crisis management function needs to include emergency procurement and commercial skills, alongside a well-maintained set of relationships to allow for the rapid mobilisation of private sector capabilities to source and distribute whatever might be needed.

REPORT RECOMMENDATION 6

Moreover, one of the most striking features of the central response was the limited 'reserve' of people with the relevant training the government had to call on. No state facing serious fiscal constraints will be able to fund large-scale redundant capability for what remain thankfully rare events. But there is a strong case for training a large number of civil service officials from across government in different types of crisis management, so that they can be redeployed with little or sometimes no further training should future 'long emergencies' arise.

A corps of civil servants with crisis training might also, through redeployment, assist local authorities and other local bodies in times of crisis. It is that balance between central and local response to which we now turn.

Coordinating between the central, devolved and local layers of UK government

Coordinating between the central, devolved and local layers of UK government

Introduction

The main purpose of this report is to ascertain, in the light of the UK experience of COVID-19, and comparing it to a limited number of other countries, what lessons can be learned about the crisis management capabilities the state needs to handle sustained, population-wide crises – or 'long emergencies'. A critical part of any such analysis must be how the various parts of the response work at national and local level. This chapter undertakes this analysis.

The chapter is divided into two sections.

SECTION A covers a theme which virtually all countries would need to examine, namely how the respective efforts and responsibilities of central and local government – the control of them and the coordination between them – worked. In this study this is considered with respect to England. Here a story emerges of much good practice and many effective interventions at local level, particularly through Local Outbreak Control Plans in the early stages of the pandemic, but patchy performance across different sectors and different areas, and clear pressures on a local government sector that had seen significant budget and capability reductions over the preceding decade. The relationship between central and local government in England was sometimes productive but often incoherent.

SECTION B deals with a topic that is in some sense unique to the UK, namely its model of devolved autonomy, which has few comparators across the world, as it is neither a fully centralised nor a federal system, and the powers devolved to Scotland, Wales and Northern Ireland are not symmetrical: the three nations have varying degrees of autonomy. An analysis of the devolved aspects of the UK response is apposite, given that the institutions were established in the late 1990s and so this was the first full-scale national crisis to test the arrangements. Here the story that emerges is one where attempts to keep a unified UK approach without changing the legal framework for devolution succeeded initially but then fell apart, with significant misunderstandings about the application of laws made by the UK government and imbalances between the power to impose restrictions and the ability to pay for them.

Overview of the UK's constitutional framework

Before analysing these two aspects of the handling of the crisis, it is necessary to outline briefly the structure of government in the various territories of the UK. It is a highly uneven structure, with England accounting for just over 84% of the population; Scotland 8%, Wales around 5% and Northern Ireland around 3%.

The national parliament at Westminster is regarded as sovereign and has largely unfettered power to act. For most of the UK's existence there have been no subordinate devolved national legislatures other than one which existed in Northern Ireland between 1921 and 1972. However, in the late 1990s, devolved legislatures or assemblies were established for Scotland, Wales and Northern Ireland. In all three territories, the powers of these bodies have been significantly enhanced in the course of the first part of the twenty-first century.[1] That has incorrectly led to some descriptions of the UK as a quasi-federal state. It is not quasi-federal: all the powers of the devolved bodies exist because of Westminster legislation, which – in theory at least – can be amended by the national parliament at Westminster at any time (there are legislative provisions not to abolish some of the devolved entities, but while it might be politically unrealistic to override these laws there is no theoretical reason why Parliament cannot do so). Parliament has the right to alter the powers of the devolved authorities without their consent: until the debates over the UK's withdrawal from the European Union this had never been done, but that changed in the context of Brexit.[2]

Local government in England

There are some 333 local authorities in England, of five different types (county councils, district councils, unitary authorities, metropolitan councils and London boroughs).[3] The size and capabilities of these authorities vary wildly. The powers of local authorities are derived from Westminster statute. In comparison to many similar countries, the functions and revenue-raising powers of local authorities are quite limited.

A series of Parliamentary statutes impose direct responsibilities on local authorities, including in the realms of public health and crisis preparedness.

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1   For an overview of devolved government in the UK, see this briefing paper from the House of Commons Library: https://commonslibrary.parliament.uk/research-briefings/cbp-8599/
2   For a brief account of this procedure, known as the Sewel Convention, and the changes to its application in the late 2010s, see https://www.instituteforgovernment.org.uk/article/comment/sewel-convention-has-been-broken-brexit-reform-now-urgent
3   The House of Commons Library has produced a useful overview of the different structures in local government in England, which can be found at https://researchbriefings.files.parliament.uk/documents/SN07104/SN07104.pdf

The central UK government and local government in England

Overview of local government in England

According to the Organisation for Economic Co-operation and Development, the proportion of tax revenue collected locally in the UK is one of the lowest among its members.[4] The ability of local government to raise revenue locally, or to borrow, is curtailed by national rules set in London.[5]

Similarly, the functions of local government in the UK are limited. In England, Scotland and Wales one major function is the provision of adult social care (this is not the case in Northern Ireland). Others include waste collection, libraries, some children's services and aspects of local transport. The national government's reforms of education over several decades, but particularly since 2010, have significantly reduced the role of local authorities in education.

Local authorities also have, under reforms of the health and social care system passed in 2012, some obligations regarding public health. Under the Civil Contingencies Act 2004, they have extensive and specific duties around preparedness for emergencies. In both cases central government has overall responsibility for the framework: so, for example, going into the pandemic, Public Health England had lead responsibility for public health protection and surveillance, with the role of local authorities focusing on public health promotion. On civil contingencies, as we saw in Chapter 1, there is an extensive national apparatus, underpinned by legislation.

Local government in England is therefore heavily dependent on the national government for its mandate and the money to carry out that mandate. But, perhaps paradoxically, the links between central and local government are not, by international standards, particularly strong. There are formal mechanisms for discussion, and, for decades, a department of state with senior Cabinet-level representation has had responsibility for local government (this has had various names and been combined with various other functions). But an important part of the pandemic story is that at the centre there was limited knowledge of local capabilities and, where knowledge existed, some distrust in the effectiveness of some authorities, with a sense that there was high variability in effectiveness across the country.[6]

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4   See Fiscal Decentralisation Database, OECD: https://www.oecd.org/tax/federalism/fiscal-decentralisation-database/, esp. Table 6

5   The OECD study correctly notes the difference between federal and unitary systems in terms of the composition of government revenue

6   For an orthodox account of the underlying challenges of local government in England and its relative weakness to national government, see Centralisation Nation from the Centre For Cities https://www.centreforcities.org/press/broken-sysyem-of-local-government-harming-uk-economy/, 2022

In the decade preceding the pandemic, local authority funding in England came under severe pressure and the story of local government in the pandemic cannot properly be told without reference to that. The Institute for Government has calculated that local authority spending power decreased in real terms by some 16% between 2009/10 and 2019/20, by far the sharpest reduction in any major part of government spending over the same period. Concerns had been voiced about a 'hollowing out' of capabilities in non-urgent aspects of local authority spending, including planning for a hypothetical crisis.[7]

> In the decade preceding the pandemic, local authority funding in England came under severe pressure.

There were therefore capability gaps, no redundant capacity or resource, and precious little time, money or incentive to look at emergency planning capabilities in the period running up to the pandemic. The joint report from the Health and Social Care Committee and the Science and Technology Committee of the House of Commons concluded of central government that, before the pandemic, 'investment in resilience [was] at risk of being trumped by day-to-day pressures of government'.[8] The was acutely the case in local government.

Any objective analysis of the framework for emergency response in England would see, poring over numerous publications and statements across nearly two decades, that a significant role had been envisaged for local capabilities. This role was not matched by the means to play it – and indeed, the response in England in the early stages of the pandemic, in marked contrast to the plans, was overwhelmingly centralised, including a centralised mounting of functions where, at least in theory, local capability was supposed to exist. How did this come about, and what impact did it have?

> A significant role had been envisaged for local capabilities. This role was not matched by the means to play it.

This section looks at three different aspects of the story:

1) How the system was designed to work before the pandemic ('The framework for managing crises locally within England at the onset of the pandemic', p.91);

2) How it actually did work in the early period following the outbreak of COVID-19, and some of the consequences of this ('The evolution of the role of local government and local bodies in the early stages of the pandemic', p.95); and

3) What can be learned for the future ('Some reflections and recommendations', p.102).

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7   The IfG's overview of local government funding in England and how it was impacted by the pandemic is included in a more general paper on UK local government at https://www.instituteforgovernment.org.uk/explainer/local-government-funding-england#:~:text=2022%2F23%20local%20government%20finance%20settlement&text=In%20aggregate%2C%20local%20authority%20core,grants%20for%20Covid%2D19).

8   Joint report from the Health and Social Care Committee and the Science and Technology Committee of the House of Commons, *Coronavirus: Lessons Learned to Date*, HC92, September 2021, para 61

1) The framework for managing crises locally within England at the onset of the pandemic

As with other parts of the framework for crisis management, the role of local government in crisis management within England was codified in a mixture of law and guidance. (As the section on the devolved nations shows, there was discretion for the authorities in Scotland, Wales and Northern Ireland to put in place different arrangements, so this section of the report covers England only.)

The general framework

The key legal basis was – and remains – the Civil Contingencies Act 2004. The Act designated two categories of responders to crises. Category 1 responders included local authorities and were deemed to be 'at the core' of the response to most emergencies (Category 2 included more arms-length public authorities and privately owned critical infrastructure, for example).[9] The standing structures in place to bring local authorities into the national response framework managed by COBR and the Civil Contingencies Secretariat were called Strategic Coordination Groups and Recovery Coordination Groups.

Preparations and the coordination of capabilities locally were entrusted specifically to Local Resilience Forums. These are multi-agency partnerships made up of representatives from local public services, including the emergency services, local authorities, the NHS, local public health leadership, the Environment Agency and others. Local Resilience Forums are required by the Civil Contingencies Act 2004 and operate contiguously within the policing areas of England and Wales, meaning there are some 38 in England. Although their existence is required by law, Local Resilience Forums are not legal entities and have no formal powers. The powers of individual members of the Local Resilience Forums are derived from their 'day job'.

The most recent guide attempting to bring much of the local-facing crisis response framework together in a single document was published in November 2018 in a joint collaborative effort between the Ministry for Housing, Communities and Local Government and the Society of Local Authority Chief Executives. The guide, *Local Authorities' Preparedness for Civil Emergencies: A Good Practice Guide for Chief Executives*, dealt with a wide range of aspects of emergency planning.[10]

An examination of that and other relevant documents shows that the conclusion this report draws in Chapter 1 about national government applied similarly to local government: the framework was designed on the assumption that it would deal with either geographically or sectorally confined crises for relatively limited periods of time. For example, the document provides guidance on mutual aid between local authorities, a long-established practice, but it does not contemplate a situation where such mutual aid is impossible because all local authorities are facing the same crisis. There is one mention of pandemic planning, in the context of flu,

> The framework was designed on the assumption that it would deal with either geographically or sectorally confined crises for relatively limited periods of time.

9   See https://www.gov.uk/guidance/preparation-and-planning-for-emergencies-responsibilities-of-responder-agencies-and-others
10   https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/759744/181116_LA_preparedness_guide_for_cx_v6.10_.004_.pdf

but only in the context of identification of risk; the crises identified in the case studies are predominantly previous, real-life, more contained crises. Many relate to floods or other severe weather events; they also include the aftermath of the serious terrorist attack in Manchester in 2017, a real cyber-attack on a local authority, and the plans for managing a hypothetical leak of radioactive material in a specific region near a nuclear plant. The one example where the public health function assumes lead responsibility is plans to manage geographically confined water contamination.

Some specific aspects of the framework affecting the management of pandemics

This is not to say that pandemic planning was absent from the preparatory framework for local authorities, although it is instructive to note its relative absence from the main generic guidance to local authorities on crisis management. Of particular note:

- All Local Resilience Forums, in the community risk registers for their area (which they are required to compile), identified a flu pandemic as a significant risk, and nearly half (18) of them had gone further and identified emerging infectious diseases as a significant risk.

- The 2012 Health and Social Care Act, which established Public Health England, also established a requirement for each local area to have a Regional Director of Public Health (DsPH). Not all local authority areas have their own DsPH; a common practice is to share across some smaller areas. As at the outbreak of the pandemic there were some 135 office-holders in England. The 2012 Act lists a number of statutory functions of DsPHs, and emergency preparedness and managing outbreaks of disease feature prominently in those responsibilities.

- Local service providers featured in the Cygnus exercise (on pandemic flu) of 2016.

- There were various specific parts of the framework designed to support the local response to a major outbreak of infectious disease (as distinct from a pandemic – the distinction matters because managing a localised outbreak of an infectious disease is different to managing one sweeping the whole country).

The report following Exercise Cygnus identified some of the core problems evident in the framework for managing local response to a pandemic. The report recommended that 'a national pandemic flu Concept of Operations must consider the operationalisation of local level pandemic flu management plans. Indications from Exercise Cygnus are that Pandemic Influenza planning in the UK is based around national strategic documents which inform plans developed by individual organisations and LRFs [Local Resilience Forums].' The report then went on to note 'the lack of joint tactical level plans' and said this was 'evidenced when the scenario demand for services outstripped the capacity of local responders in the areas of excess deaths, social care and the NHS'.

Of these, as subsequent experience showed, the capacity issues around excess deaths received considerable attention post-Cygnus and the plans for managing greatly increased deaths (for example by deploying makeshift mortuaries) were in good shape before the outbreak of COVID-19. The UK's most senior civil servant at the start of the pandemic, giving evidence to Parliament after leaving office, said that Cygnus 'meant that we had the mechanisms in place to deal with a very high number of casualties, rather more casualties, thank goodness, than we have seen from COVID-19 – including, for

example, dealing with a level of excess deaths that simply could not have been coped with by the existing mortuary capacity'.[11]

Separately, on social care, Cygnus identified that the social care sector was 'currently under significant pressure during business as usual'. It warned that during a pandemic the situation 'could be very challenging' because of infection of residents combined with staff absences. Presciently, it noted that 'local responders also raised concerns about the expectation that the social care system would be able to provide the level of support needed if the NHS implemented its proposed reverse triage plans, which would entail the movement of patients from hospitals into social care facilities.'[12] In contrast to the question of mortuaries, there would be less evidence when COVID-19 struck of similar mitigation work in respect of managing a pandemic in care homes or on NHS capacity. Part of this was the suspension of some of the follow-up work required by Cygnus – including work on the crucial overarching concept of operations – because of the demands of Operation Yellowhammer.[13] This was the government's codename for the preparations for a no-deal Brexit. In the course of 2019, and in particular following the change of prime minister in July of that year, Whitehall intensified preparations for exiting the European Union without any transitional or continuity arrangements.

No-deal Brexit preparedness

The analysis in the report from Exercise Cygnus stressed *lack of coordination* between central and local capabilities as the core problem, rather than undertaking detailed analysis of underlying *capacity* issues at local level. Although some key aspects of Cygnus follow-up fell victim to the operational needs of Operation Yellowhammer, the core problem identified in Cygnus of joining national with local planning was to some extent mitigated in an unlikely way by Yellowhammer. That's because the operation involved sustained and deep engagement with local service providers throughout the UK. This activated a network of contacts that would otherwise have remained dormant and invisible to key decision-takers. It meant that, when it came how central and local government collaborated in the next period of sustained challenge – the pandemic – key relationships had been established.

The prospect of a no-deal Brexit, although not, in the end, realised, proved useful for the preparedness of the UK system when it faced the COVID-19 crisis. Although a no-deal Brexit was an entirely foreseeable risk with a specific timetable (unlike the outbreak of a disease), the scale of the operational challenge for the state was significantly greater than preceding or planned-for crises, requiring planning across multiple economic sectors over a significant timeframe. It also usefully brought central and local government together in an effort to identify sectors and geographies where impacts might be keenly felt, something central government could not do on its own. Importantly, this led to the closest and deepest engagement between central government and a cross-section of local government leaders for many years.

However, while this engagement proved helpful, it was not of course designed for the management of a public health crisis, and nor did it mitigate the attrition of local capabilities over the previous decade, or the lack of incentives for organisations

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11   Oral evidence to the Joint Science and Technology Committee and Health and Social Care Committee's first report into COVID-19, see https://committees.parliament.uk/oralevidence/1323/pdf/, page 20

12   See Exercise Cygnus report, https://www.gov.uk/government/publications/uk-pandemic-preparedness/exercise-cygnus-report-accessible-report/. The relevant section is 'Response 4'

13   Oral evidence to the Joint Science and Technology Committee and Health and Social Care Committee's first report into COVID-19: https://committees.parliament.uk/oralevidence/1323/pdf/, page 30, Q753

with little or no redundant capacity to undertake serious strategic preparations for a pandemic scenario.

The situation going into the pandemic

Taken together, the situation in terms of local preparedness going into the pandemic could thus be described as follows:

- Local government and the wider local partnerships through the Local Resilience Forums had, in theory, critically important roles in delivering the response. This approach was well codified in a very transparent manner. Legal duties on local leaders with respect to emergency planning were clear.

- However, as with the national framework, the model prioritised localised, time-limited crises, often (though by no means exclusively) those associated with severe weather events.

- Exercise Cygnus was the one occasion where local capabilities in the context of a national public health outbreak had been examined. It highlighted concerns about the ability of central and local bodies to coordinate plans and, crucially, for the ability of central government to be able realistically to understand and assess local capacity and pressures. It did not, however, look systematically at the underlying capacity issues, and – because the scenario was based on pandemic flu – did not look at aspects that were subsequently crucial, such as the local capacity to undertake contact-tracing. Moreover, issues of local capability, such as the role of policing in a crisis like, this had not been examined in any way.

Crucially, neither Cygnus nor any of the other preparatory work undertaken in the years preceding the pandemic on emergency preparedness examined the impact of the budget reductions within local government in England on local resilience capabilities, nor at the totality of incentives for local leadership to prioritise such work.

Overall, this meant that going in to the pandemic the weight the framework for crisis management placed on the ability of local resilience capabilities to manage a national crisis at local level was, in some key sectors and in some key areas, significantly in excess of the local capacity to cope. While many important services like refuse collection continued unaffected, and local authorities mobilised effectively in respect of pandemic-specific challenges like mortuary places, local leaders expressed concern about very significant aspects of the crisis, including the adult social care sector and the financial position of councils.

Furthermore, the national government's ability to harness the capabilities that existed was hampered by structural deficiencies in the coordination of central and local activity. While those deficiencies were identified by Cygnus and to a partial extent mitigated by no-deal Brexit preparations, they were not strategically addressed ahead of the pandemic. Those who were faced with managing the outbreak of COVID-19 at both national and local level had to rely on a sub-optimal central–local coordination framework and hollowed-out local capabilities.

2) The evolution of the role of local government and local bodies in the early stages of the pandemic

Decision-taking and local input

When the pandemic first became a serious government concern in the early weeks of 2020, local government did have some sort of representation at the key policy discussions. However, there was little formal coordination of central and local government activity at the start of the pandemic. The Brexit 'R9' group – a group of chief executives of local authorities in England, one from each of the nine recognised regions of the country – was extended to become a pandemic coordination structure. R9 had been convened to co-ordinate preparations for EU departure. It transitioned into a key contact group in the early stages of the pandemic, accompanied by a parallel political group.

However, it can be argued that the impact of this group was limited: it is difficult to ascertain for certain to what extent warnings about the social care consequences of the early stages of the pandemic were brought to the attention of ministers, but there is at least some evidence that the R9 group warned central government about these concerns. Whatever the exact details, the joint report from the Health and Social Care and the Science and Technology Committee of Parliament is undoubtedly correct to conclude that, particularly in these early stages of the pandemic, NHS considerations were far more heavily prioritised in government policy response discussions than those of the social care sector.[14]

Emergency coronavirus legislation and the local government sector

The structures of pandemic decision-taking in the earliest stages, perhaps understandably, cast local delivery bodies in the role of 'rule taker' rather than treating them as a sector with a serious input into decision-taking. One very clear example of this was the emergency coronavirus legislation – the primary statute of the Coronavirus Act passed at the end of March 2020 and the plethora of secondary legislation authorised by that Act. In terms of local authorities, much of the Act conferred emergency powers on Secretaries of State in central government to impose duties on local authorities in areas like social care, the protection of children, and the management of the deceased. They were often required to deliver significant service changes with no notice, which often changed again as early as the next day, but they had no meaningful way in the early part of the pandemic to feed back to decision-takers about the challenges.

Immediate strain on local government finances

One important point to note is that from the beginning of the first lockdown, local authorities faced a near-existential struggle to continue with existing services. For the first few weeks there was, understandably, no clarity or certainty about how funding would be provided and in the meantime cost pressures exploded and the revenue needed to meet them dropped because of the suspension of business rates. Institute for Government calculations based on government data show that over the course of the

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14   *Coronavirus: Lessons learned* – Joint report from the Science and Technology Committee and the Health and Social Care Committee of the House of Commons, HC21, September 2021 (hereafter 'the Joint Report') https://publications.parliament.uk/pa/cm5802/cmselect/cmsctech/92/9203.htm. See Section 5

From the beginning of the first lockdown, local authorities faced a near-existential struggle to continue with existing services.

financial year 2020/21 local authorities incurred additional expenditure of some £6.9 billion, of which some £3.2 billion was incurred in the social care sector alone. Revenue over the same period fell by £5 billion, resulting in a near £12 billion hit to the sector.[15]

In the initial period of the pandemic, with the plethora of urgent decisions to be taken, it was unclear to many local authorities for some weeks how central government planned to assist them to ensure their financial stability. A longstanding framework of support aimed at enabling local authorities to cover uninsurable emergency costs – the so-called Bellwin mechanism – was designed normally to be given to certain specific local authorities rather than all of them, reflecting the assumption that most crises did not hit all areas. While this uncertainty was understandable given the wider crisis, the extent to which it affected or diminished local capacity – including in senior decision-taking – should not be underestimated.

Central government subsequently moved to address some of the concerns. Two tranches of financial support of some £1.6 billion each[16] were made available. Additional activity-specific funding, such as £600 million for managing infections in care homes, was also provided, as was some £300 million for the first tranche of testing and tracing. A further package of support was announced on 2 July 2020, and more support subsequently in that year.[17]

However, in terms of the ability of local authorities to manage the pandemic at a strategic level, two points from the investigation of the National Audit Office (NAO) into local government finances and COVID-19 are relevant.[18] First, the NAO found that the government's 'incremental approach to the provision of funding in-year does not support good financial planning...the approach of keeping the need for future funding under review for continuing or new pressures creates uncertainty in the sector and does not allow good financial planning. Finance directors do not know how long a tranche of funding is supposed to last or if there will be another.' Second, the NAO noted that there was a funding gap between COVID-19 requirements and what was provided, that that gap varied between different local authorities, and that for some individual authorities the gap was substantial. The impact of this uncertainty should not be understated.

Local capabilities and plans in the early stages of the pandemic

The local aspects of the management of the pandemic in England in the first six months of the crisis can be broken down into two distinct phases: before and after the prime minister's announcement on 11 May 2020 of a plan to emerge from lockdown. Before that announcement, the local authorities were working to a uniform national plan, albeit one dependent in part on local capabilities. After the announcement, government policy explicitly accepted that the impact of the virus would be different in different areas at different times, and it became an explicit aim of policy to try to manage the crisis through differentiated local restrictions.

15   For an overview of these figures, see https://www.instituteforgovernment.org.uk/explainer/local-government-funding-england

16   https://www.gov.uk/government/news/government-pledges-extra-16-billion-for-councils

17   https://www.gov.uk/government/news/comprehensive-new-funding-package-for-councils-to-help-address-coronavirus-pressures-and-cover-lost-income-during-the-pandemic

18   https://www.nao.org.uk/wp-content/uploads/2020/08/Local-government-finance-in-the-pandemic-Summary.pdf

Although the management aims in the two phases were different, the approaches undertaken either side of the prime minister's announcement had many common threads. One example was of local outbreak plans, a key local tool developed in the first phase of the crisis response, which endured throughout the crisis. These plans, either at county or combined authority level and generally published, adapted central government policy to local situations. They provided some very useful interventions, including identifying high-risk locations and populations that would not have been easy for national authorities to identify.

However, the Association of Directors of Public Health complained in a memorandum to a House of Lords Committee in June 2020[19] about a disconnect between central and local government, specifically noting the absence of a formal link between the Test and Trace Programme, which was being rolled out nationally, and the local outbreak plans. More generally they expressed a concern that the pandemic was being treated as an NHS crisis and not a public health one, and that, partly as a result, it was being managed in a top-down way.

Similarly, Local Resilience Forums, the key statutory mechanisms for delivering impact on the ground, and comprising a mix of local authority services and the regional outposts of national bodies, did not have sufficient connection either to political decision-takers or to operational leaders. An example of this is shortages in the provision of Personal Protective Equipment (PPE) and the uneven spread of provision at local level. Again, some of this is explained by decisions taken well before the pandemic. The NAO report notes that in 2018 the method of procurement of PPE stockpiles was changed and centralised in a financial savings drive. The Department of Health and Social Care created a new body, Supply Chain Coordination Limited, (SCCL) to manage the NHS supply chain in 2018. Before the pandemic, local health and care providers bought PPE either directly from suppliers or through the NHS supply chain. Once the pandemic started, central government attempted to use its stockpiles to meet demand for PPE but faced distribution problems and a lack of information on local requirements. In response, the government established a 'parallel supply chain'. But until 4 May that parallel supply chain had limited information on the PPE held by local organisations, and had to undertake a daily engagement process with stakeholders to inform its distribution of PPE. Neither SCCL nor any other national body held information on how much PPE local organisations held in stock. All this is evidence that Local Resilience Forums and the national government did not have the proper infrastructure to connect on key decisions, share information on requirements and meet those requirements accordingly.

Contract-tracing, infection data and the local dimension

Another key initiative which had profound local implications but became nationally rather than locally run was contact-tracing. This is distinct from testing; the development of testing capabilities is analysed in Chapter 2 and it is generally accepted that a nationally led approach was the appropriate one for the procurement of national capacity to test for a new disease.

Another key initiative which had profound local implications but became nationally rather than locally run was contact-tracing.

The issue of tracing the contacts of infected people is, however, much more contentious in terms of the balance of central versus local effort.

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19   https://committees.parliament.uk/writtenevidence/8105/html/

The joint report from the Health and Social Care Committee and the Science and Technology Committee of the House of Commons concluded that for contact-tracing 'the established capabilities of local Directors of Public Health and their teams were not effectively harnessed during the initial response to the pandemic, despite local approaches proving effective in places where they were pursued'[20].

This decision, in effect to 'nationalise' contact-tracing, is often – and in the view of this study incorrectly – associated exclusively with the establishment of the National Test and Trace programme. It is important to remember that the Test and Trace Programme was not announced formally until 28 May 2020, and the key initial appointments to it, including its top leadership, not made until the first week of May. By that point there had been at least three months in which local tracing capabilities were not being used as a critical part of the tracing programme, including at least six weeks after the decision to go for full lockdown.

Why did this happen? As discussed in Chapters 1 and 2, an important context was that widespread testing and tracing was not part of the UK's pandemic planning, or its early COVID-19 strategy. The thinking was that intensive contact-tracing was important in trying to contain early imported cases from spreading, but that once that battle was lost, it did not have a major role to play. It was only when the strategy shifted radically towards lockdown and exit plans were being prepared that tracing became a high priority.

Another reason is that there is a difference between having a network of regional public health directors with a range of resources to draw on, and having the sort of rapidly scalable contact-tracing capability required for a challenge of the scale and intensity of COVID-19. In some east Asian countries like the Republic of Korea, there was an existing standing capability, with detailed plans for its operationalisation. In Germany, by way of another example, local capabilities were easily and rapidly mobilisable. This was not the case in the UK: it did have a regional public health structure in place, with deep local experience, but the experience of tracing contacts was limited to areas like sexual health (which requires a much smaller-scale tracing effort than COVID-19). It was clear from the start that tracing was a priority requirement in the fight against COVID-19, but there was no immediately mobilisable capability either nationally or locally.

Some councils developed their own local contract-tracing services to compensate for the deficiencies of the national framework. They were, though, building contact-tracing teams 'from scratch', as a paper from the Local Government Association setting out case studies of best practice on such initiatives noted.[21] Even those who were arguing at the time that tracing should be run locally rather than as a national programme noted that there was no standing local capacity. In a high-profile intervention in the *British Medical Journal*, Peter Roderick**,** Alison Macfarlane and Allyson Pollock argued for utilising local capabilities. However, they added that the 'local system has gradually been eroded over several decades'.[22] Their criticism was that '**i**nstead of prioritising and rebuilding this system at the start of this epidemic, the government has created a separate system which steers patients away from GPs, avoids local authorities, and relies on commercial companies and laboratories to track, test, and contact trace'.

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20 The Joint Report, para 235, page 81, https://committees.parliament.uk/publications/7497/documents/78688/default/

21 Local Government Association, *Contact Tracing – Local Government Case Studies* https://www.local.gov.uk/our-support/coronavirus-information-councils/COVID-19-good-council-practice/COVID-19-local-contact

22 Getting back on track: control of COVID-19 outbreaks in the community | The BMJ, 25 June 2020 https://www.bmj.com/content/369/bmj.m2484

That may have been the right call, and in retrospect it is tempting to conclude that it should have been obvious. But the point about the erosion of this framework over several decades is crucial to understanding why it would have been less obvious to decision-takers in central government at the time. The choice was not between establishing a new national framework from scratch and using an easily mobilisable local one; given the decline in capabilities over decades it was between building new capability at great speed nationally or doing so locally. Either option was likely to lead a deficient outcome: there was only so much that could be done to address decades of erosion of capability.

And four related factors are likely to have influenced the decision to go for a national framework.

The first is the lack of trust, understanding and recognition of capabilities in local authorities by central government; as we have already seen, the power of local government in England is comparatively weak by international standards and the hollowing-out of local capabilities in the decade preceding the pandemic had had a clear impact on decision-takers' perception of capability. Second, the unprecedented strain local health bodies and local authorities were under already – as evidenced in the requirements for massive new funding – would have made central government cautious about overloading already highly stretched local infrastructure. Third, and most specifically, the frustrations over getting meaningful local data, covered in Chapter 2, probably put national decision-takers off a localised approach to testing – even though those frustrations were likely as much the fault of central government as of local providers. Finally, Public Health England were unable to offer a compelling narrative to central government about what capabilities, drawing on the extensive network of public health directors, could be scaled up.

This analysis provides the context for the decision to go with a national programme. With hindsight, it may have better to channel resources urgently to regional health directors under clear national guidelines than to set up a national programme. The joint Parliamentary report of late 2021 concluded 'it is *now* clear that the optimal structure for test and trace is one that is locally driven with the ability to draw on central surge capacity, but it took the best part of a year to get to that point'.[23]

It was less clear at the time: the decision-takers of early 2020 could only work with the institutional capacities and capabilities they'd inherited. Nonetheless, the decision to nationalise contact-tracing reflected a wider lack of regard for local capabilities and lack of willingness to engage with local leadership that was evident throughout the pandemic. It also came on top of years of centralisation of decision-taking in key areas. Whatever the rhetoric from successive governments about decentralisation from central government, it is not borne out in reality – as demonstrated by, for example, the 2018 decision to centralise PPE procurement.

Regardless of the rights and wrongs of the decision on contact-tracing, it mattered profoundly as the government's approach to the early part of the pandemic entered a decisive third phase.

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23   Joint Committee, para 11, page 7 https://committees.parliament.uk/publications/7497/documents/78688/default/

Recovery strategy of 11 May: the centrality of the local

Given the two subsequent national lockdowns, it is easy to forget that following the subsiding of the first wave of infections the explicit strategy of the government, announced on 11 May by the prime minister, was 'localist'. The strategy explicitly moved the UK out of a first phase of COVID-19 management – the approach being underpinned by the 'contain, delay, research and mitigate' approach. Phase 2 was designated as 'smarter controls', before the third phase – more effective treatment – could be rolled out. The crucial aspect of smarter controls was, in the government's own words, the introduction of 'more reactive or localised measured through widespread, accurate monitoring of the disease'.[24]

> It is easy to forget that following the subsiding of the first wave of infections the explicit strategy of the government was 'localist'.

The 11 May plan sought to address some of the by now clearly evident challenges in the coordination of central and local responses. Important measures were announced to address the problems in care homes and with the supply of PPE, and much clearer guidance and support was given to local health bodies and local government on shielding the vulnerable.

These measures were in effect assistance to local delivery bodies to implement national priorities. Of more interest, given the national policy to localise the response and specifically the restrictions, were the measures to enable the identification and management of different rates of infection across different localities.

On contact-tracing, the 11 May plan, and the subsequent statements at the launch of the national test and trace plan at the end of that month, said little beyond acknowledging the existence of local capabilities and the need to utilise them within the national framework. But the mechanism remained emphatically national, run under a single set of national contracts with private companies.

Of greater importance were the arrangements for the local outbreak plans, which were fast becoming the critical planning tool at local level. Every upper tier[25] level of local government had a local outbreak plan in place by the start of June 2020, and in that month the Association of Regional Public Health Directors published a guide to implementing them.[26] This was backed up by central government funding of some £500m, of which £400m was deployable immediately. This formed the basis of the beginning of a significant improvement in the attention paid to local capabilities to manage the pandemic, clouded only by the uncertainty over long-term funding.

Perhaps the most consequential decision, over the long run, in this effort to join the central and the local was the establishment of a Joint Biosecurity Centre within the Department of Health and Social Care. The Joint Biosecurity Centre was based on the 'threat level' model used in counter-terrorism and other aspects of national security, but its most important function was to improve the collection of data, and in particular local data, in support of the policy objective of locally differentiated restrictions to manage

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24 *Our Plan to Rebuild*, HM Government, 11 May 2020 https://www.gov.uk/government/publications/our-plan-to-rebuild-the-uk-governments-COVID-19-recovery-strategy

25 The set of local authorities which, between them, cover the whole of England (as opposed to sub-level authorities within those).

26 Association of Directors of Public Health in England: Explainer – Local Outbreak Plans, 30 June 2020 https://www.adph.org.uk/resources/explainer-local-outbreak-plans/

the disease. This crucial effort was to be supported by innovative developments in national statistical gathering by the Office of National Statistics.

Ultimately the Joint Biosecurity Centre was to prove one of the more effective national bodies in terms of forming partnerships with local (and, as we shall see, devolved) administrations to improve the quality of data collection and analysis over the remaining course of the pandemic.[27] Ironically (given the Joint Biosecurity Centre's importance in the plan to localise responses), its data was, in subsequent months beyond the scope of this study, important in re-establishing a single national set of restrictions in England (when, in December 2020, the tiered system ended up with more than three-quarters of England's population in the highest level of restrictions, with a third full national lockdown consequently put in place and restrictions later, following the success of the vaccine programme, uniformly eased at the same pace for the whole country).

An indication of the limitations of the localised approach came with the decision just before the planned reopening of England on 4 July 2020 to place the city of Leicester under more severe restrictions. The Joint Biosecurity Centre was not by that point fully operational, as the government made clear at the time, and it did not drive the Leicester decision. It was not clear what data and evidence the decision to lock down the city was based on, and why Leicester was chosen and not other cities. The basic data around Leicester seemed to show that the city's cases were still high but that cases in the surrounding areas were falling. Why Leicester's cases were not falling too was unclear: at the time, widespread media reporting suggested the government believed it was due to densely populated textile factories in the city. Over time it emerged that household transmission in densely populated areas was the much more likely cause, and also over time it became doubtful that Leicester really was an outlier among large English towns and cities at that point.

In August 2020, so as to better inform the local lockdowns policy, the Secretary of State for Local Government commissioned a rapid independent report from a departmental non-executive director, Dame Mary Ney, around the lessons of the Leicester decision. In the dry language of such reports, she recommended that central government should 'set out more clearly the interface between central and local decision making' and also 'clarify how local knowledge can contribute to the detailed aspects of the decision in terms of scope of restrictions, the geographic range (the redline map) and the timing'. In plainer terms, Leicester came ultimately to be seen as a centralised imposition based on questionable data without local engagement about the facts on the ground or the capabilities needed to manage them.[28]

The plan for England as of July 2020 to deal with the remainder of the pandemic through localised measures was never achievable. England is not a country with strong local and regional capabilities and effective mechanisms for central and local coordination, and these cannot be sourced in the haste and intensity of a crisis.

The subsequent experience of the autumn and winter of 2020 and the first quarter of 2021 brings into question whether, given the nature of the spread of a disease like COVID-19, a more differentiated local approach in a country the size of England was practicable. On the one hand, it was relatively easy to tighten or loosen various restrictions (for example on working from home, opening and closing of non-essential retail, and restrictions or bans on mass gatherings) at local level. On the other hand, and this will be studied by epidemiologists for some time, there is the question of

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27 See Farrar, J, *Spike*, page 125

28 Report by Dame Mary Ney, *Local Covid Outbreaks: Lessons learned and good practice*, 14 September 2020 https://www.gov.uk/government/publications/local-COVID-19-outbreaks-lessons-learnt-and-good-practice

whether locally differentiated responses made a great deal of difference. The UK is an ideal study ground because it combines England – a geographically small but high-density population where ultimately the same approach was taken for nearly all of the time for the entire country – with three jurisdictions, one in a separate land-mass, who took different approaches to those restrictions.

But one overarching conclusion from this analysis has to be that the plan for England as of July 2020 to deal with the remainder of the pandemic through localised measures was never achievable. England is not a country with strong local and regional capabilities and effective mechanisms for central and local coordination, and these cannot be sourced in the haste and intensity of a crisis of this magnitude.

3) Some reflections and recommendations

What matters, however, in terms of lessons learned about the capacity of the state is that whether or not a localised approach might in theory have been best for COVID-19, it could never have worked given the nature of the state, its capabilities at the time, and the underlying tissue of coordination between central and local level. Given that in the future there are any number of possible crisis scenarios where a differentiated and localised approach may be appropriate to a national problem, this is a lesson from COVID-19 that is profoundly important.

The England of July 2020 did not have the infrastructure, capabilities, data or governance frameworks to manage a localised approach effectively. Local capacity was not as strong as it needed to be, and where it existed, was not understood or properly valued centrally. Governance structures are messy and overlapping between different types of local authorities, regional health structures, policing jurisdictions, and a plethora of other arrangements, one of many problems with the attempted 'tiered' localised approach in the second half of 2020.

Part of this is structural and reflects the deeply centralised nature of the UK state within England. As we will see from the comparative studies in Chapter 4, and as the example of a federal country like the United States shows, in other countries it was left open to different sub-national units to undertake radically different policies within the same nation (at one point the president of the United States was angrily denouncing states that refused to lift restrictions, but he could do nothing to force them to do so).[29] Setting aside this striking counter-example, however, the levers at the disposal of local leaders within England were very limited by any measure. Local authority control over schools, for example, is significantly weaker than in decades past, which made it easy in subsequent lockdowns for the national government to decree that schools should remain open even if the rest of a particular area was in lockdown. Whatever the merits or otherwise of the present schooling structures in England, or indeed of school closures, arguably it made little sense to establish a framework of local restrictions on human interactions but exempt schools from the framework, given the centrality of schools to social contact within communities.

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29   See, for example https://www.cnbc.com/2020/04/17/coronavirus-trump-demands-states-liberate-amid-protests.html

A fundamental choice for the state

The experience of COVID-19 gives rise to a fundamental question about what the UK wants local capabilities to look like. Some of this is about the willingness to tolerate, and pay for, redundant capabilities and supplies (as discussed regarding central government in the conclusions to Chapter 2). But even if there can be no redundancy, the question is still simply about money: it is unrealistic to expect local authorities and other local capabilities to be in a high state of readiness for crises following a decade in which the sector suffered a far greater decline in spending power than any part of central government.

The decision on local capabilities asks a profound question of the state.

But the decision on local capabilities goes much further than this and asks a profound question of the state: do we want strong, capable, locally based resilience mechanisms that are capable of taking and implementing locally based decisions within a national framework? If so, that requires a reimagining of the balance between central and local government that is not currently prevalent in policy debates in England, and a reversal of decades of centralisation and the hollowing-out of local capabilities. It is possible to envisage a far stronger network across England of local resilience capabilities across everything from data collection to response mechanisms, building on strong community knowledge. A better connected and integrated local–national system could also provide central government with a richer picture and the confidence to attempt less 'blunt' and costly national measures. But that is a long way off the current configuration of the state, and would require a wholesale redesign and decentralisation.

Therefore, one of the most significant recommendations from this study is a fundamental rethink of the role of local government and local capabilities in England, if the state as a whole is to have the capability to manage long emergencies:

> **REPORT RECOMMENDATION 7**
>
> There should be a fundamental review of the role of local government in England. It is neither reasonable nor possible to place a statutory burden on this tier of government requiring it to act as a major contributor to national crises while at the same time denuding it of funds and responsibilities more generally. It is not possible to increase the contribution of local government to local resilience without more a more widespread overhaul and genuine strengthening of local government.

It can reasonably be assumed that such reforms will not take place in the immediate future, so, with a view to getting realistic and achievable improvements in the short term, the following is proposed to recalibrate the role of local government in the interim:

REPORT RECOMMENDATION 8

The tactical ability of local government to respond to national crises should be improved by central-government-backed investment in local data collection facilities and additional crisis management staff, extending to local government the benefits of some of the other reforms recommended in this study. In the meantime, no additional statutory burdens should be placed on local authorities in respect of national resilience.

This could include:

A comprehensive review of data collection capabilities across local authorities and other local forums and their connectivity to central government mechanisms;

As with central government, mechanisms need to be established to ensure local authorities have access to the pool of better-trained crisis managers. Specifically this needs to be a pool of deployable people across all local authorities, drawing for the foreseeable future on the experience of the many thousands of people who dealt with COVID-19 at a local level.

Finally, central government should be discouraged from the practice of specifying new 'duties' relating to resilience and emergency response for local leaders, in either legislation or guidance. This leads to a compliance-led 'box-ticking' approach rather than a serious incentive to examine gaps in preparedness.

The UK response: devolved aspects

The story of how devolution beyond England operated in the context of COVID-19 is very different to the story of local government in England: in the devolved nations, Westminster and Whitehall found, sometimes to general surprise, that not all aspects of a UK-wide crisis would be dealt with at UK-wide levels.

COVID-19 was, by some distance, the most serious and sustained emergency to hit the United Kingdom under its current devolved arrangements, which were introduced in the late 1990s.

This section of the chapter looks at the issue in three parts:

1) Preparations and planning for the devolved aspects of a national crisis, including a public health one ('Planning for UK emergencies: the devolved context', p.105).
2) The initial phase of the pandemic handling, from the beginning of the year until early May 2020, when, by agreement, very few differences across the four constituent parts of the UK were evident ('Initial stages: voluntary alignment', p.108).
3) The phase after May 2020, when significant differences began to be apparent ("Divergence: early May 2020', p.113).

1) Planning for UK emergencies: the devolved context

There are four important things to note about the framework through which it was envisaged UK-wide emergencies would be handled at a devolved level.

Asymmetry

First, devolution is asymmetric. The powers devolved to Scotland are different to those devolved to Wales, and Northern Ireland is different again. Overall, Scotland and Northern Ireland have significantly more autonomy than Wales, not least because policing and justice are devolved, whereas in Wales such matters are reserved[30] to the UK government at Westminster. There are differences between the Scottish and Northern Irish devolution arrangements too. Most asymmetrically of all, there are no bespoke arrangements at all for England, the home of the vast majority of the UK population. The UK government and the government for England are one and the same. In properly federal constructs, like Germany and Australia, each unit of regional government has the

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30   Throughout this section 'reserved' and 'reserved function' refer to those powers held by the UK government at Westminster and not devolved to the UK's constituent nations.

same powers and the national government plays the same role in each. In the UK, which is not a federal state, the situation is much messier: sometimes the government in London is acting as the government of the whole UK (for example in matters of the deployment of the Armed Forces, or border control); sometimes it is acting only as the government of England (for example in matters relating to NHS management); sometimes it is acting as the government of England and Wales, and so on.

Of particular significance in the UK's constitutional arrangement is an imbalance between revenue and expenditure in the devolved administrations. The way the funding mechanisms work, and the limitations on the tax-raising and borrowing powers of the devolved administrations, mean that much of the major expenditure associated with the COVID-19 emergency was at UK-wide level, most notably in matters of employment support (the furlough scheme).

Functions remain devolved in a crisis

The second important aspect of the framework is that crisis preparations assumed that the devolved administrations would lead in an emergency on those aspects of a crisis that were devolved – in other words that devolution would largely be preserved in a crisis. The Civil Contingencies Act 2004 set out the powers of the UK government in reserved areas, but then set out powers and responsibilities of the devolved administrations largely in line with the devolution settlement, with wording to that effect set out very clearly in UK government explanatory memoranda.[31] In short, this meant that the expectation was that the devolved authorities would lead the public health response in a pandemic, given that health is almost entirely devolved in all three jurisdictions beyond England. (In healthcare provision, for example, although the common branding of the NHS is used, it is essentially four separate services.)

The UK-wide emergency framework envisaged devolved leadership of devolved functions.

Similarly, many aspects of civil protection and the sorts of functions mentioned by the Act are devolved in Scotland and Northern Ireland; the weaker powers of the Welsh Government meant the situation was more complicated there. For example, Wales had the same framework of Local Resilience Forums as England, with Local Resilience Forums as the primary local bodies with statutory obligations for emergency response; Local Resilience Forums do not exist in Scotland or Northern Ireland. What is clear, however, is that the UK-wide emergency framework envisaged devolved leadership of devolved functions.

Accordingly, devolved administrations were expected to have – and did have – their own crisis management capabilities; these were smaller than those of COBR and the Civil Contingencies Secretariat, given the smaller populations they served and the narrower range of functions, but they still existed. All this mattered, given that the emergency in question – public health – is an almost entirely devolved function for all three devolved administrations. The report following Exercise Cygnus[32] illustrates this well. One of its recommendations covered the need to examine the legislative basis for managing a pandemic. Having pointed this out at UK-wide level, the report then went on to recommend that 'the Devolved Administrations should consider developing equivalent

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31 See the separate references to consistency with the devolution settlement in this 2011 explanatory note: https://www.gov.uk/guidance/preparation-and-planning-for-emergencies-responsibilities-of-responder-agencies-and-others
32 A 2016 flu pandemic exercise

legislation in areas of devolved competence'.[33]

It is also important to note that while the UK had not experienced a pandemic in the devolution era (though, as outlined above, devolved administrations were involved in the planning framework for the management of one), the UK's crisis management framework had been tested in a devolved context on multiple occasions in more confined and time-limited crises. Examples include the following:

- In 2007, a serious though ultimately unsuccessful terrorist attack took place at Glasgow Airport. While counter-terrorism itself is a reserved function and a combination of the Home Office, MI5 and the Metropolitan Police lead on it, any event of this nature impacts on devolved functions (local transport, community policing and the NHS), and this was the first major event requiring crisis management across the reserved–devolved boundary since the Scottish National Party replaced Labour as the main party of government in Scotland. It involved the First Minister of Scotland, whose political objective was the establishment of a separate Scottish state, attending COBR.
- The ash-cloud-related air travel difficulties of 2010 required management across reserved and devolved competences throughout the UK.
- The so-called WannaCry cybersecurity incident in May 2017 saw computer systems in the NHS affected in both England and Scotland. In this case many of the functions relating to the detection and the response to the attack were reserved, but managing the consequences of it in the health service was devolved. Devolved health ministers from Scotland and Wales took part in the COBR deliberations.

Heightened debate around devolution following Brexit

Third, the UK's departure from the European Union had led to a new dynamic, and to some extent new tensions, between the UK government and the devolved administrations, and more debate about where reserved–devolved boundaries lay than had been the case for some time. The repatriation of certain powers from European level to the UK led to debate about whether such powers should be exercised at UK level or devolved level. These debates did not meaningfully affect the allocation of responsibilities, but they did introduce a higher level of administrative and Parliamentary conflict between Westminster and the devolved capitals than had been the case for some years. In particular, the so-called Sewel Convention, a non-binding but, until the Brexit debates, always-observed procedure whereby London did not legislate for devolved competencies without the consent of the devolved legislatures, was widely seen to have broken down, and there were several notable instances where Sewel was not observed.

Perhaps as a result of these tensions, just before the pandemic (in November 2019) a report was published by the former government minister Lord Dunlop[34] about how the UK government could better manage its relationship with the devolved administrations. Lord Dunlop's review was not concerned with emergency arrangements, though he did note that the UK government's Cabinet Manual provided for devolved ministers to be invited to Cabinet sub-committees as part of any emergency response, and he floated the idea of this being expanded. The report as a whole was in response to concern about

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33 See Key Learning, Lesson 2 in the response to Exercise Cygnus: https://www.gov.uk/government/publications/uk-pandemic-preparedness/exercise-cygnus-report-accessible-report

34 Review of UK Government Union Capability, November 2019 by Lord Dunlop https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/972987/Lord_Dunlop_s_review_into_UK_Government_Union_Capability.pdf

atrophying relations: leading members of the government complained of an approach of 'devolve and forget'; Professor Michael Keating, one of the leading scholars of devolution, noted that the changes of the late 1990s had transformed the way Scotland, Wales and Northern Ireland were governed but hardly changed the way Whitehall worked at all.[35]

Changes to governing parties

Finally, it is important to note the profound political changes over the period of time between the design of both the devolution and crisis-management frameworks and the onset of the COVID-19 pandemic. The devolution settlements (enacted initially in 1998) and the Civil Contingencies Act 2004 took shape in a period when the same party (Labour) held office either outright or as the lead partner in a coalition at both UK-wide level and in Scotland and Wales. By the time of the pandemic, the Conservatives had been in power at UK-wide level, either alone or as the lead in a coalition, for almost ten years, but have never held power in any of the devolved administrations. This meant that arrangements that had mainly been agreed when the same party held the leading role in government in London, Edinburgh and Cardiff (though never Belfast) were put to the test when a different party led the response in each capital.

2) Initial stages: voluntary alignment

As the UK government's own Dunlop review (2019) made clear (along with a significant body of academic scholarship), understanding of devolution was not in the bloodstream of the UK government at either political or official level. That said, as Dunlop himself noted, crisis management was one area where formal arrangements were in place and used largely without complaint. Nothing, however, on the scale of the COVID-19 pandemic had either been faced or tested (the devolution aspect of Exercise Cygnus was not one of its primary features).

As it turned out, the period covered by this report – the first half of 2020 – saw two distinctive phases with regard to devolution. One could be termed voluntary alignment; the other could be called unmanaged divergence.

At the start of the pandemic, the normal practice of devolved engagement in the crisis management process run by the UK government was triggered. In practice this meant that, as in the sort of crises already referenced in this section, UK government ministers or officials would run the meetings, experts from UK-wide bodies would provide much of the detailed input, the devolved administrations would be consulted (though in general devolved aspects did not take up much of the meetings), and actions would be agreed. With a few exceptions, the devolved administrations were content to fall into line with UK government decisions in areas where they had discretion to act differently. This situation continued until well past the announcement of the first lockdown. Even though the devolved administrations, and particularly the Scottish government, began to develop their own communications strategy just before the first lockdown, the substance of what was being communicated to citizens did not vary dramatically between the jurisdictions.

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35   Keating, Michael, *State and Nation in the United Kingdom: The Fractured Union*, OUP 2019, Chapter 2

A particularly and powerfully symbolic embodiment of this was the publication of the Coronavirus Action Plan on 3 March 2020.[36] This was published jointly under the auspices of the health ministries of the UK government (and therefore, in practice, England), the Scottish Government, the Welsh Government and the Northern Ireland Executive, and therefore contained an analysis and set of guidance which was identical, but voluntarily agreed, for each part of the United Kingdom. In a relatively unnoticed part of the plan outlining the various phases of the strategy, from Contain to Delay to Mitigate, the document seemed to envisage some form of joint decision-taking or at least joint analytical underpinning of next steps, noting that 'the decision to step up the response from Contain to Delay and then Mitigate will be taken on advice from the UK's Chief Medical Officers'.[37]

However, even at this early stage there were signs that the devolved administrations were prepared to take their own decisions which contrasted with those of the UK government. For example, when the rest of the UK, from 16 March, was under 'advice' to avoid unnecessary gatherings, Scotland initiated a formal ban on gatherings of more than 500 people as early as 12 March.[38] Scotland and Wales also used some of their relatively limited fiscal powers to assist those in difficulty as a result of the emerging restrictions: on 14 March the Scottish Government announced rates relief for the hospitality, leisure and retail sectors from 1 April,[39] while the Welsh Government set up a scheme which allowed small business to apply for rates relief and grants.[40]

That said, such divergences were minor and, at the time, went largely unnoticed. This was evident with regard to one of the most significant decisions where devolved discretion was essentially total – the closure of schools.[41] The announcement of closures in each of the different parts of the UK came from the relevant authority at a slightly different time, but they were all within days of each other and divergence in schooling policy did not become part of the national debate on COVID-19 handling at the time.

Other UK-wide measures were taken without controversy even though they were of huge significance. The £12 billion assistance package outlined by the Chancellor of the Exchequer on 12 March included, as per normal practice, additional funding for the devolved administrations, known as the Barnett formula, which allowed the devolved administrations to plan to match proportionately the increased funding for the NHS and other responses being unveiled for England.

The prime ministerial statement of 23 March made no mention of the territorial limitations of the measures being announced. But there was no real pushback – certainly as compared to later in the pandemic – from devolved capitals about his failure to make clear which of the measures applied only to England. The subsequent announcements by the heads of the devolved administrations, in effect pledging to introduce the same policy in areas of devolved discretion, made no mention of it, and nor was it an issue of controversy. That was partly because the accompanying legislation being rushed through Parliament within two days of that announcement was abundantly clear on the matter.

36   See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/869827/Coronavirus_action_plan_-_a_guide_to_what_you_can_expect_across_the_UK.pdf

37   See Coronavirus Action Plan, para 4.36, p.17 of: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/869827/Coronavirus_action_plan_-_a_guide_to_what_you_can_expect_across_the_UK.pdf

38   See https://www.gov.scot/news/first-minister-announces-large-events-to-be-cancelled/

39   https://www.gov.scot/news/100-percent-rates-relief-for-heavily-impacted-sectors-1/

40   https://www.gov.wales/written-statement-additional-support-businesses-dealing-covid-19

41   The very modest differences in school closure timetables in March 2020 are captured in this news article: https://www.bbc.co.uk/news/uk-51952314

The Coronavirus Act 2020 and devolution

The Coronavirus Act of March 2020 is a hugely important part of the story because the state acquired unprecedented and unanticipated emergency powers (unanticipated because lockdown had not been a part of the pandemic response plan). Parliament had a choice as to whether to run the entire response at a UK-wide level, or whether to implement the sort of emergency framework envisaged in the Civil Contingencies Act 2004 and in subsequent evolutions of that framework and reaffirm the primacy of the devolved administrations in devolved aspects of the emergency. For better or worse, the UK government and then Parliament chose the latter course.

> Parliament had a choice as to whether to run the entire response at a UK-wide level, or whether to reaffirm the primacy of the devolved administrations in devolved aspects of the emergency. The UK government and then Parliament chose the latter course.

There has been among some commentators, academics and analysts a narrative that the COVID-19 response in the UK represented in part a recentralisation of power in the UK.[42] Yet in terms of the devolution settlement as reached at the end of the 1990s, the Coronavirus Act is a remarkably orthodox piece of legislation that was highly respectful of devolved powers. The Act confers additional powers and duties on the devolved administrations to respond to the pandemic but affords them considerable discretion on how to develop further powers enacted by their own legislatures as to how to implement them. (Indeed, timing issues around the enactment of devolved legislation meant that Northern Ireland's full lockdown came into legal force on 28 March, two days after those of England, Scotland and Wales.)

That discretion plainly allowed for significant divergence from England's approach. In theory, those additional powers and duties could have been imposed on the devolved administrations by Westminster, but in practice, the so-called Sewel Convention was observed and the procedural vehicle needed to convey that the devolved administrations agreed with the changes – known as Legislative Consent Motions – passed unanimously in all three legislatures, in marked contrast to repeated constitutional skirmishes over Brexit's implications for devolution in the years preceding the pandemic, and indeed during it.[43]

What is less clear is how conscious the UK government's decision to stick with an orthodox approach to devolution over COVID-19 was. It does not appear that any serious thought was given at the time to legislating for greater UK government control throughout the United Kingdom (though there were some modest extensions of UK ministerial power, to which the devolved legislatures gave their consent). There are two likely reasons for this: first, the official planned framework envisaged devolved authorities leading on devolved issues; and second, at the time of the Coronavirus Act's passage there was little divergence (and no serious dissent) from leaders in the devolved nations about the approach the UK government was taking. But this meant that by the time divergence did emerge (from around May 2020), a statutory framework for managing COVID-19 had already been voted through by Parliament which entrenched the right to diverge.

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42 See, for example, Morpeth, Janet, *The Impact of Covid-19 on Devolution*, Bristol Short Insights, 2022
43 The different application of the Sewel Convention with respect to coronavirus legislation and Brexit-related legislation is analysed further at https://www.instituteforgovernment.org.uk/explainer/sewel-convention

In the early stages, this right to diverge was barely invoked. When the devolved administrations did something differently, it was normally for understandable specific reasons: for example, on 7 April the Northern Ireland Executive signed a memorandum of understanding with the Irish government on areas of cooperation,[44] reflecting the fact this was the only part of the United Kingdom with a land border. If anything, the early weeks of full lockdown into the month of April saw greater convergence between the four parts of the UK than in normal times, and more power being exercised via the UK government in London. There were two main examples of this.

In the early stages, this right to diverge was barely invoked.

The first was the procurement of PPE and testing equipment. Because of the governance of the NHS in the devolved administrations, it fell to each of the four parts of the UK separately to acquire the high quantities of stocks needed. At a time of a global race for such equipment, this proved challenging. For example, the Northern Ireland Executive entered into a joint procurement exercise with the Republic of Ireland to procure PPE from China, but it failed.[45] In early April, the UK government took over primary responsibility across the UK for PPE procurement and distributed it across the UK in close collaboration with the devolved administrations.[46] Similarly, the UK government said it would acquire testing equipment centrally, given that tests for COVID-19 as a mass product were nascent and in short global supply.[47]

The second was employment support. As already noted, the UK devolution system is highly asymmetrical, not just in terms of the anomalous position of England but also in the imbalance between devolved powers in certain areas. While spending on and the delivery of public services are more often than not devolved, and while tax-raising powers have been extended unevenly across the devolved administrations, a huge amount of fiscal power and other economic policy levers are retained at UK level. In particular, employment support and other key parts of the social security system are carried out at UK level. As it became clear that sustained support for very large sections of the UK population would be needed to counter the employment impact in many sectors, the Coronavirus Jobs Retention Scheme (or furlough scheme) was announced. This was a UK-wide programme, administered by the Treasury through the employment support schemes already run by HM Revenue and Customs. Such schemes operated in a profoundly different way from the additional funding for the NHS allocated in the March budget that immediately preceded lockdown, which were simply cash allocations to the devolved administrations to spend, in theory at least, as they saw fit. They were also different from the PPE and testing procurements which, while organised at UK government level, were distributed by devolved infrastructure in the various parts of the NHS. The furlough scheme was entirely conceived and run by the UK government using the UK-wide infrastructure of HM Revenue and Customs. The differences between the workings of these various mechanisms were to have profound consequences for the territorial aspects of the management of the pandemic in subsequent months.

44 See: https://www.health-ni.gov.uk/publications/memorandum-understanding-covid-19-response-public-health-co-operation

45 An account of this episode can be found at https://www.bbc.co.uk/news/uk-northern-ireland-52091054

46 The first PPE Industrial Strategy, published in April 2020, referenced (see paras 1.54 and 1.55) the centrality of UK government procurement but a collaborative framework for distribution and flexibility for the devolved administrations to pursue supplies of their own. See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/922273/Coronavirus__COVID-19__-_personal_protective_equipment__PPE__plan.pdf

47 The then Health Secretary's pledge to ramp up testing capability to 100,000 per day was a UK-wide target. Announcement of the plan included reference to 'a central UK wide allocation system'. See https://www.gov.uk/government/news/health-secretary-sets-out-plan-to-carry-out-100000-coronavirus-tests-a-day

One early area of difference was in communications. The First Ministers of both Scotland and Wales began daily coronavirus briefings to the media in those countries. Northern Ireland's ministers similarly started their own programme of media briefings. In Scotland, the briefings began on a daily basis on the day full lockdown was announced. Although in the early part of the lockdown these briefings contained no substantive policy divergence from the UK government, and indeed often expressed support for UK-wide measures such as the Coronavirus Act and the furlough scheme, the separate briefings were to become a platform for the communication of different approaches within weeks.

Overall, however, in terms of the devolved administrations' relationships with the UK government, the early stages of the pandemic – in both political and constitutional terms – were a total contrast to the Brexit-related tensions of previous years. The Sewel Convention, tested almost to destruction during Brexit legislation, operated smoothly. Politically, all leaders said they were not observing normal politics at the outbreak of a pandemic.

The UK government explicitly confirmed devolved authority in the crisis in March, without any serious internal or external debate, only to become uneasy with the consequences of that decision within weeks of it.

But this early period of relative harmony hid underlying tensions that were not considered either in pre-pandemic planning, or in the pandemic's early stages. So, whatever the rights and wrongs of what should and should not be done at nation-state level in a crisis, the situation the UK government found itself in was one where it explicitly confirmed – without any serious internal or external debate – devolved authority in the crisis in March, only to become uneasy with the consequences of that decision within weeks of it. This is another example of fundamental questions not being seriously examined in the run-up to the pandemic and it being too late to do so once the emergency had struck.

Formal governance

At this point it is worth briefly setting out the standing structures for managing relations with the devolved administrations and how they were adapted over the course of the early stages of the COVID-19 pandemic. There were various key aspects to this.

- Since the introduction of devolution at the turn of the century, the main body charged with coordination of government across the reserved–devolved interface, and with managing tensions between the jurisdictions, is the Joint Ministerial Committee, chaired by the Prime Minister and involving the heads of all the devolved administrations, with sub-committees on various topics. It did not meet at all to discuss COVID-19. This is not all that surprising; over the course of more than 20 years of devolution it had been seen by many – both academics and those in governments both in London and the devolved capitals – as a weak mechanism. A senior Scottish government minister described the Joint Ministerial Committee as 'bust' at the start of the pandemic;48 the government's own Dunlop Review, prior to the pandemic, had noted its weaknesses.
- As already demonstrated, the COBR mechanisms provided for devolved participation.

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48 Evidence to Parliament from Michael Russell MSP, para 44 https://publications.parliament.uk/pa/cm5801/cmselect/cmscotaf/314/31406.htm

- Regular (and, given the demands of the pandemic, more frequent than before) meetings between the four health ministers, and – sometimes separately and sometimes together – their chief medical officers, were an important part of early coordination. These were widely seen as highly effective in the initial phases, reflected in the alignment of analysis, advice and approach signified in the Coronavirus Action Plan of 3 March.

A crucial change to the governance of the pandemic response was announced on 17 March, when the Prime Minister created four Ministerial Implementation Groups (MIGs) to handle key aspects of the crisis, as well as an overarching group called C-19. The four areas covered were: healthcare, other public services, the economy, and international. Although the Downing Street statement announcing these committees made no reference to devolution, the devolved administrations were invited to take a full part in them. The Ministerial Implementation Groups were the critical forum for decision-taking during April 2020, partly by design, and partly because none of the four subject-specific groups were chaired by the Prime Minister, who was seriously ill with COVID-19 for much of that month.

Overall, the design and operation of the governance structures in the early part of the pandemic facilitated close inter-governmental working across the UK in the period up to the end of April 2020. The Scottish Affairs Committee of the House of Commons, in a report published in July 2020, referred to that period as one of 'unprecedented coordination'[49]. That said, there were no serious policy divergences across the UK's four constituent parts to test it. There were signs that some divergence might be on the way: on 17 April, the First Minister of Scotland suggested that if data showed the disease affecting different parts of the UK in different ways there might need to be some divergence[50] and 11 days later advised the use of face coverings in some circumstances, some time before the UK government (for England) did the same thing.[51]

But alignment remained on the major aspects of the approach. Most fundamentally, the Coronavirus Act mandated frequent reviews of the necessity of ongoing lockdown regulations: the first of these took place over the course of 15–16 April. The continuation of the restrictions was implemented unanimously across the four parts of the UK with no dissent or substantive difference.

3) Divergence: early May 2020

That began to change, and quite profoundly and quickly, in May, as moves to ease lockdown emerged from the UK government that did not have the support of the devolved administrations. The speed of the collapse of the apparent alignment of measures and messaging that had marked the handling of the pandemic across the UK from January to the end of April is remarkable. By the end of the period analysed in this report, i.e. early July 2020, policy had diverged across the four parts of the UK. In

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49   *Coronavirus and Scotland: interim report on inter-governmental relations.* Scottish Affairs Select Committee of the House of Commons, 23 July 2020 https://publications.parliament.uk/pa/cm5801/cmselect/cmscotaf/314/31403.htm#_idTextAnchor000

50   Referenced in Scottish Affairs Select Committee report, timeline, page 10 https://committees.parliament.uk/publications/2039/documents/19573/default/

51   'Scotland recommends face coverings, but England does not follow suit', *BMJ*, 28 April 2020, https://www.bmj.com/content/369/bmj.m1729

general, the UK government's measures for England were less restrictive, and restrictions were more quickly lifted, than in the devolved nations. This pattern was to continue for the remainder of the pandemic in 2020 and 2021.

Not all of this divergence was initiated by the UK government. As already noted, both Northern Ireland (over issues of cooperation with the Republic of Ireland) and Scotland (over face coverings) had made changes of their own to either advice or regulations in April. And the first substantive statement on restriction measures after the second review of lockdown measures came from the Welsh Government on 8 May, 48 hours before the UK government's announcement of an initially limited and then phased removal of restrictions.

The Welsh measures were presented as 'modest changes'[52] and were confined to measures such as allowing more exercise and the reopening of garden centres. In terms of the coordination of pandemic response across the four parts of the UK, the fact of the Welsh measures was more significant than the substance of them, as it was a clear statement, ahead of the UK announcement, that Wales was free to pursue its own path in at least some areas. Although the Scottish Government did not announce its own restrictions until the following week (after the UK government), Scotland's First Minister did say, in response to the Welsh announcement, that 'all four nations now accept there may be differences in pace of how we do these things'.[53] However, she was careful to say this was because 'the level of the virus is at different stages [in different parts of the UK]', rather than because she disagreed with the UK approach. Both First Ministers said that they expected differences from the UK government to be minor.

So the chronology of events shows that it was not the UK government that diverged first from a four nations approach: Wales was the first part of the UK to announce its own relaxation of measures, which turned out to be slightly more cautious than those announced by the Prime Minister in a televised statement two days later. However, there is ample evidence, both from both media reporting at the time and subsequent commentary from Welsh government representatives, that the announcement from Cardiff ahead of the UK government's announcement was prompted by some disagreement with the UK government's approach. This centred on a core measure announced by the Prime Minister on 10 May that the headline instruction to people would change from 'stay at home' to 'stay alert', with consequent changes to various restrictions.

Disagreement with the UK government's approach centred on a change in the headline instruction from 'stay at home' to 'stay alert', and the consequent changes to various restrictions.

The UK government's plans to change the 'stay at home' message had been briefed to the devolved administrations in the course of the week running up to the Prime Minister's 10 May announcement, and, towards the later part of the week, details of the plan were starting to appear widely in British newspapers. For the first time in the process, complaints began to emerge, in both the exchanges between the various administrations and in the media, that the UK government was not consulting the devolved administrations properly or taking their views into account – including on retaining the 'stay at home' message. The First Minister of Wales, in announcing his plan on 8 May, alluded to these tensions in muted terms, saying he was arguing for a 'more reliable pattern' of engagement with the UK government, which he noted was good when it happened, but had become

52 https://www.bbc.co.uk/news/uk-wales-52584690
53 Remarks included in First Minister's daily briefing at https://www.gov.scot/publications/coronavirus-covid-19-update-first-ministers-speech-10-2020/ 10 May 2020

inconsistent.[54] The process leading up to the Prime Minister's announcement of 10 May, following the second statutory review of lockdown measures, is therefore seen by the devolved administrations as the trigger for a more divergent approach. As noted earlier, the Ministerial Implementation Groups, COBR mechanisms, health ministers' cooperation and medical and wider scientific advisory mechanisms were functioning well in terms of devolved participation until this point. These were, however, gradually giving way to two more centralised processes under the auspices of two Cabinet Committees – Covid (S), or strategy, and Covid (O), or operations. The standing membership of these were restricted to a small number of senior UK government ministers, with no devolved representation, though invitations could be extended depending on the subject. By early June, these structures had superseded the Ministerial Implementation Groups.

It is unclear through which mechanisms the 10–11 May plan was finally formulated and, given the pace and pressure under which the work was taking place, one can assume significant amounts of informal and ad hoc decision-taking. What is clear is that the UK government pressed ahead with a set of changes to restrictions that the devolved administrations did not have a role in developing (in marked contrast to the Coronavirus Action Plan of early March), and when they were briefed on it, they did not agree with its central premise on the change from the 'stay at home' message to a 'stay alert' message or with other measures, and therefore began to exercise the powers to diverge that had been reinforced by the Coronavirus Act passed in March. A call between the Prime Minister and the leaders of the devolved administrations on 7 May, where the Prime Minister briefed his plans for announcement that weekend, seems to have been a moment of realisation for all parts of the UK that divergence was now likely. Downing Street acknowledged this in a low-key way in its readout of the call, noting that 'the Prime Minister reiterated his commitment to our UK-wide approach to tackling coronavirus, even if different parts of the UK begin to move at slightly different speeds. Those decisions will be made based on the science for each nation.'[55]

However, and strikingly, for a short period following the announcement the UK government did not formally acknowledge the territorial limitations of the policy. Government press officers acknowledged in response to queries that the devolved administrations were free to pursue different approaches. But the Prime Minister himself, on 11 May in Parliament, was asked by a Welsh MP to clarify that 'on almost everything he has announced today he is acting as the Prime Minister of England'. The response was: 'No, I reject that completely.'[56]

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The legal reality of the UK's devolution and coronavirus legislation soon became evident, however. At her daily press briefing on 11 May following the Prime Minister's announcement, the First Minister of Scotland noted that the Prime Minister 'had set out some of his plan for easing restrictions in England', before emphatically adding, 'I want to reiterate that none of those announcements apply here.'[57] The First Minister of Wales, the following day, stated equally emphatically that 'Welsh laws apply in Wales' and

54 Quotation included at https://www.theguardian.com/world/2020/may/08/wales-to-remain-in-lockdown-for-at-least-three-more-weeks-coronavirus
55 Reported in https://www.theguardian.com/politics/live/2020/may/07/uk-coronavirus-live-boris-johnson-cabinet-meeting-review-lift-lockdown-measures-latest-updates?page=with:block-5eb44c578f08464cd42962b9#block-5eb44c578f08464cd42962b9
56 https://hansard.parliament.uk/commons/2020-05-11/debates/D92692B5-165B-4ACB-BC97-4C3F25D726EE/Covid-19Strategy, Column 33
57 https://www.gov.scot/publications/coronavirus-covid-19-update-first-ministers-speech-11-2020/

referred back to his announcement of 8 May as the relevant laws in the country.[58] The Northern Ireland Executive made a similar statement in a lower-key way, with two junior ministers in the Executive telling a press conference on 11 May that the message for Northern Ireland's people was to 'stay at home'.[59]

The period from 8 to 11 May is therefore the crucial point in the partial disintegration of a coordinated, UK-wide approach to pandemic management. To someone looking at the UK from the outside, the restrictions on normal life remained broadly similar across the four parts, and the economic support package maintaining the economy was almost identical across the United Kingdom. However, that should not obscure the seismic change in approach that occurred, as evidenced by the fact that within a day of the Prime Minister's announcement, all three devolved governments had made formal, televised statements that the Prime Minister's headline change of policy – the removal of the 'stay at home' message – did not apply outside England. And although the Prime Minister – implicitly in his televised statement of 10 May and explicitly in the House of Commons the following day – suggested that the announcement did have UK-wide application, the legal reality was that it did not.

Indeed, in the official 50-page strategy published by the UK government on 11 May,[60] this reality was acknowledged, making clear that the plan announced by the Prime Minister applied only to England. However, the messaging had caused confusion, to the considerable irritation of the devolved administrations. A study by the Cardiff University School of Journalism less than two weeks after the announcement found that only 11 in 20 people surveyed correctly understood that the Prime Minister's announcement extended only to England.[61]

Extent of divergence in early May

The other divergences beyond the headline message of 'stay at home' were not insignificant, either in terms of the differences in restrictions at the time or as a template for further divergence later in the pandemic.

The fundamental changes announced for England by the Prime Minister included the following:

- The change in the overall messaging from 'stay at home' to the vaguer 'stay alert'.
- A key change in the workplace guidance from working from home unless you can't to the vaguer 'work from home if you can', with specific encouragement for areas like construction to resume.
- A three-phased approach to ending blanket lockdown: the first phase, with immediate effect, allowing very limited social interaction, mostly outdoors; the second phase, envisaged for early June if circumstances allowed, to allow the reopening of most shops and the return to school of some primary school pupils; and the third phase, from early July, the reopening of hospitality and schools in full, if the data allowed (4 July was the mooted target for 'independence day').

58 See https://www.itv.com/news/wales/2020-05-11/in-wales-welsh-rules-apply-watch-live-as-first-minister-gives-latest-coronavirus-press-conference

59 https://www.bbc.co.uk/news/uk-northern-ireland-52624048

60 *Our plan to rebuild: the UK Government's COVID-19 recovery strategy*, 11 May 2020, https://www.gov.uk/government/publications/our-plan-to-rebuild-the-uk-governments-covid-19-recovery-strategy

61 Findings are covered in https://blogs.lse.ac.uk/covid19/2020/05/22/different-lockdown-rules-in-the-four-nations-are-confusing-the-public/

- A new alert system, to be pioneered by new UK-wide institutions, notably the Joint Biosecurity Centre.

The devolved administrations' divergence from this plan varied across Scotland, Wales and Northern Ireland. Each had different timetables for the easing of restrictions, and different tests for triggering the various phases. The UK government's three-phased approach was not followed: by the end of May all three devolved administrations had set out their own 'roadmaps' for the easing of restrictions. Scotland's – initially published on 21 May – had four phases (or five, if lockdown was to be regarded as 'Phase 0'.[62] Northern Ireland's – published on 12 May – had five phases and unlike the UK government plan, but consistent with Scotland, explicitly did not include target dates.[63] The Welsh government plan, published on 15 May, also contained four phases, no target dates and a 'traffic light' system for deciding on whether and when to move to the next phase.[64]

This set the tone for substantial divergence in numerous ways for the rest of the period covered by this report. Among the most prominent divergences were the following:

- Reasonably significant differences in the rules on meeting other people, and the duration of those rules. In general, though not always, these were slightly tighter, and kept in place for longer, outside of England.

- Similarly, differences in the timetable for the reopening of schools, non-essential retail and hospitality, where, in general, restrictions were kept in place for slightly longer outside of England (and, in the case of schools, significantly longer, though in part, in Scotland specifically, this reflected differences in the school calendar year).

- In an example that demonstrates that not all restrictions on normal life were tighter outside England, the UK government moved ahead of the devolved administrations in introducing mandatory face coverings on public transport, announced on 4 June and implemented on 15 June.[65] Indeed the First Minister of Wales complained about the lack of consultation on this measure, which was not implemented in Wales until later.[66] This meant that en-route rule changes applied on the many routes which traversed the England/Wales border.

- Travel both within the UK, and to and from it, became a striking example of divergence, even if often only for short periods of time. This began almost immediately: when the Welsh Government announced its easing plan of 8 May, the provision for unlimited exercise did not apply in England. It was accompanied by a specific warning from the Welsh Government to residents of England not to travel to Wales for the purposes of exercise, and that people would be turned away if they did[67] (it is worth noting that the border areas of England and Wales are significantly more densely populated than the Anglo-Scottish border). Significantly more divergence was to follow both within the period covered by this report and beyond it. When the UK government announced a relaxation of restrictions to allow some

62 See https://www.gov.scot/publications/coronavirus-covid-19-framework-decision-making-scotlands-route-map-through-out-crisis/
63 *Coronavirus: Executive approach to decision taking 12 may 2021* https://www.executiveoffice-ni.gov.uk/sites/default/files/publications/execoffice/execuitveour-approach-to-decision-making.pdf
64 See https://media.service.gov.wales/news/unlocking-our-society-and-economy-wales-roadmap-published
65 See https://www.gov.uk/government/news/face-coverings-to-become-mandatory-on-public-transport
66 His remarks were reported at https://jerseyeveningpost.com/morenews/uknews/2020/06/05/wales-to-consider-rules-on-face-coverings-mark-drakeford-says/
67 Reported at https://www.bbc.co.uk/news/uk-wales-52614204

foreign holiday travel to continental Europe, taking effect on 6 July, Scotland did not immediately follow suit. Indeed, the ban on travelling more than five miles from home imposed by the Scottish Government meant that holidaying within the UK was also not yet possible,[68] and the Scottish administration made clear on 23 June that they did not expect Scots to travel elsewhere in the UK for a holiday.[69] Beyond the period covered by this report, in September 2020 the Scottish Government blocked travel from Greece, and the Welsh Government from part of it, a week before the UK government did so for England. By then, travel within the UK was generally allowed, which meant that technically it was possible, if only for a brief period, for someone from Greece to land in England and then travel to Scotland, but not to travel directly from Greece to Scotland.[70] Such differences between constituent parts of the UK in the free movement of people across internal and external borders were without precedent.

Differences between constituent parts of the UK in the free movement of people across internal and external borders were without precedent.

- Testing and tracing infrastructures, which were always likely to involve some devolved discretion, began to diverge significantly. On 23 April, the UK government's health secretary announced the outlines of the Test and Trace Programme; its Executive Chair was appointed on 7 May. Neither announcement specifically restricted the programme to England, and indeed the Health Secretary referred to the setting up of specialist testing sites under the auspices of the UK government across the UK.[71] The sourcing, and, initially, the provision of the tests themselves were heavily dependent on UK government action. But by the end of May there were four different programmes for testing and tracing. Wales, where some local authorities were pioneering local testing under their own auspices in April, launched Test, Trace, Protect on 13 May;[72] Scotland launched *Test and Protect* on 26 May;[73] and Northern Ireland launched *Test, Trace and Protect* the following day.[74] One very significant difference between Northern Ireland and Scotland on the one hand, and England and Wales on the other, was the approach to contact-tracing apps. As seen in Chapter 2, the UK government, with Wales on board, piloted a bespoke app. Northern Ireland went its own way, using the Google/Apple framework, and was the first part of the UK to roll out an app on 6 August.[75] The Scottish government initially supported the UK government's approach but abandoned the plan in favour of the Google/Apple framework and launched its own app on 10 September.[76]. Although, as we have seen, the UK government eventually changed course and developed an app for England and Wales using the Google/Apple methodology, when it was launched on 24 September it remained a different service to that used in Scotland, with Northern Ireland's separate again.

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68 A helpful contemporaneous explainer of some of these divergences appeared in the *Edinburgh Evening News* on 28 May and can be found at https://www.edinburghnews.scotsman.com/lifestyle/travel/can-i-go-on-holiday-in-july-latest-travel-advice-in-scotland-as-uk-government-gives-green-light-for-foreign-holidays-2867633

69 Reported at https://www.bbc.co.uk/news/uk-scotland-53154138

70 See https://www.gov.scot/news/quarantine-measures-introduced-for-travellers-from-greece/

71 https://www.gov.uk/government/news/new-chair-of-coronavirus-test-and-trace-programme-appointed

72 The plan is referenced here at https://phw.nhs.wales/about-us/board-and-executive-team/board-papers/board-meetings/2020-2021/28-may-2020-board-meeting1/board-meeting-papers/4-2-28-05-20-phw-implmentation-plan/

73 See https://www.gov.scot/news/test-and-protect-rolled-out-nationally/

74 See https://www.health-ni.gov.uk/sites/default/files/publications/health/Test-Trace-Protect-Support-Strategy.pdf

75 See https://www.health-ni.gov.uk/stopcovidni-app. The reason given is interoperability with the app in the Republic of Ireland.

76 See https://www.gov.scot/news/protect-scotland-app-launches/

Conclusion and analysis of the drivers of divergence

By the end of the period covered by this report, on 4 July, many key parts of the response did remain either broadly or entirely similar throughout all parts of the UK. In particular, the economic support package needed to sustain the country during lockdown was universally applied. The differences between the rules applying in the different parts of the UK were often relatively small, and, when they were significant (for example when some shops were open in England but not elsewhere), major divergences did not last for extended periods of time. That said, the position at 4 July was profoundly different from the integrated and united 'four nations' approach embodied in the Coronavirus Action Plan of 3 March 2020. That approach had by and large disintegrated: the formal structures for consultation on measures had atrophied. The critical point in this story is the lack of agreement from the devolved administrations to the 10 May UK government plan to ease restrictions: from that point on, multiple areas of divergence emerged. The divergences led, in effect, to a hybrid and sometimes unbalanced situation. Most obviously, the UK government was, in effect, paying for lockdown across the UK through the furlough and other schemes, but the severity and duration of that lockdown was not within its control for Scotland, Wales and Northern Ireland. This did not become an issue of great salience in the first half of 2020, but it was obvious that it could give rise later on to tensions, and it subsequently did when some of the devolved administrations did not want to lift later lockdown restrictions as quickly as England, but there were questions about the affordability of maintaining them. But even fundamental matters of public health delivery were hybrid: the acquisition of testing capability was, in the early stages of the pandemic, a UK government programme administered under devolved auspices under sometimes different policies and entirely different governance and delivery structures (later in the pandemic, the same would be very evidently true of the vaccination programme).

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One area of the hybrid approach where foundations were laid in the first half of 2020 but bore fruit in the later part of the pandemic was the Joint Biosecurity Centre: it is a widely shared view within the devolved administrations that the Joint Biosecurity Centre – a UK-wide body – made a considerable and largely successful effort to work with the devolved administrations to inform their devolved decision-taking.[77]

While it was explicitly the intention of both the pre-pandemic framework and the Coronavirus Act to allow for divergence, the extent of it, and even in some cases the very fact of it, caused surprise, both within the UK and devolved governments and beyond the institutions of the state. In the early stages of the pandemic the UK government made little effort to specify when its actions referred to England only, especially in high-profile announcements watched and read by millions (the lower-readership formal government papers tended to be more accurate). But the extent of permitted divergence, when that theoretical divergence became a reality, did genuinely surprise many, including some of the devolved administrations. The

> The extent of divergence, and even in some cases the very fact of it, caused surprise.

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77   One example of positive commentary about the JBC from devolved leaders is from the Health Secretary in Scotland in https://www.ft.com/content/05bcdeed-ce2d-4009-a3bc-cf9bb71c43d5

Welsh Government admitted, for example, to being surprised at being allowed to diverge from UK policy on international travel, and, as already noted, intra-UK restrictions on movement were unprecedented.

Finally, and importantly, notwithstanding the crucial role of the UK government in many areas, by the end of the first half of 2020 the devolved governments had accreted a very significant and obvious role in the delivery of the response to a UK-wide crisis. This both significantly enhanced their profile and stretched the capabilities of their own systems, given that all three devolved administrations are, in size, very significantly smaller than the UK government. The First Ministers of Scotland and Wales and the joint leadership of the Northern Ireland Executive and its health minister became the faces of communication to those living in those parts of the UK. Public authorities under devolved control – the NHS, along with the new tracing systems, education departments and others – executed the bulk of the public service response. Less visibly, all three devolved administrations had devolved and highly stretched emergency response teams, who, like the public service delivery bodies, were required to operate at full capacity for many months.

Drivers of divergence

It is important to examine some of the factors driving this divergence. Geography was one, particularly for Northern Ireland: there was no obvious need, for example, at a time when travel between Northern Ireland and Great Britain was essentially impossible for most people, for the same contact-tracing app, or even contact-tracing arrangements, to be in place. Geography also dictated that the Northern Ireland Executive reach understandings with the Government of Ireland about issues of mutual concern.

As different ideas for managing the pandemic emerged, the lack of political alignment mattered. None of the devolved administrations had a party allegiance to the UK government.

Politics was another. While all political leaders were at pains to stress they were uninterested in normal politics during the crisis, and the March action plan showed that united and aligned plans were possible, as different ideas for managing the pandemic emerged, the lack of political alignment mattered. None of the devolved administrations had a party allegiance to the UK government. Moreover, the Scottish Government is run by a party that favours an independent Scotland and is thus incentivised to emphasise a distinctive Scottish approach; Northern Ireland's Executive, now in suspension, was jointly headed by a party favouring Irish unification.

But this does not tell the whole story. There was also the emerging data around COVID-19-related deaths. A July 2020 analysis by the Centre for Constitutional Change at the University of Edinburgh was one of a number of studies appearing to show significantly better outcomes in Scotland than in England and Wales.[78] Other analyses, for example one published in the *Financial Times* on 2 June as the differing approaches were beginning to take shape, showed England faring considerably worse than all three devolved nations: at that time England's death rate from COVID-19 to 24 May was estimated at 94 per 100,000 people; Scotland's at 84; Wales at just over 60 and Northern Ireland's at just over 40.[79] With hindsight, it is possible both to query and to explain these figures. There

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78   See https://www.centreonconstitutionalchange.ac.uk/news-and-opinion/covid-19-excess-deaths-comparison
79   *Scotland's coronavirus record flattered by contrast with south*, Financial Times, 2 June 2020 https://www.ft.com/content/a3fe315f-610a-4086-a6bc-a466a7f33aa1. Quoted death rates have been expressed as per 100,000, not as per 1,000,000, to allow for easier comparison with later data from *Our World in Data*

were comparability and consistency issues over the recording of data. Population density in England is far greater than in Scotland, Wales or Northern Ireland. And as the later course of the pandemic showed, regional peaks and troughs were common. But whatever corrections to and contextualisation of death rates may have occurred retrospectively, *at the time decisions on divergence were being taken,* a narrative with at least some statistical justification had taken hold that the devolved administrations were, by and large, achieving better outcomes than the UK government was for England.

This, along with very well organised and executed communications plans at devolved level, led to a profound and sustained upward shift in both the profile of the devolved governments and the trust of their citizens in them. Scotland provides the most spectacular example: as early as 26 May 2020, an IPSOS Mori poll found that in Scotland 78% of respondents thought the Scottish Government was handling the pandemic well, double the figure for the UK government (34%).[80] Polling in March 2021 by YouGov in Wales found that Welsh voters preferred the Welsh Government's approach to the pandemic over that of the UK government by 59% to 13%[81], and the profile of the Welsh government within Wales rose. Trust in all of the devolved administrations' response to the pandemic within each of the devolved nations remained significantly higher than the corresponding figure for the UK government.

Reflections and recommendations

Just as the pandemic raises profound questions about the relationship between the central and the local within England, the experience of the first sustained, population-wide national crisis occurring under devolution raises questions of the utmost significance for the operation of the UK as a whole in a time of crisis, and for how the UK prepares for a crisis. In many ways, however, the lessons are very different. With local authorities and other local capabilities in England, the challenges are around lack of mutual trust, lack of local empowerment, and at least to some extent lack of local capacity. All of this is underpinned by a highly centralised state within England. Under devolution, however, the UK is very far from a centralised state outside England and so opposite challenges emerge. What is common between the two is that the plans for crisis management prior to the pandemic left a significant lack of clarity as to what was to be done at what level, and how that should best be coordinated.

Some important reflections arise from this. First, it is evident that the UK did not, in advance of the pandemic, have a strategic and coherent view of how devolution would work in reality in such a crisis. Had there been such an understanding, the element of surprise when divergence started to occur would not have existed. To some extent this supports the idea that while devolution has led to profound changes in the operation of government in Edinburgh, Cardiff and Belfast, government in London has hardly changed at all. The UK could have had a framework in advance that clearly and deliberately left key matters in the hands of legislatures beyond the national capital, as is the case constitutionally in two of our comparator countries (Germany and Australia) and many others, including the United States. Or, using the virtually unlimited flexibility of the UK constitution, the plans could have been for a UK-wide approach run under law by the national UK government, in effect involving some temporary suspension of devolved powers for the duration of the crisis.

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80 See https://www.ipsos.com/en-uk/four-five-scots-say-nicola-sturgeon-has-handled-coronavirus-outbreak-well
81 https://www.itv.com/news/wales/2021-03-23/exclusive-poll-results-majority-support-the-welsh-governments-handling-of-the-pandemic

Strange as it may seem from the vantage point of 2023, prior to the pandemic, and certainly in the political circumstances of the period between 1998 and 2007, when so many of both the devolved and emergency planning powers were put in place, such a measure to 'nationalise' the UK response for emergencies would likely not have been especially controversial. The UK is not a federal state with clear and permanent powers for the devolved legislatures, and indeed the devolution legislation makes explicit provision to adjust the boundaries. Even in fully federal countries like the United States, 'federalising' an emergency response occurs fairly commonly, though not for public health emergencies.

Conversely, it is equally unexceptional, particularly in public health emergencies, for the response to be explicitly and irrevocably handled at devolved level (or state level in a full federation). The experience of both Australia and the United States demonstrates this: the Australian Prime Minister[82] and the President of the United States[83] publicly expressed frustration at the pace of reopening in some of the states in those countries, but, constitutionally, there was no question of intervening to overturn those decisions.

What the UK's experience revealed is that going into the pandemic, it was probably in the second camp – in other words the devolved administrations had a lot of autonomy to handle the pandemic – but that there was very limited understanding that this was the case. The profound increases in visibility and public trust in the devolved administrations brought about by the pandemic would make a move now towards providing for the partial suspension of devolution for a wide-ranging national emergency politically unrealistic.

What is therefore needed, and is the first part of the recommendation of this study in respect of the UK and devolved handling of emergencies, is a process to agree a much clearer delineation of responsibilities between the UK's central and devolved levels of government in such cases. This should go beyond public health and could usefully look at things like extreme weather events, transport disruption, hostile nation state activity, cyber attacks and other possible crises.

A second part of the recommendation, and linked to this, is that the UK government, together with the devolved administrations, could usefully review the likelihood of imbalances as well as unintentional anomalies in the governance of the UK in a crisis. The biggest anomaly revealed by the pandemic was the dichotomy between formulating restrictions and paying for their consequences. As the later stage of the pandemic showed, this led to difficulties where, for example, the Welsh Government wished to maintain restrictions but, given the winding down of some UK government support in line with the faster easing of restrictions in England, was struggling to afford the consequences.[84] Addressing this imbalance does not require a judgement on whether the UK or Welsh government's call was the correct one. Instead it requires one of three things: a mutually understood ability for the UK government to centralise all the major aspects of the response (however politically unrealistic that might currently seem); a major reform of devolution to give the devolved administration more powers on an ongoing basis that would remove some of the most glaring imbalances (again, this

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82 See https://www.smh.com.au/politics/federal/scott-morrison-needs-the-cavemen-of-wa-to-move-past-covid-20220418-p5aead.html

83 See https://www.cnbc.com/2020/04/17/coronavirus-trump-demands-states-liberate-amid-protests.html

84 A case for reform of the devolved fiscal framework to deal with such anomalies, argued from the point of view of extending the fiscal autonomy of the devolved administrations, was published by Professor David Bell of Stirling University and can be found at https://ifs.org.uk/publications/options-reforming-devolved-fiscal-frameworks-post-pandemic

would raise very profound issues of constitutional policy); or, much more likely, a much better method for formulating and coordinating the response between the UK and the devolved administrations. The different powers of taxation and employment support on the one hand (largely in the hands of the UK government) and public service delivery on the other (largely devolved) were well known going into the pandemic and therefore these challenges might have been foreseen (particularly if, as the Public Accounts Committee noted and was referenced in Chapters 1 and 2, more planning had been done for the economic aspects of pandemic handling).

But the same is true for some of the more surprising anomalies in the framework, and those which are more specific to emergencies. The main area of focus here is travel, both within the UK and internationally. There is no evidence that in any of the frameworks and exercises on emergency planning done in the UK over two decades or so any thought was given to the possibility that restrictions would be placed on travel between England, Scotland and Wales over and above general restrictions on individuals' freedom to move around. Equally, as noted earlier, the devolved administrations were surprised to find that they had the power to restrict international travel when the UK was not doing so for England, leading to obvious exploitable loopholes which blunted the impact of the measures. This came down to the overlap between reserved powers over UK borders and devolved powers over transport, with devolved governments using the latter to close their airports to certain international flights.

The devolved administrations were surprised to find that they had the power to restrict international travel.

So all of this leads to a third part of the recommendation, which is that the coordination mechanisms for UK and devolved activity in a crisis need a fundamental review. Lord Dunlop's 2019 review of inter-governmental relations suggested some important improvements in the day-to-day management of these relationships outside of emergencies. He cited emergency response as an area where good coordination was possible. However, tested to extremes, as it was during the COVID-19 pandemic, serious strains emerged. That said, this is not a uniformly negative story: the first part of the pandemic showed that alignment and strong coordination with effective joint working were possible. It was both perfectly proper and, in the circumstances – given the analysis in Chapter 1 – correct for the UK government to overhaul its emergency governance structures to handle the COVID-19 crisis. What appears mistaken is the decision in the course of the second quarter of 2020 effectively to remove the standing devolved representation in the new bodies, combined, particularly during that period, with an unwillingness to make clear the territorial limitations of new UK government measures.

The final part of the recommendation is that, assuming the devolved administrations retain a strong role across a range of emergencies, as appears likely, they review their own capabilities for coordinating and leading the response. Many of the reflections and recommendations in Chapters 1 and 2 on how the UK government should address some of the capability gaps in areas like crisis management and mobilising capabilities will apply to the devolved administrations too. In particular, it is worth considering how greater mobilisable crisis-management capability can be introduced into these systems: the era of long emergencies is likely to put a significant strain on smaller administrations.

Taken together, the recommendation of the report on the points raised in this part of the chapter is as follows:

REPORT RECOMMENDATION 9

Faced with future 'long emergencies', and with their extensive discretion of swathes of domestic public service policy likely to continue, the devolved administrations will want to review their own crisis management capabilities. But additionally, they and the UK government should engage jointly in a fundamental review not just of crisis management mechanisms but of responsibilities. As well as clear weaknesses in the coordination of the response between capitals, clear anomalies were also exposed and these should be examined across a range of threats and risks that are likely to occur in the future. Despite the enormous constitutional implications of revisiting boundaries of responsibility in an emergency, the rarity and enormity of the occasions in which such procedures would be invoked should engender a willingness on the part of the devolved administrations to contemplate a genuine 'state of emergency' where some of their powers are subject to limitations for a temporary emergency period.

A final recommendation for the UK

With the end of Chapter 3, we have concluded the part of this report that is focused on the United Kingdom. There is one final recommendation for the UK, however, across all the topics covered in Chapters 1 to 3:

REPORT RECOMMENDATION 10

The UK system should learn from other countries in its crisis preparation; should, by default, include in its models for crisis management the ability to source and absorb qualitative and quantitative data from other countries during a crisis; and should build a network of contacts within other crisis management centres that can be activated during a multinational or global crisis.

It is the lessons other countries have to offer that we now turn to for Chapter 4.

The COVID-19 experience in four comparator countries (Singapore, Germany, Italy and Australia), and synthesis of lessons across the five countries

The COVID-19 experience in four comparator countries (Singapore, Germany, Italy and Australia), and synthesis of lessons across the five countries

Introduction

The COVID-19 pandemic challenged nation states across the world in an unprecedented way. It put pre-existing government arrangements and their ability to deal with a novel, profound and far-reaching crisis to the test. Because the crisis affected countries worldwide, it gave rise to a variety of governing trajectories. These experiences with the same – yet circumstantially distinct – challenge offer rich ground for comparative lesson-learning.

Although the prime focus of this report so far has been on the UK, this review is, at heart, a comparative exercise. All the previous chapters have been written with the experience of other countries in mind. While the other chapters scrutinised the UK case with an awareness of other countries, this chapter focuses explicitly on four comparator countries. It examines how the COVID-19 pandemic challenged governance systems in Germany, Italy, Singapore and Australia, and identifies the approaches, tools and arrangements that worked well. All are high-income, advanced countries with strong, open economies, in common with the UK; but the four countries each have distinct contexts in terms of geographical setting, systems of governance (including crisis management systems) and experience with previous crises.

The chapter commences with a brief explanation of the background, rationale and method of this international comparison (including the selection of the comparators). An overview of the individual experiences of each the four comparators follows, elucidating their pandemic preparedness, early response to the pandemic, and ability to manage the evolving crisis. For each country, structures, processes and other factors that impacted the COVID-19 response (in comparison with the UK) are identified and highlighted.

Subsequently, the different experiences of the comparators are jointly analysed to tease out factors across all the countries that contributed to an effective COVID-19 response. Ten lessons are then summarised and used to formulate brief, actionable recommendations for policymaking.

Background and rationale for comparison

This report has laid bare some of the struggles of the UK – in crisis management, the mobilisation of capabilities, and multi-level governance and coordination. However, the UK was far from alone. Every country, no matter what its level of perceived preparedness/readiness was, faced its own challenges in navigating the COVID-19 pandemic.

While public health security indices (such as the Global Health Security Index) were correct in warning that national health security was fundamentally weak around the world before the crisis – and are likely right again in cautioning that countries continue to be dangerously unprepared for future epidemic and pandemic threats – they were generally poor predictors of COVID-19's impact on individual countries. Pandemics must be seen not just in a health sector context (or as isolated public health crises) but as part of countries' broader readiness to deal with large-scale crises, which has been and remains inadequate globally and for every country. The nature of crises has become cross-cutting, but national and international systems have not kept up with reality.

On fundamentally global matters, there is a vacuum in international cooperation, with shortcomings in global and supranational governance. The sparse and late responses of organisations such as the WHO and EU early in the pandemic highlighted this. As part of the research for this report, policymakers across all countries repeatedly mentioned – independently from one another and without being prompted – that the WHO's hesitance to declare COVID-19 a global pandemic, and then its late change in mask-wearing advice, unsettled them and changed their relationship with the organisation. Despite the global nature of the crisis, national governments were in the driving seat, with COVID-19 responses predominantly steered from the national level. Indeed, some countries even took back certain powers that had previously been wielded supranationally: countries within the EU, for example, took back control of their own borders, despite the Schengen Agreement (free movement of people within the EU). 'Corona-nationalism' – countries (and even sub-national states) fighting over supplies and closing borders unilaterally instead of cooperating – emerged, and there was a glaring absence of channels or platforms for knowledge exchange between countries.

For an analysis of international COVID-19 responses, nation states thus inevitably remain the unit of inspection. As COVID-19 saw countries making individual responses to the same challenge, it provides a unique opportunity for comparison and lesson-learning.

Italy, Germany, Singapore and Australia have been chosen for study because, as high-income and developed countries with advanced economies (and fiscal capabilities) and mature (historically developed) institutions, they are comparable to the UK. Lessons will therefore be drawn for nations with high state capacities, such as the UK, and therefore the ability to accomplish policy goals.

At the same time, the four countries differ in a variety of dimensions, such as government systems and characteristics, geographical conditions and previous experience with population-wide crises. Significantly, they also differ in how they fared in various indicators (for example, mortality rates or economic impacts) during the first six months of the pandemic. The five countries under study provide both sufficient overlap and sufficient difference for meaningful comparative analysis. Table 1 provides an overview of the relevant characteristics of the countries concerned.

Table 1. An overview of the five countries under study

	UK	Germany	Italy	Singapore	Australia
Governance system	Unitary parliamentary constitutional monarchy (with devolution)	Federal parliamentary republic	Unitary parliamentary republic (with administrative regions)	Unitary dominant-party parliamentary republic	Federal parliamentary constitutional monarchy
Geographical setting	Europe	Europe	Europe	Maritime south-east Asia	Oceania
Experience with population-wide crises	Little	Little	Little	Existing	Existing
Overall impact of COVID-19 (considering mortality, economic impact, etc) in the first six months	High	Moderate	High	Moderate	Low

The research for this chapter was based on various first- and second-hand sources, including but not limited to government inquiries, legal texts, government press releases, internal documentation and meeting notes, as well as pieces of academic literature. The majority of the analysis for this particular chapter was, however, based on multiple private unattributed conversations and interviews conducted with high-level politicians, civil servants and medical experts across the four countries.

In the elucidation of individual country experiences and the comparison between them, this report importantly does not aim to assess or rank 'performance', nor to pillory individual systems or decisions. To do so would be not only unfair, but also impossible, for several reasons. First, COVID-19 hit countries in different ways and at different times. Those who were hit first had to deal with an invisible threat, whereas the others were warned and could prepare and learn from scientific advances. Second, geographical location, the existence of natural borders, the size of countries, and population numbers and density all affected infection control. Third, and crucially, this report is focused on the first six months of the pandemic only. It does not look at the full arc of the pandemic and the total deaths, infections and other impacts over the whole pandemic. Performing 'well' or 'poorly' on such measures at the beginning tells us little about how a country fared overall, across the totality of the pandemic. And, of course, some of the consequences of the pandemic and countries' measures against it are still playing out, and will do over years, meaning that what or who is defined as 'successful' will be under constant review.

Instead of making judgements, the comparison is thus built on the premise that learning what did (and what did not) work well at the start of a crisis from the different experiences of multiple countries is instructive and valuable. It aims to further the understanding of the working of different systems, institutional structures and approaches during COVID-19, in order ultimately to draw lessons that can be useful for every country. By doing so, the broader purpose of this chapter is to stimulate the exchange of knowledge on different responses and on how to prepare for all-

encompassing mega-crises such as COVID-19. As future crises can also be expected to be cross-cutting in nature, transnational discussions will be essential for drawing lessons from previous crises, generating knowledge and organising communication and coordination channels – in short, for advance preparation, individually as well as collectively, for the crises ahead of us.

Individual country experiences

Singapore

General introduction and COVID-19 experience

Singapore, the sovereign island and city-state located at the southern tip of the Malay Peninsula, was singled out for praise for the first two months of its COVID-19 crisis response by international media and experts at the time. Despite its susceptibility to public health crises – given its high population density, its position as an international trading, finance and tourism node in the interconnected global system, and, in COVID-19's case, its geographical proximity to the source – its initial success in preventing the spread of the virus was remarkable. Often described as run by a highly centralised government, Singapore was practically unmatched globally for the efficiency, fast pace and harmony of its early outbreak control. Following the preventive measures already initiated in early January, imported cases were detected expeditiously enough to keep local transmission to a minimum until March 2020. However, COVID-19 clusters in the dormitories of migrant workers, whose wellbeing had already been, according to many, a blind spot of the government prior to COVID-19, tainted Singapore's overall success and gained global attention. As transmissions, propelled by migrant workers, surged, Singapore's government was forced to introduce 'circuit breaker' measures in April. These led to a gradual reduction in cases, put the country back on track and served as an exemplar for other countries.

The spread of the virus among foreign workers led to a steep increase in recorded cases. Yet even then, mortality remained very low.

In summary, Singapore's early response was largely effective in suppressing infections until the spread of the virus among foreign workers reversed the situation, leading to a steep increase in recorded cases. Yet even then, mortality remained stable and very low, demonstrating the country's ability to triage cases and manage its medical capabilities efficiently. Graphs A and B on p.29 show the extraordinary contrast between case rates and death rates in the country: Singapore's case rates on graph A rocket higher than comparator countries (not surprising, given it is a city and so very densely populated), yet death rates over the same period barely register on graph B.

While Singapore's COVID-19 response was successful overall, it is not easily imitable, given the uniqueness of the country's governing structures – with the conservative ruling party (People's Action Party, PAP) deeply embedded in and intertwined with the

bureaucratic structures and domestic society, significantly determining the country-wide mindset and priorities. Its unique broad national cohesion that aligns, almost without exception, politics, bureaucracy and the public facilitated a whole-of-government, whole-of-system and whole-of-society approach in the fight against COVID-19. The case of foreign workers, which considerably undermined the country's success story, is, however, arguably also attributable to that social and political framework. Overall, with these important caveats, Singapore's response can offer lessons for other countries in its existing preparedness, its early actions, the flexibility of its structures, its efficient integration of expert advice, and its technocratic and pragmatic aspiration 'to get things right'.

Table 2. Singapore: key statistics

Area (square miles)	281mi²	Population	5,637,022
Human Development Index	0.938	Population density (number per square mile)	7,915
GDP per capita (USD)	$85,535	Life expectancy and median age (% over 65; % over 70)	83.6 and 42.4 (12.9%; 7.1%)
Health expenditure (% of GDP)	4.1%	Hospital beds (per 1,000 people)	2.4

Preparedness

Singapore prides itself on its crisis management capabilities, which are institutionally anchored in its system and society, with an 'always plan for a rainy day' mentality. Singaporean mindset and culture are critical here. An often-talked-about feature of the Singaporean mentality is 'kiasu' (fear of missing out) – the notion of wanting to ensure as an individual and as nation that you are getting and staying ahead. There is constant emphasis on Singapore's 'special position' in the world as a small island with no natural resources that therefore has to fight hard to seize opportunities and avoid catastrophes. All this informs the value and priority placed on crisis preparedness.

Singaporean mindset and culture are critical and inform the value and priority placed on crisis preparedness.

Accordingly, mandatory military service trains every male Singaporean in responding to crises. Additionally, most ministries host special planning units, constantly preparing for worst-case scenarios, and officials in state service are typically highly educated in their specific area, with talents quickly identified within the system and put into action. Singapore's responses to earlier crises in public health and beyond considerably advanced its capabilities in crisis management before COVID-19. Notably, the SARS crisis in 2003 illustrated the possible impact of an emerging infectious disease on the country and society, and defined the current whole-of-system Homefront Crisis Management System, which is based on the belief that measures must be integrated and coordinated across domains and settings. It also heightened the sensitivity to communicable

diseases (especially avian influenza virus strains originating from intensive animal husbandry practices) spreading beyond borders, leading to safeguards specifically in this area. The experience of SARS not only led to the creation of the Disease Outbreak System Condition (DORSCON) framework, but also provided a mental template and reference point for the COVID-19 response which officials drew on throughout the pandemic. Singapore's swift reaction was further enabled by its global public health surveillance systems, also established after SARS and sensitive to any signs worldwide, and its informal networks of foreign public health officials. Operationally, the National Centre for Infectious Diseases, a 330-bed facility combining treatment with research, opened with felicitous timing in September 2019. Despite these newly established formal structures, actors in the Singaporean system are conscious of the importance in emerging crises of structural flexibility, adaptability (for example the repurposing of structures if necessary) and free information flow – through formal and informal cross-sectional channels.

Early response

Despite the scarcity of information provided by the WHO and China, alarm bells rang in Singapore's global public health surveillance systems around Christmas 2019 when the conditions of the outbreak in Wuhan, China, were reported. Contacts in Hong Kong were reportedly anxious early on, and officials within the Ministry of Health treated the situation as an issue of credible concern, monitoring the situation diligently and convening the first meeting within the ministry on 2 January. The Ministry of Health decided to take Hong Kong as a 'proxy indicator'. They also deemed the situation likely to spread across sectoral boundaries, and so a cross-ministerial warning was issued, and the briefing of other ministries (a standard mechanism) was initiated. After China tightened measures in an unprecedented way, Singapore formally activated its whole-of-system Homefront Crisis Management System, and the Homefront Crisis Executive Group's first meeting of high-ranking ministry officials was convened – de facto led by the Permanent Secretary (of Home Affairs) but with the Primary Secretary and administrative support from the Ministry of Health. While the Singaporean administration was reportedly hesitant to 'shoot ahead' without the WHO declaring COVID-19 as a health emergency of international concern, the DORSCON (Disease Outbreak System Condition) level was raised from green to yellow on 21 January and the Multi-Ministry Taskforce, consisting of all ministers, was set up on 22 January. Realising the possible severity of the situation, Health Minister Gan Kim Yong had come up with the idea of setting up such a ministerial task force as the leading body in the fight against the looming pandemic – constituting a deviation from the crisis management system which was designed to be led by the Homefront Crisis Ministerial Committee. Remarkably, speaking to the importance of informal connections that cut through all levels of the system and are encouraged through targeted networking, Gan recommended Finance Minister Lawrence Wong as co-chair of the Multi-Ministry Taskforce, as someone he could work well with. One day after the setting-up of the Multi-Ministry Taskforce, which was accompanied by an initial official public press conference, the first confirmed case of COVID-19 inside Singapore was detected. In the succeeding governance of the pandemic, the Multi-Ministry Taskforce and the Homefront Crisis Executive Group were at the forefront of making strategic decisions. The Multi-Ministry Taskforce projected political leadership and, at times, consulted with the Prime Minister; the Homefront Crisis Executive Group devised proposals for the Multi-Ministry Taskforce and executed those propositions that were accepted, using the system's subordinated structures.

Much of the early response was strategically modelled on the experience with SARS, presuming that all infections would be symptomatic, and so included only limited

border closures (with borders remaining open to European countries until 13 March, despite the outbreaks there) and, in line with WHO advice, did not include population-wide mask-wearing advice. Chinese New Year celebrations in Singapore raised case numbers slightly, but only certain activities, such as karaoke, were banned as a result. Upon realising the possibility of asymptomatic infections, Singapore made a strategic U-turn, mandating mask-wearing and closing borders. Imported infections had already affected communities, however. Besides students rushing back from across the world and travellers arriving from Europe, cases among foreign workers from the Indian subcontinent 'swept into' the general population through, for example, the Indian sub-community concentrated in Little India.[1] Rising local transmission led to the Multi-Ministry Taskforce announcing a circuit breaker to be starting on 7 April (and initially planned until 4 May).

While decisions were implemented in a top-down fashion throughout the pandemic, the flow of information within the system was purposely designed to be bi- and multi-directional. Remaining faithful to Singapore's aspiration of complete adherence to science and pragmatic policy-making, repositories of medical and public health expertise were used, purposely giving each actor a distinct scope for contribution throughout the pandemic to avoid competition for and dispersion of attention. The National Centre for Infectious Diseases, forming knowledge networks internationally and domestically, housed the COVID-19 Research Workgroup and, importantly, realised the potential for asymptomatic transmission. Similarly, the National Infection Prevention and Control Committee assisted in local cluster management, and the Saw Swee Hock School of Public Health evidenced policy decisions by keeping up to date with international research in the areas of testing and diagnostics, therapeutics and vaccines. The supply and incorporation of advice occurred flexibly in all forms, through reports as well as through the personnel responsible for research and modelling (especially the iterative modelling of the spread of COVID-19) directly presenting to the relevant taskforce within the Ministry of Health or the Homefront Crisis Executive Group, or even to ministers.

To retain public trust, which was seen as a critical commodity, the administration within the Multi-Ministry Taskforce and the Ministry of Health also moved swiftly from a traditional bureaucracy circulating prints and emails to employing new means of communication. Social media and a channel on the messaging app Telegram turned out to be significant channels in the government's communication with the public and with GPs, who had urged the government to find ways to give them real-time updates. The administration was aware of the danger that with the centralised government under the PAP ruling party, scripted messages could be perceived as suspicious by the public, and so decided – while observing the media landscape – to lie low in some areas while empowering well-disposed independent voices and education efforts, such as the COVID-19 chronicles by Dale Fisher.[2] At the same time, the 'mantra' for daily Multi-Ministry Taskforce press conferences (which generally staged the same faces, including medical experts), remained 'tell it as it is' and 'tell the public as much as we know' – building a relationship with the public based on honesty and evidence.

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1   'Firebreaks' separated the migrant-worker outbreak from the outbreak in the broader/general community for the rest of the pandemic, using ethically highly questionable means: these 'firebreaks' completely locked down migrant worker dormitories, in which conditions for transmission were particularly favourable, given the deplorable living conditions.
2   https://medicine.nus.edu.sg/news/the-covid-19-chronicles/

Managing an evolving crisis

Singapore's overall success in tackling the COVID-19 crisis was, not least, founded upon its ability to innovate in various sectors. One was communication (with different newly established websites, search engines and chatbots). Another was the medical and technological sector, where the Singaporean government provided R&D funds – leading to innovations over the spring and summer that sped up diagnoses considerably, such as a revolution in contract-tracing (through the SafeEntry contact-tracing system) and advances in temperature screening and testing (through 'ready-made' test kits in various versions). Structurally, the administration realised that a genuine whole-of-society approach demanded the incorporation of the private sector and (alongside the state-induced people associations or PAs) grassroots social service organisations. Most doctors in Singapore are private practitioners, generally isolated from each other and the government, but the government incorporated them into the national response at a primary-care level through public–private partnerships, a new step. Additionally, the administration realised, through the painful lesson of the surge in cases in migrant workers, its incapacity to reach such communities through conventional measures, and therefore the need to engage with social service groups rooted in such communities.

In addition to the circuit breaker, the tightening of other measures was announced, and steps to manage capacities were taken. Besides a mask-wearing mandate, the government started in April to establish community-care facilities to which low-risk cases could be sent in order to ensure the availability of hospitals for higher-risk cases. Following 20 April, the day on which the highest number of newly detected cases in dormitories was recorded and the government realised that the multitude of unknown cases was more significant than expected, the circuit-breaker was extended until 1 June, and existing measures further tightened. While the rise of community cases over this whole period stayed below 25 cases a day outside of foreign worker dormitories, cases within these dormitories were much higher and were only considered to be under control in August. The government started to relax general restrictions progressively at the beginning of May to prepare for the end of the circuit-breaker on 1 June. 14 May saw just two new cases outside the migrant worker dormitories[3] and patients were increasingly being discharged from hospital, and on 19 May the Multi-Ministry Taskforce set forth a plan detailing how the country would exit the crisis. In line with Singapore's framing of the crisis as a predominantly public health crisis in which precautionary principles dominated, the roadmap stated that the country would embark on a three-phase approach in order to resume and restart activities safely and introduce a 'new normal'. As part of Phase 1, starting on 2 June 2020, economic activities that did not pose a high risk of transmission were restarted. Phase 2, from 19 June, allowed the almost complete reactivation of the economy, albeit with 'Safe Management Measures' firmly in place. Phase 3 officially started on 28 December 2020, before virus variants of concern overthrew the plans in 2021.

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3   Dormitory cases were being counted, and managed, separately

Lessons from Singapore

Although some of Singapore's achievements in managing the pandemic are of limited replicability (given its small size and the underlying features of its political system), the country still offers lessons on the core areas with which this report is concerned.

Crisis management

- A general culture of sensitivity to risk was translated into adequate crisis preparation. This resulted in general crisis expertise in the civil service, extensive surge capacities, and a broadly shared crisis management mindset – all of which proved highly advantageous in the country's initial response.

- The Singaporean system demonstrated considerable agility, which allowed quick, pragmatic reactions and escalation, and adaptability to the evolution of the crisis and to emerging knowledge. Crisis management institutions could be quickly adapted in format and membership to include decision-takers at the highest levels. The emphasis on purposeful, smooth, multidirectional and direct information flows reinforced agility.

- Even though the crisis was seen through a purely biomedical lens in Singapore, the fact that the crisis management system was based on a whole-of-government framework ensured the incorporation of all actors in the system.

- The adaptation of the Singaporean crisis management system after its experience with previous crises (such as SARS) illustrated the importance of internal learning for preparedness for future cross-cutting crises. Additionally, learning during the crisis, including the realisation that a crisis like COVID-19 requires a whole-of-society approach, enabled critical adjustments.

Capabilities

- Investments in public health translated into strong and flexible capabilities in interrelated structures that could be quickly mobilised.

- Singapore's mobilisation of capabilities was underpinned by the expertise and diligence inherent in its state system, established through a general emphasis on education and training. Scientific expert institutions proved to be a cornerstone of the country's response.

- The creative employment of, and quick shifting of, resources within Singapore's state system allowed it to close urgent capability gaps and enabled the efficient and successful balancing of capacities.

- The incorporation of private and (belatedly) community actors in a whole-of-society approach provided additional capacities and opened up new capabilities.

- Investment in R&D and strong innovative abilities in communication and medicine produced considerable breakthroughs in Singapore's crisis response.

Governance

- The highly coordinated and aligned nature of Singapore's governance system made it easy to connect actors and institutions from different parts of the system, whether for preparedness, scientific expertise or operational governance. Well-defined roles kept the divisions clear between advice, decision-taking, and operational activation of capabilities, and allowed steering from one central decision-taking committee.

- A shared mindset based on an adherence to scientific advice and a pragmatic approach allowed actors to engage collectively in an effective crisis response. Direct communication across hierarchies avoided inefficiencies and information-sharing bottlenecks.

- Pre-existing trust in central government, further nurtured through novel and extensive communication methods, aided governance functions.

- Informal connections, unusually strong within and beyond the Singaporean system, fostered a knowledge of 'who's who', established trust and aided the response from its beginning.

- Centralisation, supported by the common mindset and unity, enabled swift actions in Singapore but arguably created narrowness in attention and provided room for harmful blind spots.

Germany

General introduction and COVID-19 experience

Germany, as an economically powerful country with a highly complex political, administrative and legal multi-level federal system in the centre of Europe, has proven that a greatly decentralised nation state can provide a successful initial crisis response. There were three general levels – the federal government acting as coordinator, the 16 states (Länder) having direct responsibility for public health, and the c.11,000 municipalities (Kommunen) acting as enforcers through delegation and ordinances. The imperative horizontal and vertical coordination between these three levels was expected by most to lead to patchwork effectiveness, but instead generally effectuated competitive innovation, synergy and situational flexibility in the early phase of the pandemic. Institutionalised scientific expertise (in the form of the Robert Koch Institute, centrally), as well as local testing and tracing capacities, allowed Germany to acquire crucial time early on to gain knowledge on the virus, ramp up capabilities and monitor the spread of the virus. Once transmissions were deemed non-traceable, the administration incrementally shifted gear into a whole-of-government approach. States and the federal government agreed upon unitary pandemic control, eventually culminating in a national 'contact ban'. In spring, as several scientific pandemic indicators declined and the first

wave was successfully curbed, this de facto lockdown ended, and greater discretion was given to states and local authorities again. In addition to this largely efficient and timely balancing of uniting and diversifying measures and early success in contact-tracing, Germany's early success was based upon a well-funded and capable public and healthcare sector, overall comparatively strong local capacities, direct communication across all levels of administration and medical experts, and the swift adjustment and creation of new purpose-built structures to fill gaps in the crisis response. Despite the imperfection, the complexity, and the lack of many structures and mechanisms, as well as the sidelining of some existing capabilities and mixed preparedness, Germany managed in the first six months to contain the spread of COVID-19 successfully and keep deaths to a minimum.

Table 3. Germany: Key statistics

Area (square miles)	138,067mi^2	Population	83,369,840
Human Development Index	0.947	Population density (number per square mile)	237
GDP per capita (USD)	$45,229	Life expectancy and median age (% over 65; % over 70)	81.3 and 46.6 (21.5%; 16.0%)
Health expenditure (% of GDP)	11.7%	Hospital beds (per 1,000 people)	8.0

Preparedness

Germany had fundamental preventative resources and structures in place across all levels of administration and in broader society. Following the recognition of the increasing threat of extraordinary, large-scale, inter-state and supra-national crises which could only be 'countered by measures taken by the government as a whole', the 'New Strategy for the Protection of the Population in Germany' was adopted in 2002, which promoted the development in more detail of the prevailing multi-level crisis management system. To increase the coordination between crisis teams from federal authorities, states, operators of critical infrastructures, enterprises and aid organisations, the German Federal Agency for Population Protection and Disaster Assistance (*Bundesamt für Bevölkerungsschutz und Katastrophenhilfe or BBK*) was installed in 2004 and, besides other tasks, started to conduct institutionalised crisis exercises for civil protection in Germany – Inter-state and Inter-ministerial Crisis Management Exercises (Länder- und Ressortübergreifende Krisenmanagement Exercises, or LÜKEX). The aim of these whole-of-society exercises, one of the most extensive of which concerned the tackling of a global influenza pandemic in 2007 – in retrospect, an astonishingly realistic scenario in its details – was to introduce actors to each other and establish, learn and practise common procedures and strategies.

Within the realm of pandemic preparedness specifically, Germany had nurtured a public healthcare system with outstanding capabilities and a sizeable network of health administration structures with exceptional expertise. Centrally, the Robert Koch Institute, as a federal agency and research institute subordinated to the Federal Ministry of Health, is tasked with advising the government on the detection,

prevention and combatting of infectious diseases and non-communicable diseases. It was also the Robert Koch Institute, mandated by the conference of the states' health ministers, that published the first version of the National Pandemic Plan in 2005. The plan intends to 'prepare authorities and institutions at the federal and state level for an influenza pandemic in a targeted manner' and is meant to 'provide a framework that forms the basis for the state's pandemic plans and the municipalities' implementation plans'. Following outbreaks in Germany of swine flu, avian flu and E. Coli, it was updated, reflecting on possible areas of improvement. Combining civil protection with infection protection, the Robert Koch Institute also took the technical leadership for a report on risk analysis in civil protection in 2012 by the German Federal Agency for Population Protection and Disaster Assistance (Bundesamt für *Bevölkerungsschutz* und *Katastrophenhilfe*), investigating a scenario of an exceptional 'pandemic due to Modi-SARS virus'. Findings (including further shortcomings in preparedness) were presented to the Bundestag (national parliament) on this hypothetical worst-case scenario that is, in retrospect, strikingly close to the challenging particularities that COVID-19 posed eight years later. Shortly before the first global outbreak of COVID-19, the Robert Koch Institute published a conceptual framework containing guidance in the case of a pandemic to give 'different actors (state and non-state institutions as well as private actors) an orientation for the own positioning in the complex overall structure'.

As highlighted through these 'cornerstones', Germany possessed, in principle, sophisticated crisis management and public health structures able to deal with an unprecedented infectious disease outbreak. Pandemic plans on the federal and state level were regularly updated, and risk analysis, as well as exercises, yielded amazingly accurate results and potential for engagement. However, even with all this knowledge and all these preventive structures inherent in the system, political interest was insufficient – perhaps because Germany had not faced a substantial pandemic before. Political decision-takers as well as funding bodies (such as the Association of Statutory Health Insurance Physicians) displayed a lack of interest in structures and arrangements for crisis and pandemic preparedness. The actual practice of pandemic and general crisis management scenarios and plans were more of an 'afterthought'. While the extensive planning contained in, for example, LÜKEX exercises was instructive and pointed out areas where issues needed to be addressed, the serious processing of results of analyses and exercises never occurred. Findings were not processed and implemented, especially on the responsible, subnational levels, and existing pandemic plans were frequently outdated, 'put away in a drawer', and never tested. Stockpiled PPE was often forgotten and left to expire. Germany's specific pandemic preparedness was thus mixed, comprising largely unpractised expertise. Holistically, though, the strong capacity of the general healthcare system, decades-old broader routines in vertical federal coordination, and healthy budget balance (based on the institutional debt brake) still gave Germany a great advantage for the actual response.

Early response

The national public health institute (Robert Koch Institute), as part of its routine surveillance activities and constant exchange with global experts, diligently followed the development of COVID-19 from its onset and on 8 January informed the Federal Ministry of Health (Bundesministerium für Gesundheit) about the spread of a new virus in China. Technical guidelines for case-finding, contact-tracing, hygiene and disease management, as well as various other risk assessments and recommendations, were attuned and became available through the Robert Koch Institute as early as 16 January. From 23 January onwards, the Robert Koch Institute started issuing, initially internally

and confidentially, situation reports, including a risk assessment for the national and international public health sectors. Simultaneously, the Charité, Berlin's university hospital, had developed its own COVID-19 test on 17 January, which gave Germany leeway for an early focus on expanding its existing testing capacities (which included accredited and well-equipped laboratories) across the country. The first recorded case in Germany occurred on 27 January in Bavaria, a generally well-prepared region. While it immediately strained the local health authority's contact-tracing resources, a task force of the Bavarian health authority working closely with the Robert Koch Institute was able to break this first transmission chain. This not only provided Germany, as a whole country, with vital time to plan its response, but also yielded crucial knowledge, experience and insights into the transmission dynamics, which were later used for modelling. The fact that isolated patients in Bavaria were showing little to no symptoms and were generally healthy, together with previous experience with the less transmissible SARS-CoV-1 (the virus causing SARS) that had proved easy to contain, led to political appeals to remain calm and questions about how seriously SARS-CoV-2 (the virus causing COVID-19) would strain the strong German health sector. Behind the scenes, however, the Health Minister briefed the cabinet regularly, with the Chancellor (the head of state) reportedly very alert to the topic early on. During this period states, municipalities and their health authorities managed local outbreaks successfully at their own discretion, tailoring their response to the local situation and making use of efficient testing and contact tracing (supported by volunteers and medical students to fill human resource gaps), quarantines and containment orders. Assistance and coordination with high levels were necessary in complex cases such as the repatriation operation for German citizens from Wuhan, however, and federal decision-takers took the unusual step early on of coordinating informally directly with local administrators.

The COVID-19 outbreak in Heinsberg, North Rhine-Westphalia, following a carnival event, denoted a strategic turning-point that saw unprecedented school closures and provided a template for many of the following responses. On 25 February, the realisation set in that, for the first time, the spread of the virus had become untraceable. As a consequence, the state machinery shifted gradually into a 'whole-of-government' approach. Inter-ministerial national crisis management groups, which turned out to be mainly used for information exchange, were set up the next day. Within the same month, funds were also freed up by the Finance Ministry and conversations with supply companies were established in attempts, some more successful than others, to swiftly close gaps (such as missing ventilators or PPE). On 17 March an Intensive Care Unit (ICU) register called DIVI was set up by the German Interdisciplinary Association for Intensive Care and Emergency Medicine and the Robert Koch Institute to monitor centrally the occupation and capacity of ICUs across the whole country.

However, despite the awareness of a looming crisis, Germany resisted a complete centralisation of efforts. The federal government did not evoke the existing constitutional emergency provisions for defence or disaster (Articles 35 and 91 of the German constitution) but instead based the pandemic primarily on the Prevention and Control of Infectious Disease Act (IfSG). The IfSG is enforced in a decentralised way by individual German states, whose governments, in turn, delegate enforcement to municipal authorities by means of ordinances. Hence, when the federal Health Minister – calling himself in retrospect a 'coordinating supplicant' with formally very little legal power – on 8 March 'advised' that all public events with more than 1,000 participants should be cancelled, this was not legally binding but a way of exerting public pressure. Since, during this time of the pandemic, states and local authorities were generally looking for guidance or, at least, 'reassurance' from a high level rather than asserting their autonomy, states willingly acceded.

In order to coordinate measures between states and the federal government and cement a 'whole-of-government' approach in view of exponentially rising case numbers, the government turned to federation–state conferences (Bund-Länder-Konferenzen). These informal meetings went back decades and were tried and tested. They brought together all the states' minister-presidents (leaders of the federal states) under the leadership and moderation of the federal Chancellery. They turned into the central national decision-taking committee for the crisis response throughout the pandemic, and the Chancellor favoured them over any other arrangements, including over the Interministerial Panel on National Crisis Management (planned as an essential building block in Germany's crisis management system and intended as a forum to bring federal ministers and civil servants together during a crisis). Despite having no institutional foundation, being relatively untransparent and being unable to make legally binding agreements, these conferences allowed elected decision-takers at the highest level to agree on actions as quickly as possible in accordance with experts, whose advice became an integral part of these meetings.

> In order to coordinate measures between states and the federal government and cement a 'whole-of-government' approach, the government turned to federation–state conferences, informal meetings which went back decades and were tried and tested. They turned into the central national decision-taking committee for the crisis response throughout the pandemic, despite having no institutional foundation and being unable to make legally binding agreements.

The first meeting of the federation–state conference after the start of the pandemic was on 12 March. Although the meeting was initially scheduled to discuss the 'energy revolution', the Chancellor, in accord with the Bavarian Minister-President, chair of the committee at the time, decided to change the topic of discussion and invited the Robert Koch Institute resident as well as officials from the Charité (the large university hospital in Berlin) to brief the minister-presidents – many of whom were still in the dark about the seriousness of the situation – on the development of COVID-19.

This meeting of the federation–state conference opted for measures to be dependent on local transmission data. However, following the announcement of the Bavarian Minister-President that all schools in Bavaria would close, all states declared the closure of schools on 16 March. The same day, the Joint Guidelines for Slowing the Spread of the Coronavirus were adopted to harmonise the states' containment approach, and the border with Germany's neighbouring countries of France, Austria, Luxembourg, Switzerland and Denmark was closed. Bavaria and Saarland declared a lockdown on 21 March (after the Robert Koch Institute deemed the risk of infection to be high on 17 March), and all other states followed suit a day later. Following the federation–state conference on 22 March, Chancellor Merkel announced that the states and the national government had jointly agreed to implement a 'contact ban' limiting public gatherings to two people (outside of families). This de facto lockdown was introduced to avoid a nationwide patchwork of responses and enable leaders to speak with one voice.

To secure federal unity with uniform regulation across all levels, the federal government took the leading role during this phase of the pandemic by coordinating and moderating inter-governmental agreements. The Ministry of Health, as well as other ministries (such as the Foreign Office and Ministry of the Interior), were equipped (temporarily) with new regulatory powers through a 'corona crisis package' revision of the Prevention and Control of Infectious Disease Act on 27 March, specifying an 'Event of an Epidemic Situation of National Significance'. The Robert Koch Institute intensified its original capacities (as a lead research and advisory institution of the federal government, as an assistance provider to public health offices requesting help, and as a coordinator

between individual states, the federal government and other authorities and agencies). It additionally assumed control of the Kleeblatt-Concept (a system for patient transfers that had originally resided in the Federal Office of Civil Protection and Disaster Assistance); the training of 'containment scouts'; and the procurement of specific medicines (in support of the Paul Ehrlich Institute, generally responsible for vaccines and biomedicines). Finally, it increasingly acted as a communicator not just to healthcare professionals, but also to the public (normally a task of the Federal Centre for Health Education, Bundeszentrale für gesundheitliche Aufklärung).

The experts consulted on a federal level during COVID-19 were specific individuals representing their individual institutions.[4] Professors Wieler (President of the Robert Koch Institute), Dorsten (virologist from major university hospital the Charité) and Kroemer (chairman of the Charité) were the most prominent in the media and advised the federation–state conferences and the Chancellor and the Health Minister directly. In addition to them, political decision-takers on the federal and especially state level relied on their personal network of experts as well as, at times, whoever they had just read or heard about. This made it relatively unclear what team of experts each political decision-taker called and relied upon and went against the National Pandemic Plan, which had foreseen more clarity in advisory structures. On a state level, various ad hoc bodies were established, such as the North Rhine-Westphalia Corona Expert Council, which, against the primarily biomedical framing nationwide, was multi-disciplinary. (Whether this helped to incorporate non-medical perspectives or was the result of purely political strategising remained highly contested.) On all levels, Germany's strategy was fundamentally driven by data and science, with continual tracking of vital medical indicators (infection rate, disease severity and health system capacity), which set clear expectations and provided transparency about the criteria used to determining measures. During this first period, public support for measures was unified. While there was undoubtedly a 'mutual legitimisation' process between scientific experts and politicians, elected politicians were always the ultimate decision-takers.

During Germany's overall successful multi-level early response – the central contours of which have been discussed above – the crisis was viewed through a biomedical lens, and other forms of expertise (for example, the Policy Laboratory in the chancellery) were employed in only a limited or adjacent way. Most of the crisis management structures internal to the federal government were sidelined or left as departmental and ministerial efforts. Remarkably, the German Federal Agency for Population Protection and Disaster Assistance (Bundesamt für *Bevölkerungsschutz* und *Katastrophenhilfe*) was wholly neglected because of a lack of 'political will' to adjust legislation to give it the relevant authority. Fragmented responsibilities created individual tensions for cross-sectional and technical tasks on various levels, and administrative bottlenecks sometimes prevented the processing of existing knowledge in states and municipalities. However, it is remarkable how quickly Germany was able to adjust purpose-bound structures in its traditionally quite rigid legal system and draw upon networks of knowledge and strong local capacities using a level of direct communication unusual in the German system to act swiftly and decisively.

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4   Though with the support of institutionalised expert bodies in the German system (such as the Expert Advisory Board for Pandemic Respiratory Infections at the Robert Koch Institute).

Managing an evolving crisis

Germany's success in the first six months of the pandemic was also fundamentally based on the municipalities, which played an indispensable role. While they were officially mainly responsible for the implementation of decisions, the unprecedented flood of laws, ordinances and regulations still gave them room for regional and local modifications, even during the most 'centralised' phase of Germany's de facto lockdown. This leeway promoted not only local flexibility and responsiveness, allowing municipalities to tailor the measures to the individual situation, but also a culture of experimentation and healthy competition between local entities during all phases of the pandemic. So-called 'municipal speedboats' and smaller cities, as a sweet spot between too-extensive bureaucracy to make quick decisions and too little administrative power/resources, were especially successful. Examples of local tailoring include the early mask mandate in Jena and Cologne's development of a more efficient reporting system. Strong pre-existing capabilities among municipalities enabled local creativity and innovation. Some local solutions found in this environment did not successfully diffuse, since the coordination between municipalities and with higher levels of government was imperfect, but others were discussed and used nationally.

The municipalities played an indispensable role.

In managing the evolving crisis, identifying and attempting to fill existing national capability gaps also played a central role. This was not just done structurally, by organising and adjusting decision-taking and coordination in the beginning, but also by harnessing social innovation and trying to build specific capacities in a targeted way, with varying success. The register for monitoring the capacity of ICUs (DIVI), which had been established in mid-March, solved capacity-related questions incrementally and reported daily from 16 April onwards. The Corona-Warn-App, an open-source project by the Robert Koch Institute, Deutsche Telekom and software company SAP, was decided upon in March and released in mid-June, allowing people to engage in decentralised tracking. In contrast to these success stories, attempts to efficiently bundle, share and process local public health authorities' data on infections and their locations proved more difficult. While the continual reporting of cases, supported by volunteers, had become routine, difficulties arose in the attempted standardisation of data. In line with Germany's well-known backwardness in digital infrastructure, not a small portion of local health authorities were still recording cases by hand and transmitting numbers with fax machines. The Robert Koch Institute had developed or recommended systems for standardisation, such as DEMIS, following the E. Coli outbreak in 2011, but this had rarely been implemented by responsible local authorities. The federal government tried to solve this issue by urging local authorities to use another nationally long-developed system, SORMAS, whose implementation, however, was again relatively unsuccessful. As most health offices decided to stick with their methods of reporting owing to the lack of time and capacity during a crisis, the availability of machine-readable standardised raw data was limited, even as reporting itself continued mostly flawlessly. Another mixed example was the securing and distribution of pandemic resources such as PPE, in what was a global race between countries. Direct communication with individual companies during Germany's early response to the pandemic was supplemented by the establishment of a more stable company network consisting of the heads (of boards) of the biggest German companies. Even though the procurement of ventilators early on was successful, the unsuccessful management of the supply of PPE (especially masks) induced protests among healthcare providers. A crisis team and inter-ministerial procurement committee were established at the end of April, yet the procurement of sufficient masks remained a hotly debated problem area for the rest of the pandemic.

In terms of measures, the national 'contact ban' bore its fruits in spring as pandemic indicators started to paint a brighter picture. With generally robust testing, tracing and treatment capacities in place, the gradual easing of physical distancing measures was announced. In federation–state conferences on 15 April and 6 May, it was agreed that municipalities should regain more responsibility over measures – a position that was further strengthened during the conference on 26 May. A 'hotspot strategy' was introduced to regulate local lockdowns on the basis of incident rates, and dictated most of the summer. Despite a slight uptick in the virus reproduction rate immediately after the easing of measures, the number of cases, hospitalisations and deaths remained at a very low level during the summer. As regional discretion and regional variance in responses marked the summer, the need for coordination decreased, with only two other federation–state conferences occurring on 17 June and 27 August.

During this summer of 'deceptive calm', the federal government tried to resolve some of the capacity issues identified – with varying degrees of success and generally without a great sense of urgency. In an endeavour to induce more digitisation, the Pact for the Public Health Service (Pakt für den Öffentlichen Gesundheitsdienst or Pakt für den ÖGD) was drawn up 'to connect, modernise and ramp up capabilities of public health offices'. The National Reserve for Health Protection was formally created on 3 June to stockpile equipment in case of further waves. Additionally, regulations such as the Prevention and Control of Infectious Disease Act were further sharpened over the summer, detailing legal powers. However, a local outbreak in Gütersloh (a city in North Rhine-Westphalia), as well as debates over free testing facilities for returning tourists, were the only two issues that gained real political and public attention. While plenty of voices warned that the country must prepare for the autumn, a careful line was unable to gain majority support, and caution fizzled out. Most concerns that a specific plan to leave the pandemic and a lockdown in winter could potentially be necessary were dismissed by highlighting better test capacities, more knowledge, and the availability of medicine and digital tools. In retrospect, too little was done too late, and the situation in autumn, for the first time, partially derailed.

Lessons from Germany

Like the UK, Germany was considered by formal evaluations to be well prepared for a pandemic but, similarly, lacked experience with long-term and large-scale crises. Its system was not tailored to the features and nationwide impact of a pandemic. Germany consequently faced some similar challenges to the UK, especially on crisis management, but in contrast to the UK, it was able to fall back on strong pre-existing health capabilities and an interconnected multi-level governing system in its early response.

Crisis management

- Like the UK, Germany did not fully turn pandemic risk identification into proper preparation for a cross-cutting pandemic like COVID-19, with insufficient political priority and insufficient processing of plans and follow-up of exercises. However, existing knowledge and protocols in 'pockets' of the system played out to be valuable.

- Despite the constitutional and historical predispositions that make Germany a traditionally quite rigid and bureaucratic system, it showed considerable agility and adaptiveness in responding to COVID-19 – not only by German standards but also by international standards. Supported by unusual direct communication, this agility enabled Germany to move beyond its pre-existing crisis management system and establish and adjust structures to deal with a nationwide pandemic.

- In common with the UK, the crisis was seen in Germany through a predominantly biomedical lens. In contrast to the UK, though, this did not hinder an escalation to a whole-of-government approach, in part thanks to efficient and direct sharing of information. Even though some crisis management and other expertise was only employed to a limited extent and was dominated by biomedical concerns and steering, decisions on the decisive federal and state level were largely made with the support of the whole system.

- Like the UK, Germany had to 'invent' new structures and reform existing ones to manage the crisis on the basis of evolving needs. As COVID-19 was seen as a health emergency from its onset, and not as a nationwide civil disaster, public health and medical institutions had to extend their crisis management capacities, while other potentially beneficial existing expertise and structures weren't called upon.

Capabilities

- Pre-existing public investment in a strong healthcare system (with ample hospital and ICU capacity) paid off as the backbone of Germany's COVID-19 response.

- Local public health authorities and capabilities proved essential and provided resources and a strong enabling environment that could be mobilised effectively and rapidly. Existing public and private laboratories, as well as volunteers across the nation (in a whole-of-society approach), allowed the country to scale up testing capacities, giving it a crucial head-start in testing and tracing.

- The involvement of expert scientific institutions supported the response through early medical breakthroughs and the surveillance and analysis of the situation. Pre-existing epidemiological expertise and research were heeded extensively and decisively informed policy decisions.

- Investment in R&D and, like the UK, in capabilities to close gaps during the crisis turned out to be paramount when it came to counteracting the depletion of emergency resources, advancing innovation and propping up capabilities in response to emerging needs.

Governance

- Germany's densely connected multi-level system, in which federal states – and through delegation municipalities – were legally responsible for most of the pandemic response, proved that a complex political, administrative and highly decentralised system can be successful in managing an all-encompassing crisis like COVID-19.

- Conferences building upon practised coordination mechanisms and bringing together the most important decision-takers on a national and state level allowed the efficient and timely balancing of measures and efforts that enabled a unified response on the national level while also allowing for diverse local responses. Temporary alignment enabled Germany to avoid patchwork actions and subnational coordination problems and to speak with 'one voice'. Self-governance of states and municipalities under the shelter of a national umbrella enabled specific flexibility and agile responsiveness to individual situations on the ground. Additionally, it provided space for creative/productive experimentation and healthy competition, leading to innovative policy solutions that occasionally were able to spread and be adopted more widely.

- Unusual direct communication horizontally (across states, ministries and actors on all levels) as well vertically (across various levels of hierarchies) ensured agility and aided efficient coordination, even if (apart from purposely established 'mash-institutions' that proved valuable) it was not institutionalised in official channels (which introduced some opacity). Direct communication with central scientific actors allowed Germany's authorities on all levels to base their decisions and strategy on collected available data/indicators.

Australia

General introduction and COVID-19 experience

The Commonwealth of Australia, both a sovereign state and the smallest continent, sitting between the Pacific and Indian oceans, conducted a swift and decisive response to COVID-19, which paved the way for what has been recognised as a better weathering of the first wave of COVID-19 than many other developed countries. Following a short-lived monitoring and detection phase, the national government's early decision to take the virus seriously and make use of the country's unique geographically isolated location by restricting the flow of people into (and out of) the country significantly slowed COVID-19's spread within the Australia's borders. It allowed Australia to withstand the threat of a major imported wave and gain time to learn from the initial responses and experiences of other countries. Australia has a federal political system, and the mostly effective coordination of local and national decision-taking (in the newly established National Cabinet), as well as the centralised advice of public health experts (provided through the Australian Health Protection Principal Committee or AHPPC) allowed the potential problems of a decentralised federal system in crisis to be avoided in the early stages of the pandemic, and swift and coordinated measures to be enacted. Except for some isolated

The national government made an early decision to make use of the country's unique geographically isolated location by restricting the flow of people into (and out of) the country.

occurrences – such as, prominently, the Ruby Princess incident – the aggressive suppression strategy, which included restricting the ability of citizens to leave and return to the country, worked in keeping case numbers low. This strategy, involving not just internal and external border closures but also social distancing measures culminating in lockdown procedures introduced promptly in the second half of March, effectively ended the first wave by late April. In the following period, Australia remained mostly isolated from the rest of the world, but operated within its borders in relative normality, only using localised pandemic control measures. Cases remained extraordinarily low, with only a few outbreaks, concentrated locally. Even though Australia's distinctive geographical particularities and its low population density (overall and in cities) reduced the challenge the pandemic posed, the country performed well in recognising the threat early, making early and decisive use of its unique position and border, coordinating resolute multi-level responses and activating capabilities in government, the private sector and society – keeping the transmission in its population to a minimum in a remarkably effective way for the first wave, despite imperfect preparation.

Table 4. Australia: Key statistics

Area (square miles)	2,941,300mi^2	Population	26,177,410
Human Development Index	0.944	Population density (number per square mile)	3
GDP per capita (USD)	$44,649	Life expectancy and median age (% over 65; % over 70)	83.4 and 37.9 (15.5%; 10.1%)
Health expenditure (% of GDP)	9.9%	Hospital beds (per 1,000 people)	3.8

Preparedness

Australia has been considered a country well equipped for a public health emergency, coming consistently high in global rankings of pandemic preparedness. A series of standing health emergency plans, ranging in complexity from high-level policy to practical specifics, formed the cornerstone of the pre-pandemic structure. Crucially, these plans emphasised a whole-of-government approach and 'joined-up planning' across Australia's system of federalism and drew attention to the importance of joint and coordinated actions between the Commonwealth government, states and territory level. The main national pandemic plan – the Australian Health Management Plan for Pandemic Influenza (AHMPPI) – reflected lessons learned from previous public health emergencies, such as the swine flu pandemic. It did not plan for the closure of international border. It was revised in 2014 to incorporate lessons from the 2009 swine flu (H1N1) outbreak, and last slightly updated in August 2019, only a few months before the COVID-19 pandemic arrived. Australia's recognition as one of the world leaders in pandemic preparedness was also based on its past large-scale pandemic exercises. However, large-scale exercises became the victim of changing priorities, given the relative mildness of swine flu in 2009 and the austerity introduced in the wake of the 2007–8 global financial crisis. As only

smaller exercises were conducted, the relationships between actors and familiarity with responsibilities and structures faded over time. Additionally, politicians failed to heed repeated warnings that the National Medical Stockpile, consisting of 12 million P2/N85 masks and 9 million surgical masks, was inadequate for a large-scale emergency – for example, in terms of gowns, visors and goggles stored – though in the end, the stockpile was depleted more slowly than predicted because of the aggressive border-control measures.

Yet Australia was able to count on its free and universal healthcare system. Despite considerable variation in capacity across states – for example, in the pre-existing ability to conduct testing and tracing programmes, with some local public health agencies relying on paper-based recording methods[5] – the health system proved to be strong during times of crisis. Overall, while pandemic preparedness was de-prioritised before the emergence of COVID-19, leading to some shortcomings (such as a lack of specific plans for vulnerable sectors and groups, including elderly care homes), which were heavily criticised in retrospect, it is fair to say that Australia was in a better position than most other countries before the pandemic struck (though, because of its border-control actions, it was never tested in the same way as the other comparator countries).

Early response

COVID-19 arrived in Australia following the arduous and much-criticised handling of the 'mega' bushfires in 2019. This period became known as the 'Black Summer', and the challenges posed by the fires strained the whole government during much of 2019. Without any breathing space, the federal Australian government, responsible for the monitoring of communicable diseases domestically and internationally, was first alerted to COVID-19 on 1 January by the WHO. By 19 January, the level of alertness was raised dramatically as evidence of human-to-human transmission surfaced, and the next day, 'human coronavirus with pandemic potential' was added to the Biosecurity Determination of 2016 (which builds on and takes its authority from the Biosecurity Act of 2015), which formed the legal foundation for the much of the response in the following months. This update to the Determination on 20 January triggered a range of pre-planned pandemic mitigation measures, including the mobilisation of the National Incident Room and daily meetings of the Australian Health Protection Principal Committee (AHPPC), the federal and state council of public health experts.

After the first case was imported from China on 25 January, Australia banned the entry of foreign nationals who had travelled to China on 1 February. Following the advice of the Australian Health Protection Principal Committee (AHPPC), the Australian government declared COVID-19 a pandemic on 25 February (notably a considerable time before the WHO did so on 11 March), leading to the activation of the Australian Health Management Plan for Pandemic Influenza (AHMPPI). However, as the AHMPPI was deemed insufficient to reflect the specific nature of the virus, the novel Health Sector Emergency Response Plan for Novel Coronavirus was drawn up in consultation with medical experts and public servants. This new adaptation of the AHMPPI was agreed upon and actuated by the National Security Committee of the Cabinet on 27 February. Importantly, it gave the Australian Department of Health additional powers in the national coordination of the emergency response (in consultation with the Australian Health Protection

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5   National Contact Tracing Review, 2020

Principal Committee) and initiated an unprecedented health response roll-out (across primary care, elderly care, hospitals, and research; and for equipment, test and trace and communication). This was supported by a A$2.4 billion first-phase health package (announced on 11 March).

The federal political system of Australia assigns different responsibilities for crisis management, policy adaptions and implementation to the national, state and territory levels. The federal constitution calls for coordination and unity in the face of common threats. As the number of daily new cases rose above 200, a whole-of-government approach was solicited early. In order to avoid inter-government conflict and to facilitate the 'evolving balancing act'[6] between different levels of government, the Prime Minister called together the leaders of all state governments on 13 March to form a federal roundtable – the National Cabinet, which agreed in its first meeting to recommend the cancelling of gatherings with more than 500 people. This forum, meeting weekly in order to build consensus and to coordinate across diverse Commonwealth, state and territory jurisdictions, replaced the Council of Australian Government to avoid excessive bureaucracy. During Australia's COVID-19 response, it became the central national decision-taking committee – described as akin to a war cabinet – despite being unable to make legally enforceable decisions. The ultimate decision to give effect to the collective decisions remained with jurisdictions, but these National Cabinet steers enabled individual states to justify strong decisions and facilitated swift and decisive actions, especially in the early phases of the pandemic.

After the National Security Committee declared a human biosecurity emergency (on the basis of the Biosecurity Act 2015) on 18 March, the National Cabinet agreed on strict social distancing rules (on 20–21 March), which was followed by states incrementally imposing partial lockdowns (New South Wales and Victoria) and imposing internal border closures (Western Australia and South Australia). The states and territories collected case numbers under the effective coordination of the Australian Health Protection Principal Committee and Communicable Disease Network Australia. As new cases continued to increase to over 400 a day, the National Cabinet agreed on the nationwide tightening of measures on 25 March and on restrictions on indoor and outdoor gatherings on 29 March, which took effect the next day. This was supplemented by strong guidance to all Australians to stay at home (except for specific essential activities). Despite leaving it up to states to decide whether and how to enforce this guideline, Australia entered in this way a de facto lockdown at the beginning of April.

Simultaneously, the Commonwealth government had started to make resolute use of its geographical borders, which it had deemed an asset. As more than half of cases in Australia had been identified as directly imported, all travellers arriving in or returning to Australia were required to self-isolate for 14 days from 16 March onwards. Before this, Australia had monitored the situation in third countries diligently to selectively impose travel bans on countries that showed evidence of increasing transmissions (such as Iran, South Korea and Italy). On 20 March, Australia closed its borders completely to all non-Australian citizens, coupled with the globally almost unmatched step of legally banning its own citizens from travelling overseas (through the Overseas Travel Ban encompassed in a determination on 25 March, based on the Biosecurity Act of 2015). On 28 March, a mandatory two-week hotel quarantine was imposed for all remaining international arrivals.

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6   Bromfield and McConnell, 2020

In the midst of the rapid intensification of measures, one incident gained national attention. It not only played a central role in Australia's transmission dynamic but evidenced the challenges of executing escalating measures in an orderly fashion. A cruise ship (named Ruby Princess) was allowed to set sail on 8 March (a time when regulations were still relaxed) for a journey from Sydney to New Zealand and back – despite earlier tours already having been the context of transmission, and despite insufficient preparations by the voyage company. On return to Sydney harbour on 19 March, it was fatally deemed 'low risk' (as coming from 'healthy' New Zealand) by the responsible health authority – despite confirmed positive cases on board and a large proportion of the passengers reporting 'influenza-like' symptoms. While authorities were still adjusting to new regulations, all 2,700 passengers were allowed to disembark without further controls or tests. As the returning passengers spread COVID-19 into multiple states, it became the largest single source of infection during the first wave. The incident indicated the impact of individual actors' lapses as they grappled with the new situation. It also gave rise to further regulations.

Throughout this rapid and unwavering imposition of measures, the National Cabinet's sole official source of expert advice was the Australian Health Protection Principal Committee (AHPPC). The AHPPC, composed of the Chief Medical Officer of the Commonwealth and the chief health officers of each state and each territory, formed the nucleus of expert advice in the Australian system (which generally has strong scientific capacity) and enjoyed great esteem and trust from policymakers and politicians. Policy decisions on both the federal and the state level were at all times based on the consolidated advice from the AHPPC and used modelling, research and data. Even at times when the AHPPC acted ahead of (and against) the advice of the WHO and therefore faced (international) criticism, governments at all levels stuck with the health advice of the AHPPC on central decisions – even if the politicians taking the advice reportedly did not always like it.

In order to implement controls, quarantines, measures and special return flights of Australian citizens, Australian Defence Force personnel, state/territory police forces, and private actors were engaged to close glaring capability gaps. On 25 March the Commonwealth government initiated the National COVID-19 Coordination Commission (which later became the National COVID-19 Commission Advisory Board) to provide advice to the Secretary of the Prime Minister on public–private partnerships and to provide coordination aimed at mitigating the social and economic impacts of the pandemic. It embraced a whole-of-government, whole-of-economy and whole-of-society approach, including hybridised governance mechanisms (to include society- and business-driven approaches to recovery) for overcoming any real or perceived barriers (for example, regarding economic uncertainty).

For public health communication on a national level, the National Cabinet became the primary source of information for the media and the public. Accompanied by the Chief Medical Officer (also representing the Australian Health Protection Principal Committee), the Prime Minister and/or Minister of Health held regular media briefings to inform the public about the decisions of the National Cabinet and the Commonwealth government – always emphasising that government policy was based on evidence and expertise. On a state level, an identical approach was adopted, with premiers and state chief medical officers holding state briefings. This approach secured in the first phase of the pandemic a sustained high level of trust in the strict policies and measures imposed.

Overall, Australia's early response distinguished itself through a remarkably early, swift, aggressive suppression strategy that yielded great success in terms of avoiding the first wave of imported cases and subsequent transmissions. Although the approach

was criticised for circumscribing the liberty of its citizens and imposing measures prematurely, in retrospect, it avoided an early escalation. Despite being a federal Commonwealth, Australia further managed to unite in the fight against the virus and deliver an overall coherent and effective response across the country in this early phase through efficient coordination. Only individual lapses in some areas, such as the Ruby Princess incident (arguably a consequence of the speed of measures introduced), tarnished the overall positive picture.

Managing an evolving crisis

Australia's early assertive 'zero COVID' strategy turned out to be successful in the initial phase of the country's response. Significantly slowing the import and spread of the virus from the onset gave Australia enough time to learn from other countries and maintain control over the situation. The cohesion in the National Cabinet for the first six months, together with a mutual focus on the situation, was imperative to keep inter-jurisdictional and bureaucratic tensions to a minimum. This cohesion (which only deteriorated later in the pandemic, after the situation in the state of Victoria worsened) additionally helped to justify the harsh infringement of Australians' civil liberties: although restrictions were not completely uncontroversial, public trust in the strong governmental response was generally maintained. By late April, the effective flattening of the curve bore fruit, and the first wave had effectively ended. Australia entered a distinctive stage. While international borders remained shut, isolating the country from the rest of the world, Australia itself slowly reopened, with only localised pandemic control measures. With the exception of some locally concentrated outbreaks, COVID-19 case numbers remained low, and, confined within Australia's borders, citizens rapidly resumed many of their freedoms.

A downside of the remarkable effectiveness of Australia's initial suppression strategy was that the country was not pressured to innovate, as most other countries were. Even though the Peter Doherty Institute in Melbourne was the first outside of China to successfully grow the virus from a patient sample, there were arguably relatively few innovations concerning the bigger picture, or moves to remedy deficiencies within the generally successful response. In some areas (notably, elderly residential care), issues with poor planning and uncertainties around leadership structures exacerbated some bad outbreaks during the first wave, but these issues were not rectified for looming further outbreaks. There was no functioning pan-Australia information-sharing system, since states had reported their case numbers differently and with limited data transparency during the first wave, but no moves were made to establish one. Even though contact-tracing had been largely successful, paper recording of cases in some jurisdictions caused delays and gave room for error, but this was not tackled straight after the first wave subsided. The COVID-19 Safe app developed by the government turned out to be a failure, with low take-up and low efficiency in identifying contacts. In sum, as the situation had never derailed and everything seemed under control with the security of closed international borders, insufficient effort was made to prepare for further waves or an eventual reopening of international borders.

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Lessons from Australia

Against the background of Australia being an island-country/continent without any land border, an early reaction based in part on very strict border control allowed the country to escape much of the worst of the first wave of COVID-19. Nonetheless, there is more to the Australian experience than just geography. The Australian case study provides some constructive lessons about how the country managed to implement an early response. It additionally offers valuable insights for crisis management in connection with coordination in a multi-level governance system.

Crisis management

- In the years immediately preceding the pandemic Australia had begun to pay less attention to crisis preparation than in the preceding decade, when it had enacted extensive measures. However, expertise still existent in the system gained through previous crises and decade-old preparation proved highly beneficial. Additionally, the disaster of the bushfires provided an advantage in that Australia went into COVID-19 with an awareness and recent experience of a large-scale and long-lasting crisis – in contrast to the UK. However, like no-deal Brexit preparations in the UK, it also meant that resources in the system were already strained and partially depleted.

- Diligent monitoring of the international and national situation, as well as pre-existing mechanisms, protocols and pre-planned measures/procedures, allowed Australia to escalate quickly and early from risk assessment to whole-of-government action. Together with confident expert advice, originating from the country's multi-level advisory framework, which was deeply integrated in the system, Australia's state system combined above-average preparedness with speed and agility in adjusting previous plans, legal powers and crisis management structures. Flexibility in the system was further evidenced through the realisation of a whole-of-society approach.

- A common pragmatic crisis mindset 'across the board' supplemented Australia's crisis management and guided brave decisions such as employing the geographical features of the country to keep imported cases to a minimum in quite a radical approach right at the start.

Capabilities

- Preparations and provisions for the easy employment of generally well-developed capabilities and resources on a local and state level (despite internal disparities and gaps) allowed for quick mobilisations at the start of the pandemic. Testing and tracing could be rolled out locally as needed.

- Australia's comparatively overall strong healthcare system was not extensively tested and, to the extent that it was, performed well.

- Emergency funding allowed for an unprecedented public healthcare roll-out in anticipation of the looming crisis, and advanced flexible capabilities in various areas. However, as in the UK, after the initial shock had subsided, the further development and improvement of capabilities and innovations became less of a priority, to the disadvantage of future efforts.

- The expertise inherent in the multi-level expert advisory system proved to be instrumental in various ways and provided the basis for, and decisively impacted, central decision-taking, the modification of capabilities and the overall response.

- As in the UK, public–private partnerships and community efforts provided additional capabilities.

Governance

- A common mindset – initially around what was effectively a zero-COVID strategy and cohesion in the crisis management process across actors, states and territories allowed Australia as a whole, in this initial period, to unite behind the fight against the virus. In the first six months, inter-governmental and political tensions were largely absent; this aided efficient horizontal and vertical coordination. (Tensions, however, would emerge later.) Non-government actors were able to be integrated in a coordinated manner through proposedly created hybridised governance mechanisms. But this unity around zero COVID would lead to challenges and tensions later in the pandemic, which are beyond the timescale of this study.

- Assigned roles (in preparation and at the beginning of the crisis) provided clarity in coordination efforts and avoided excess bureaucracy. Publicised evidence and expertise, across all levels, managed expectations.

- A roundtable bringing together the principal leaders allowed them to coordinate actions across diverse and unequal Commonwealth state and territory jurisdictions and enabled them to combine efforts in a coherent response and justify strict and quickly enforced measures while integrating more localised expertise and situational awareness.

- Rapid decision-taking at the highest level was supplemented by efficient coordination, but ultimately had to be implemented by subordinate actors, some of whom struggled to keep up. Individual lapses illustrated the vulnerability of the whole system to overwhelmed individual actors, and exposed individual coordination/communication complications.

Italy

General introduction and COVID-19 experience

An advanced country in the south of Europe, Italy was the first country outside of China and the first in Europe to experience a COVID-19 wave. Unlike other countries, then, Italy did not have the benefit of learning from others, and it was hit badly on a worldwide scale in terms of both mortality rates and absolute death figures. It was also the first country outside China to introduce lockdown measures. Owing to the early onset of Italy's first wave, it served, at a time of high uncertainty regarding the new pathogen and policies to contain and control it, as a learning example for its neighbouring countries and beyond.

Unlike other countries, Italy did not have the benefit of learning from others.

Italy was not only unfortunate to be hit with this unforeseen health threat, but also unprepared and inexperienced. Despite placing a high emphasis on crisis management at the central level, it did not have institutional arrangements and updated contingency plans in place for the eventuality of a pandemic, nor sufficient nationwide capabilities for testing and tracing.

The lack of pandemic preparedness and relevant experience meant that the Italian government had to tap into regular governing arrangements and policy practices to respond to the COVID-19 crisis. A persistent feature of the Italian system is its institutional fragmentation, with a shifting balance in responsibilities between the national, regional and local level. Crucially, health is a decentralised matter, and at the onset of the COVID-19 pandemic a patchwork of different healthcare arrangements and capabilities existed between regions as well as within them, inhibiting a uniform and coordinated response.

However, despite the lack of lack of precautionary measures and the struggles at the start, Italy had successes in terms of institutional initiatives, the response by individuals in the healthcare field, and the compliance of and collaboration among the Italian population.

Table 5: Italy: Key statistics

Area (square miles)	116,631mi^2	Population	59,037,472
Human Development Index	0.892	Population density (number per square mile)	206
GDP per capita (USD)	$35,220	Life expectancy and median age (% over 65; % over 70)	83.5 and 47.9 (23.0%; 16.2%)
Health expenditure (% of GDP)	8.7%	Hospital beds (per 1,000 people)	3.2

Preparedness

Italy has a high risk profile in terms of natural hazards and has had a wide variety of experiences with managing disasters, including earthquakes, floods, volcanic eruptions, storms and land subsidence. Crisis management is at the core of the Italian system of government, and Italy has a national civil protection system in place to respond to crises. This system is coordinated by the government through a specific bureaucratic structure, the Department of Civil Protection, which works together with various national, regional and local institutions and is supported by significant volunteer efforts. It was this department that would be charged with managing the COVID-19 outbreak, and while it had considerable experience and expertise in the management of natural catastrophes, it had had no experience with a health crisis in the half-century leading up to COVID-19.

Pandemic planning was imperfect and outdated. Following WHO recommendations, the Ministry of Health in Italy developed a 'National Plan for Preparation and Response to an Influenza Pandemic' in 2006, defining objectives and activities, agreed with the regions, to prevent and cope with a pandemic. However, the plan had not been revised or updated in the 14 years since its creation, and most of its relevant guidelines (including stocking up on PPE) were never implemented at either the national or the regional level, even though the plan assigned very specific pandemic preparation duties to each region. As a result, these plans were not of use during the outbreak of COVID-19.

Lacking updated pandemic capabilities, Italy still had a highly ranked healthcare system (the national health service – servizio sanitario nazionale, or *SSN*), which could have contributed to an overconfidence in its ability to withstand a public health crisis. As a result of the SSN being highly decentralised, accessibility and functionality of local healthcare services vary greatly between regions. These differences were exacerbated by the pandemic, leading to highly differentiated first health responses in different parts of Italy.

> As a result of the national health service being being highly decentralised, accessibility and functionality of local healthcare services vary greatly between regions.

Crucially, the distribution of competences between the various levels of government had often been characterised by institutional conflict, the administrative system had been widely marked as ineffective, the overall political context had been characterised by volatility and polarisation, and the economic context of austerity had affected the healthcare system. This was a 'perfect storm' when the COVID-19 emergency exploded in Italy.

Early response

The extent of the crisis and measures

When the first cases in Italy were discovered at the end of January, the Italian government suspended all direct flights to and from China, and introduced thermal scanners and temperature checks on other international passengers. Besides border-control measures, the Italian government established a surveillance system for COVID-19, testing suspected cases. A state of emergency was declared for six months. However, there was a widespread assumption that the crisis would not seriously affect Italy and that the virus was just like flu. Although the Health Minister took it seriously, the wider government was reluctant to frame it as a population-wide threat and offered false assurances. This remained the case until the first registered death on 21 February.

On 20 February, a severe case of COVID-19 was diagnosed in northern Italy's Lombardy region in someone who had no history of possible exposure abroad. During the next 24 hours, 36 additional cases were confirmed, without being linked to this patient or previously identified positive cases in the country. This pointed to undetected community transmission. As would be known later, the virus had been circulating rapidly, undetected owing to the lack of data and epidemiological capabilities. The then open borders to other European countries facilitated the spread, and limited testing facilities had focused on symptomatic cases only.

By the beginning of March, the virus had spread all across Italy. Lombardy, as the initial epicentre of the disaster, was unable to contain the virus because the region had built a completely hospital-based healthcare system without public health or primary or preventative care. This made it unprepared and vulnerable to a pandemic like COVID-19 and required the central government to step in.

Despite having no policy template, the Italian government mounted an aggressive response. In reaction to the exponential growth of cases, it initiated lockdown measures from 22 February, initially imposing a quarantine on 11 municipalities in northern Italy. The regional approach to contain the outbreak was formalised on 1 March by the Council of Ministers. The Italian national territory was divided into three categories – the Red, Yellow and Safe Zones – with the quarantine areas called the Red Zones. Lockdown areas were broadened on 8 March, comprising more northern regions. This was part of a broader strategy which assigned different measures to different zones to enable a more targeted control of the virus. Since the start of these measures, there had been an exodus to the south. On 9 March the government abolished the different zones and imposed a nationwide lockdown, accompanied by strong enforcement measures. It was only then that a pandemic was officially declared. On 22 March the lockdown measures were further tightened, and public life had come to a halt. During this response, there were high levels of compliance by the population.

Crisis management

Owing to the lack of pandemic preparedness, crisis management arrangements relied on existing institutional arrangements and the invention of new structures to face a pandemic, progressively involving a multitude of different type of experts, committees and task forces. When the first cases were diagnosed at the end of January, the Italian government activated the Department of Civil Protection, with its head appointed as Special Commissioner for the COVID-19 emergency. While the National Health Institute) is the official governmental advisor on health policy, for the COVID-19 pandemic, a new body was established that had been envisioned in pandemic planning: the Technical and Scientific Committee (CTS). The CTS became the main governmental advisory body throughout the pandemic and provided both technical and scientific support to the Department of Civil Protection. It included the National Health Institute president and representatives of the major national authorities and institutions with technical competencies in the management of infectious disease outbreaks. At the start the Technical and Scientific Committee was criticised for not speaking truth to power and being 'too shy' with their advice. Over time, and during lockdown and beyond, the Technical and Scientific Committee would become advocates of great caution, vocal defenders of strict social distancing rules. Initially, their suggestions were often transformed directly into policy, but they were largely ignored during the later opening up of the country.

The composition of the Technical and Scientific Committee was broadened over time as well as the overall number of experts engaged in the crisis response. Experts were also deployed at the local and regional level, though there was wide variation between regions on this. Some regions created their own regional equivalent to the CTS. Ministers, on the other hand, relied on their own individual expert advisors, for substantiating, legitimising and political motives. The boundaries between advice and decision-taking, as well as the scientific credentials or populist motives for decisions, were often opaque.

The opacity of the procedures and the initial inaccessibility of the documents of the various task forces weakened the transparency of decision-taking processes, while negatively affecting accountability. Initial decision-taking had been very dense both in terms of decisions at the national and regional level and in terms of continual puzzling about what to do and how to do it.

This lack of transparency was replicated in communication with the public, which has been widely criticised for being fragmented and not cutting through the barrage of other narratives (which included misinformation). The only thing communicated on national television was the daily death count, leaving people shocked but not informed. As in other countries, scientific experts played a role in communication, but there was less success than other countries in cutting through.

The mobilisation of capabilities started poorly but was ramped up in the midst of the crisis, with new institutional arrangements added to the crisis management framework in April. First there was testing. The National Health Institute and the Technical and Scientific Committee played a fundamental role in deciding that the testing strategy would be to only administer tests to those with symptoms (this was the case until the end of April), a decision which became a contested issue and was widely criticised. Some regions were ahead of the national government, notably Veneto, which explored a strategy for the mass testing of its entire population (including asymptomatic subjects) as early as February. A nationwide testing and tracing strategy that included the asymptomatic was not set out until mid-April.

To respond to the inadequate availability of both PPE and ventilators, the Prime Minister appointed in mid-March a commissioner in charge of coordinating their procurement. In April, a new committee to develop plans and guidelines for the transition to a reopening was established, composed of experts in economic and social subjects. At the same time the Italian government joined an inclusive alliance for vaccines, a central European procurement scheme between a few countries which was later taken over by the European Commission.

In addition to the Technical and Scientific Committee, the Control Room of the Health Ministry was set up at the end of April: a new consultative body, not part of pandemic planning but created by decree. The 30 April decree laid the basis for pandemic management in the second phase, as it set out the key activity to monitor the spread of the virus. Whereas the system so far had relied on external data coming from China and mathematical modelling predictions based on those data, this meant a shift to an evidence-based response with risk-based scenarios based on Italian data generated by the regions. It furthermore enabled the bi-directional knowledge exchange underpinning the relationship between state and regional authorities and marked an increasingly regionalised approach to the management of the pandemic. This new approach was aimed at avoiding a second national lockdown while tailoring restrictions to local needs.

Governance

Central government was empowered in the initial pandemic phase by the declared state of emergency and under Article 117 of the Constitution, and all lockdown measures were imposed by the Council of Ministers through administrative decree, without parliamentary scrutiny. However, the actual extent of centralisation was compromised by the nature of the decentralised Italian system. Central government is largely dependent upon the regions to implement its provisions, in terms of regulatory and legislative action. The concurrent jurisdiction over health policy between state and regions led to the need for negotiation and compromise. The reluctance to over-centralise the response was also down to the early asymmetric spread of COVID-19 in the country.

Interactions between the central level and the regions were conducted through the State–Regions Conference, which is a permanent collegial organ of the Italian government aimed at supporting institutional collaboration and political negotiations between the central government and the regions. The role of the regions became more prominent through the pandemic response, with regions gaining an increasingly direct role in negotiations about new measures in the pandemic response, especially on how to exit the lockdown.

From the outset of the emergency, it was clear that the Italian institutional system would have serious issues coordinating between the central and regional governments.

From the outset of the emergency, it was clear that the Italian institutional system would have serious issues coordinating between the central and regional governments. The crisis inevitably triggered some political clashes between the national government and those regions that had a different political coalition, and coordination was uneven and not always effective.

The high degree of autonomy of the regions in healthcare was a prime source of coordination problems. Responsibility for public health interventions rested with central government, but the decentralisation of the Italian healthcare system hindered the implementation of a homogeneous strategy. This resulted in contradictory norms at different levels of government and complicated the implementation of measures like the distribution of medical equipment and unemployment benefits.

The decentralised approach was beneficial where local contingent solutions were functioning, but exacerbated poor performance in other regions. The lack of vertical coordination was widely assessed as problematic for an effective national pandemic response.

Although beyond the scope of this report, the vaccination campaign that started at the end of 2020 was not left to the regions but centralised, and was assessed as a success in terms of evenness and effectiveness.

Managing an evolving crisis

As time went on, the question of exiting the lockdown and determining the road forward was contested on several levels, with various interest groups involved and the underlying tensions between centralisation and decentralisation becoming increasingly pronounced. There was strong opposition to the initial proposals to have central government dictate differentiation among the regions on the basis of central data. Lombardy vetoed the proposals, and instead only some minimal common rules for reopening were established,

with differentiation otherwise freely allowed. The degree of social distancing rules was another issue of debate, with the restrictive stance of national government rejected in favour of a proposal presented by the majority of the regions, which halved the distance required. Relaxation of lockdown rules started on the 3 May with the reopening of construction firms and sites. On 18 May all activities reopened in accordance with specific rules (physical distancing, hygiene routines, the use of masks, and suggested ambient temperatures, as well as, when possible, the adoption of smart working), and intra-regional mobility (moving within one's own region but not beyond) was allowed. On 3 June, inter-regional mobility and international travel and could be resumed. Schools remained closed, however, until September.

Overall, after months of continuing conflicts, the national government decided to charge the regions with transmission monitoring and outbreak management during the reopening phases. The fragmentation and chaotic dynamics of Italian regionalism did have some positive effects, as the organisational autonomy of the regions allowed for the sharing of some best practices, especially in Veneto, which immediately adopted effective mass testing and tracing practices. In Emilia-Romagna and Tuscany different and more successful strategies than those indicated by the national government were adopted, as they were in some southern regions that had to deal with massive influxes of people who had been working or studying in northern Italy.

As in other countries, the Italian government struggled with foreseeing and planning for a future wave of cases, and in the autumn restrictions were tightened once again when a second wave hit the country.

Lessons from Italy

Italy has an important role in this report, as it was the first European country to be hit by the COVID-19 crisis, acting in early 2020 as a wake-up call for other countries about the seriousness of this health threat. Unlike other comparator countries in this report, where the virus was successfully contained initially (albeit to differing degrees), Italy faced a public health disaster, with high mortality rates and the first extensive restrictions on normal life in Europe

Italy therefore provides lessons for the UK and others in a different way.

Crisis management

- The recommendations of this report on the UK are all applicable for Italy and even more necessary for Italy, as it was far less advanced in its pandemic preparedness and related crisis management system than the UK.

- Italy lacked significant plans on both risk identification and preparation, and highlights how much more challenging an early response becomes in the absence of these.

- Italy had its own civil protection department but had to broaden and overhaul its institutional frameworks in the midst of the crisis. This need was more profound than that of the UK, as Italy had to set up many institutions from scratch, including specialised expertise and advisory bodies. To manage future large-scale and long-term crises, reflection on appropriate institutional arrangements and mechanisms is needed. The permanent structure of a civil protection department in Italy is a good starting point, but its significance and meaning relies on how it is connected to expertise and related to actors and networks on a multi-level and cross-sectoral basis.

Capabilities

- Despite possessing an advanced health sector, specific pandemic capabilities were underdeveloped, and like the UK, many capabilities had to be set up or procured mid-crisis. The particular lack of epidemiological capabilities and data management within the Italian system had a profound impact on the first wave and cases. The Italian experience reveals not only the importance of solid national data systems but also the relevance of investing more in transnational and international surveillance.

Governance

- Italy highlights that decentralisation has its advantages in terms of promoting localised solutions as well as fostering innovation, but also reveals how the absence of good coordination mechanisms hinders an even and effective response.

- The experience of Italy, as one of the earliest countries grappling with a serious COVID-19 outbreak, also highlights that international governance needs to be strengthened in the domain of crisis management. Countries being alerted by, and learning from, Italy's experience at the start of the pandemic relied heavily on ad hoc exchanges and individuals making efforts to highlight COVID-19's impact in Italy (with mixed success). More structured channels of exchange and collaboration between countries are needed that can be tapped into at the start of the next emerging crisis with potentially global repercussions.

The UK and the four comparator countries: synthesis of findings

The individual experiences of the five countries covered in this report illustrate that COVID-19 struck countries at different times and in different contexts. Each country's response and outcomes depended on geography (region, climate, population density, coastal borders), demographics (most importantly age distribution), state and government features (governance style, administrative structures, political priorities), the pre-existing state of the health sector (including number of available hospital beds, ICUs and ventilators) and the timing of when the COVID-19 entered the country and then became an outbreak.

The countries' COVID-19 experiences and early outcomes must therefore be seen in the light of these underlying factors. Australia's COVID-19 experience was, for example, decisively aided by its natural borders, as closing them early allowed the country to skip the first wave almost entirely in comparison to the other countries. Singapore's experience must be seen in the context of a unique small urban city-state. Italy suffered from being the first European country to be hit. Germany was able to count on a backdrop of a solid health system and strong local capabilities, enabling the quick mobilisation of testing and tracing.

Mindful of this crucial caveat, the following synthesis pulls out some notable commonalities and differences in terms of institutional crisis processes and crisis capabilities, to arrive at ten lessons and connected recommendations that could help all countries in their preparations for future crises.

Preparedness

Across countries, a number of aspects and modalities of preparedness that, in retrospect, seem to have aided responses stand out and deserve attention.

While the danger of pandemics was well known in each country, systems differed considerably in the way they integrated this knowledge and were alert to warning signs. In Singapore, for example, the wary mentality that major crises could hit the country at any time was embedded in the whole society, and crisis management was seen as a matter of national importance and pride. In contrast, such widespread alertness to and prioritisation of potential crises was not prevalent in Europe, even if this knowledge existed within parts of the state machinery (the German Federal Agency for Population Protection and Disaster Assistance and the Robert Koch Institute, for example, modelled the global pandemic scenario remarkably accurately, while the UK had a sophisticated risk-identification system and had undertaken detailed planning for pandemic flu). Experiences with previous localised (in Germany, Italy and the UK) versus cross-cutting (in Australia and Singapore) crises, and the way in which previous crises like SARS were experienced and perceived (variously as far away, an abstract threat, or an acute warning sign) determined not only the priority given to preparation and the way lessons were drawn, but the attitude towards future threats. For European countries, once a crisis had passed, it was often deliberately declared over, and forgotten as soon as possible. In

Singapore, by contrast, officials, being aware of the risks innate in the country's position as a travel and commerce hub and its geopolitical and geographical position, expected crises to happen and engaged in resolute lesson-learning when they did, which led to real preparations (such as the establishment of the National Centre for Infectious Diseases after SARS). The general alertness to pandemics in Singapore and Australia's state systems, always on the watch for indicators of large-scale crisis, facilitated the correct framing and the countries' early responses.

Pandemic preparedness hinged on more than plans and preparations for pandemic scenarios. Rather, countries' preparedness for a cross-cutting crisis like COVID-19 was a function of a range of broader factors, including tried-and-tested coordination mechanisms … [and] the strength of specific sectors.

In retrospect (and insufficiently appreciated in advance), pandemic preparedness hinged on more than sophisticated and specific plans and preparations focussed on detailed pandemic scenarios. Rather, countries' preparedness for a cross-cutting crisis like COVID-19 was a function of a range of broader factors, including tried-and-tested coordination mechanisms, accepted governance arrangements, agility and adaptability of institutional arrangements (and their planning), and the availability of emergency budget, as well as the strength of specific sectors (the health sector most critically, but also digital and procurement infrastructure). Germany's well-funded and robust healthcare system, scientific power, general economic strength and finances, and federal coordination routines, for example, enabled the country to address identified issues quickly, adjust structures and mobilise capabilities (such as laboratories of all sorts) quickly, making up for the fact that – like Australia, Italy and the UK – things like crisis exercises and stockpiling did not enjoy the highest salience ahead of COVID-19.

While they were insufficient to the demands of the COVID-19 crisis, traditional preparations, even if focused on specific scenarios, were helpful and important. Besides raising awareness, they yielded many positive externalities. Pandemic plans formed the initial basis for responses (for better and sometimes worse, as we saw in the case of the UK). Exercises bringing together relevant actors (within and outside of state systems) and fostering knowledge of 'who's who' beyond the routine contacts of the day job allowed the effective coordination and unleashing of expertise and capabilities during COVID-19.

This point about connectedness was essential in the COVID-19 pandemic. Previous real activities that had fostered cross-cutting links proved perhaps even more of an advantage than simulations: the bushfires in Australia, preparations for a no-deal Brexit in the UK, and well-established government–industry links in Germany all nourished networks that were critical during COVID-19. Inter-connectedness was one of the big advantages Singapore had, with state officials at all levels and private actors acquainted or even familiar with each other through previous activities.

Crisis management structures that spanned the whole governance system required less remodelling to deal with COVID-19.

In terms of governance arrangements, crisis management structures that spanned the whole governance system, such as in Singapore (where every part of the government was trained for contingencies), required less remodelling to deal with COVID-19. All systems required at least some remodelling, however, and most required major innovation. Even the Singaporean Homefront Crisis Management System, which stretched across the entire state machinery, needed to be adjusted by adding the Multi-Ministry Taskforce at the top. But this was a minor adaptation compared to the other countries. In general, special agencies

purposely constructed for the preparation for and response to crisis, such as Germany's Federal Office of Civil Protection and Disaster Assistance, Italy's Department of Civil Protection, or the UK's Civil Contingencies Secretariat, were easily overwhelmed and proved inadequate to deal with the extensive nature of the crisis. All countries realised that dealing with a cross-cutting crisis like COVID-19 required a response by the whole system steered from the very top. Flexibly designed existing systems that allowed for quick escalation and incorporation of a wide range of actors were best prepared to innovate in this way.

As we have seen, being prepared for COVID-19 would have entailed considerably more than the general pre-COVID-19 perception of 'pandemic preparedness'. While pandemic plans functioned as a basis for initial actions, they were insufficient and too narrow. COVID-19, as a mega-crisis, would have required countries to expect the unexpected and set aside resources for it. In this sense, being prepared would perhaps have been politically unrealistic, and being fully prepared would have been impossible. However, pre-pandemic factors that in hindsight were advantageous for those countries who had them included high general awareness of the danger of a global pandemic, available flexible resources, a strong public health sector, and robust governance and coordination arrangements, including a crisis management system that stretched across the governance system.

Early response

Across all countries, specific units that were routinely engaged in global monitoring were on the alert for COVID-19. Global channels, such as WHO data and connections between Singaporean and Hong-Kongese officials, facilitated countries' individual efforts in gathering information and assessing the threat.

European countries were keen not to overstate the threat, whereas Singapore and Australia were quick to assume that the response would occupy the whole of government, and acted accordingly.

The initial framing of the danger differed considerably, however. European countries were keen not to overstate the threat, whereas Singapore and Australia were quick to assume that the response would occupy the whole of government, and acted accordingly. This allowed these two countries to adjust and remodel their state systems to reflect a true 'whole of government approach' and implement decisive measures earlier. Even though Singapore was initially hesitant to break with the WHO's advice and assessment of the situation, and Australia was harshly criticised at the time for its 'overreaction', Australia illustrated that early resolute measures could dramatically curb of the impact of first wave.

In all five countries, systems had to be reshaped and rearranged in the face of the pandemic, (though some systems displayed more inherent agility and flexibility, aiding their response). Existing structures had to be remodelled, and new purpose-bound structures created. In many cases organisations with formal mandates and the potential to assist responses were sidelined: in Germany, for example, officials relied on the Robert Koch Institute (with whom they had become familiar in first meetings) in favour of the formal bodies tasked with crisis responses and health communication, the Federal Office of Civil Protection and Disaster Assistance and the Federal Centre for Health Education. In the UK, Public Health England was sidelined once lockdown began. In some countries such decisions were made early, when it was not clear how big COVID-19 would be, and were later impossible to reverse.

Capabilities and resources (such as testing and tracing, PPE and hospital beds) also had to be either generated from scratch or mobilised at an unusual speed and scale, often supported by extensive funding and innovative solutions. To offset the shortage of normal hospital beds in Singapore, for example, halls of all kinds were transformed into community-care facilities.

Rapid research and development was key to countries' responses. In Germany, the Charité (Berlin's university research hospital, one of Europe's largest) developed a test for COVID-19 very early, which, combined with Germany's strong capabilities in translating research into products, enabled the country's focus to shift onto testing and tracing. Development of apps, such as the TraceTogether app in Singapore or the Corona-Warn-App in Germany, also changed responses considerably.

Structurally, executive committees at the highest level emerged as temporary solutions to enable the direct steering of these responses across all state systems, sometimes using or building on existing mechanisms (such as the federation–state conferences in Germany, the National Cabinet in Australia and the Homefront Crisis Management System in Singapore). The UK equally drew up new mechanisms to steer the crisis response, but unlike other countries, there was a significant lack of clarity and stability in terms of decision-taking mechanisms in the early months of the pandemic. Across Italy, Singapore, Germany and Australia, these new 'war cabinets' were imperative for major decision-taking, such as implementing lockdowns.

Besides the common aspect of executive committees, the coordination of the crisis response varied considerably across countries by virtue of different government systems.

In the more decentralised federal states of Germany and Australia, the timely decentralisation and centralisation of measures according to prevailing transmission dynamics proved (for a long time) highly successful in the first half of 2020. The uncertainty of the first wave created a common crisis mindset through which largely autonomous and responsible states were happy to follow a common federal line and aligned voluntarily, especially in the first instance of spiralling transmission. As Bavaria and Saarland declared a lockdown on 21 March, all other German federal states quickly followed suit so as not to be the 'odd one out'. With this dynamic, federal systems provided the setting for states to pull together (without requiring micro-management) when necessary while otherwise providing situational flexibility and responsiveness to local circumstances. It additionally enabled the employment of local expertise and capabilities, improvisation at grassroots level when necessary, and fruitful experimentation, competition and sharing of solutions between autonomous entities (often under a common safety umbrella). Under a national umbrella of measures and coordination, municipalities in Germany, for example, were famously able to employ local capabilities and introduce additional measures according to the severity of the transmission dynamics, which induced a culture of experimentation, healthy competition and the diffusion of solutions.

The problem which might have been anticipated for decentralised federal states, that of a patchwork response, was, then, generally avoided by Germany and Australia in the early months, only emerging for subsequent waves; in Italy, however, the patchwork of healthcare capabilities was a significant problem, as was coordination. Even for Germany and Australia, there were some downsides to a decentralised system during this early period. Disparities in terms of the capabilities of regions led some authorities to be overwhelmed; and judgements on when to 'swoop in' and provide federal assistance were difficult.

In contrast, the more centralised systems of, for example, Singapore benefited from a clear separation of tasks that avoided tensions between levels of government, as well as profiting from speedier decision-taking and full alignment behind a common cause. (How the UK fared in this regard is the subject of Chapter 3.) However, the benefits of a centralised system came at the cost of a supervision burden and the need for central assessment of situations on the ground – often with limited knowledge. The Singaporean case, for example, illustrated how a blind spot (the fate of migrant workers) tarnished the country's overall response and propelled the number of cases.

Both centralised and decentralised systems demanded efficient information-sharing (in the decentralised systems vertically as well as horizontally). Here, 'mash' institutions (ie those focused almost exclusively on efficient coordination and communication between entities) proved beneficial. So did a non-hierarchical two-way communication approach: in Singapore, for example, students modelling infection dynamics briefed ministers alongside their professors; in Germany, the Federal Minister of Health worked directly with some municipal council members.

Across all systems it became apparent that a response to a mega-crisis profits from a 'whole-of-society' approach that includes private and social actors.

Across all systems, whatever their structure, it became apparent that a response to a mega-crisis profits from a 'whole-of-society' approach that includes private and social actors. In Germany, companies shifted their production lines to provide ventilators and PPE. Private airlines supported rescue missions in Australia. In the UK, the University of Oxford and AstraZeneca worked closely with government from the beginning and later (outside the time period covered in this report) delivered a major vaccine success.

It was essential that state and private actors collaborated (through, for example, public–private partnerships), both to close urgent capability gaps and to drive the innovation required to find new solutions to the crisis. In Singapore, private doctors were increasingly involved through public–private partnerships, while the German Corona-Warn-App was a collaboration between the Robert Koch Institute, Deutsche Telekom and software company SAP.

Beyond the private sector and academia, encouraging social innovation and incorporating social networks, non-state actors and universities proved highly beneficial on various fronts. Volunteers and first-year medical students in Germany provided, for example, additional surge capacities for testing (outside the time period covered by this report, this was also true for both testing and vaccination in the UK). Universities in multiple countries modelled transmission dynamics. Worldwide coding competitions brought together knowledge of how to design apps. Notably, a whole-of-society approach helped avoid the exclusion of certain parts of society and allowed for diverse feedback, support and communication. This point was notably (but belatedly) registered in Singapore, when it realised grassroots organisations and social service groups were important communication and feedback channels, especially in relation to foreign workers.

Public support and trust was acknowledged across all the study countries to be a fundamental prerequisite of a successful response.

Related to this, public support and trust was acknowledged across all the study countries to be a fundamental prerequisite of a successful response, not least to secure populations' adherence to measures and the eventual lockdowns. Treated as a commodity, it seemed to have been best managed through an effective communication strategy that reached all generations and communities in society. Regular press

conferences that staged decision-takers and experts united in one central panel to update the public and outline the reasoning behind decisions, emerged as a successful standard method. Alongside this, governments that had not previously embraced multiple communications channels diversified, for example Singapore using social media. To cut through an array of independent narratives, and fight misinformation, honesty, transparency and the open explanation of the rationale behind decisions were effective.

The public provision of expert advice stimulated a mutual legitimisation process in all countries. Politicians, as well as experts, gained popularity and acceptance as they appeared 'in the spotlight' together – which, as long as the roles of advice-giving and decision-taking were clearly assigned and communicated, was integral to cultivating public trust. In general, expert advice was mainly given to governments through centralised and established mechanisms (such as the President of the Robert Koch Institute in Germany, the Chief Medical Officer in Singapore, the chief scientific and medical advisers with the Scientific Advisory Group (SAGE) for Emergencies in the UK, and the Australian Health Protection Principal Committee in Australia). There was also sometimes expert advice given through unofficial channels, such as the personal contacts of politicians, or connections that were formed through sheer chance or the popular prominence of the expert. This introduced an element of opacity that sometimes led to public criticism.

The advice of experts was generally provided in a coordinated manner in all the countries, with a spectrum in the diversity of positions offered to government. At one end of the spectrum was Singapore, where each advisory actor was assigned a specific and separate task in order to avoid overlap – at the cost of double validation and a healthy amount of deliberation. At the other was Italy, where a high level of contestation and questioning of evidence led to politicisation and even hostility.

There was diversity between and within countries in how far expert advice was multidisciplinary, especially in this first wave. In Germany, for example, official expert advice on a national level was almost purely biomedical, whereas various federal states in Germany and in Australia established multidisciplinary panels.

While it was the role of politicians across all five countries to make final policy decisions and choose which advice to heed, there was criticism in some countries (for example, Australia and Germany) that in certain instances experts might have overstepped the mark and given advice beyond their area of expertise.

The legal underpinning for actions across the countries took various forms, but all of it provided the basis for fairly sweeping powers, and allowed for an unprecedented curtailing of social life, which would have been previously hard to imagine across the five countries studied. Overall, the emergency of a global pandemic allowed legislation to be amended flexibly as long as it was supported by the necessary political will and public support –

Germany avoided declaring a national state of emergency because of the particular historical connotations in that country.

and countries' responses were generally more governed by practical considerations, political limitations and medical considerations than juristic details. Historical and political cornerstones were generally respected, even if the situation would legally have allowed them to be overthrown. The curtailing the powers of Italian states would have been legally possible but would have likely produced an extreme political backlash, for example, and was avoided. Germany avoided declaring a national state of emergency despite the situation fulfilling the necessary legal requirements, because of the particular historical connotations in that country (emergency powers aided Hitler's rise).

In broad strokes, the trajectory of the early response of all countries is similar. Once each country had correctly assessed the threat posed by COVID-19, it rearranged its systems to enable a whole-of-government reaction and introduced measures to curb the spread of transmission, which eventually culminated in a lockdown. However, the modalities and particularities of how systems managed to coordinate their response, mobilise capabilities and incorporate experts, the private sector and society provide some valuable insights, which will be covered in the recommendations section below.

Managing an evolving crisis

The early response generally ended with a relaxation of measures following the lockdowns that all countries had, in some form, declared. As the situation was increasingly deemed to be under control, measures were eased, and many states entered (or planned to enter) a state closer to normality, with fewer precautions. Singapore's Multi-Ministry Taskforce, for example, set forth its three-phase approach to re-opening, while Germany introduced its 'hotspot rule' to impose only local lockdowns dependent on incident rates.

During the early response, the strenuous continued efforts of every structure and everyone involved started to leave scars across countries as surge capacities became increasingly depleted. In Germany, for example, the personnel at local public health offices started to tire and 'burn out'. Emergency capabilities had been employed, and interim solutions constructed, without the long term in mind. As this started to show, the relaxation of the emergency state served as a welcome 'breather'.

The relaxation of the emergency state provided a window to get ready for autumn. With hindsight, all countries – with the possible exception of Singapore – did so insufficiently.

However, it also provided a window to get ready for autumn by consolidating, anchoring or remodelling some of the makeshift structures for long-term functionality, and bolstering capabilities on the basis of knowledge gained during the early response. With hindsight, all countries – with the possible exception of Singapore – did so insufficiently, triggering some retrospective criticism. The first wave had exposed capability gaps, some of which were impossible to close during the early response. Earlier chapters discuss this in relation to the UK, and in Germany and Australia, the digital recording of data had proven difficult. While some relevant reform happened in the 'lull' (Singapore introduced their SafeEntry contract system; Germany tried to solve the digital challenge through the comprehensive Pact for Public Health Service), some wasn't viable: people were exhausted; systems needed to recover; and the relative control over cases meant reforms lacked salience.

The COVID-19 crisis was far from over, however. The next, and for some countries worse, wave was coming, and after that there would be more.

In retrospect, the end of the first wave – and the end of the period covered by this report – denoted a turning point in many countries. The in-it-together mindset that united institutions and people, provoked by the shock of a new and shared emergency affecting everyone, faded as life became somewhat more normal. Goodwill had tired, among key players and the public. While this was not a major problem during the relaxation phase, it led to the emergence of the first major intragovernmental tensions in the following months as most countries entered the second wave. Government alignment and shared messaging were harder to achieve, especially in federal countries such as Australia and Germany. And willingness and trust among a crisis-fatigued public was lower when measures started to be reimposed.

Global lessons from the pandemic on crisis management

The following lessons, drawn from synthesising the experiences of the five countries studied for this report, are grouped into ten broad interrelated categories, each with brief, actionable recommendations.

1) **General attentiveness to the possibility of large-scale crises, and the priority given to crisis management...**

- determined to a great extent how alert countries were, and how quickly they detected the threat, assessed the danger, and acted;
- needs to be present across government, with the crisis management system ideally spanning the whole of government;
- is not only determined by, but also affects, learning from previous crises and planning/ preparations and capability provisions for likely crises;
- affected the integration of existing knowledge (of crisis management in general and broad scenarios in particular) into training and policymaking;
- was needed to ensure the readiness/strength (including 'surge' capacities) of government sectors/industries most likely to be hit by crises (such as the public health sector).

> **RECOMMENDATIONS**
>
> → Create a common mindset towards crises in the civil service, including awareness of the potential for longer and larger-scale crises.
> → Avoid making crisis management the domain of only one sector/department; rather, establish knowledge of crisis management across all departments (for example, at the onboarding of every civil servant or through activities involving all departments) and hold regular meetings to discuss provisions for preparedness and a 'whole-of-government' approach.
> → Strengthen sectors most likely to be affected by modern crises (such as the public health sector) and prepare them to surge when necessary, looking at capabilities, capacities, impact and required actions.

2) **Knowledge of/clarity about existing structures, processes, capabilities and relationships – horizontally and vertically – across all levels...**

- played a central role in communication across functional boundaries in the early response, which greatly influenced the later handling of the crisis;
- allowed those steering the crisis to ascertain earlier which structures to stick with, which to overthrow, and how to fill emerging capability gaps.

➔ Promote personal, structural and procedural interchanges and connectivity between government departments in various ways (e.g. training exercises or common events) and support existing expertise and the accumulation and transfer of expertise within structures.

3) Room for flexibility/agility in structures and capability mobilisation, together with an understanding that some aspects of a crisis can never be foreseen but still require reactions…

- was needed, both at the onset of the crisis and over its duration, even if traditional provisions and plans proved (initially) very valuable;
- facilitated the remodelling of leadership structures that was required by all countries;
- helped mobilise capabilities at an unusual scale and speed, including by diverting functions and people from their usual purposes;
- needed to be facilitated through emergency funding;
- was structurally supported through R&D and innovation technologically and functionally.

➔ Reserve some budget and capacity for the unexpected, especially to invest in innovation (R&D) or (structural) capability and capacity gaps.
➔ Do not prepare for individual crisis scenarios too specifically and scrutinise existing valuable simulations and plans for their adaptability to alternative scenarios. Allow for creative thinking and learning during the crisis.
➔ Conduct crisis training exercises with a deliberate focus on cross-departmental activities and flexibility in leadership structures and avoid excess bureaucracy or 'red tape'.
➔ Create easy escalation mechanisms and put provisional mechanisms (and resources) in place to allow officials and politicians to propose and achieve amended or new structures rapidly.

4) Centralisation/decentralisation of authority…

- differed, by design, across countries;
- was governed in either system mainly through improvised national executive committees comprising the most important actors;
- needed, in either system, to be underpinned by efficient information-sharing, for which communication nodes, 'mash' institutions and a non-hierarchical approach are beneficial;
- in federal systems, often worked well, as federal states in a common crisis mindset aligned voluntarily and without hesitation when faced with uncertainty; only further waves saw the expected tensions between the federal states and the federal and national levels;

- revealed considerable advantages of federal systems in a crisis, such as situational agility/responsiveness; fruitful competition, experimentation and adaptive sharing of solutions; and deployment of local capabilities and expertise;
- also illustrated some downsides of federal systems, such as overwhelmed local authorities and sensitivities around existing inequalities and federal interventions;
- showed the benefits to a centralised system in a crisis: faster decision-taking, complete alignment; the potential for clearer separation of tasks to avoid tensions and duplication;
- showed the costs of a centralised system in a crisis: large burden of central supervision and assessment with limited knowledge and information at local level.

RECOMMENDATIONS

→ Determine a clear scope of authority for subnational (and national) entities in times of crisis and provide them with the necessary assistance to deliver those functions.
→ Strengthen local authorities/communities in crisis management and in areas likely to be drawn upon/hit in crises (such as health).
→ Strengthen pre-existing horizontal and vertical coordination mechanisms and establish new ones if necessary; and bring actors of authority together in forums for exchange on multiple levels even in non-crisis times in order to be ready for urgent employment to balance flexibility with coherence.
→ Deliberately enable easy multilateral communication through specific mechanisms/ structures, nodes, and 'mash' institutions and plan for non-hierarchical communication in times of crisis.

5) International embeddedness…

- played a pivotal role in surveillance in terms of public health networks correctly assessing the threat and diffusing knowledge on the virus globally;
- allowed governments to see what policy measures worked internationally and to learn from other countries;
- hindered politically the responses and early actions of some countries who did not want to be out of line with the World Health Organization.

RECOMMENDATION

→ Support global professional engagement and encourage the creation of relationships and knowledge networks globally in various areas.

6) Incorporation of private and social actors in a whole-of-society approach…

- was required by all countries in order to close capability/capacity gaps and for innovation during all phases of the crisis;
- was needed to avoid the exclusion of certain parts of society;
- allowed for innovation and the development of further capabilities;
- provided additional local 'surge' capacities.

7) Legislation...

- was considered, but generally, responses were governed through medical and political rather than legal considerations;
- could be quite flexibly amended with the support of citizens and political power, with the exception of historical and political cornerstones.

8) Expert advice...

- was given through centralised mechanisms such as institutionalised positions and commissions (institutionalised expert scientific institutions) or decentralised personal networks of politicians (whoever had just gained prominence);
- was given in a coordinated manner in small expert advice groups, at the cost of some validation/deliberation; or in an uncoordinated manner at the cost of clarity and public confidence;
- was given in some countries purely from a biomedical perspective, and in others from a more interdisciplinary range of perspectives;
- proved to be a cornerstone in each country for keeping track of and devising policy instruments to tackle the evolving crisis;
- proved instrumental in achieving and fostering public trust in both politicians and experts through 'mutual legitimisation', as long as advice was communicated clearly and decision-taking roles and hierarchies clearly delineated.

9) Public support/trust...

- was acknowledged by all governments to be a vital condition, commodity and foundation of a successful response;
- was best managed through effective communication employing old and new media to reach all parts, communities and generations of society to fight the spread of misinformation;
- was fostered by integrating citizens into the crisis response;
- was generally united across all countries during the first wave.

RECOMMENDATIONS

➔ Draw up communication plans and strategies for different levels of urgency and crises.
➔ Dedicate considerable funding and resources to effective communication, treating it as a vital prerequisite for a successful long-term response.

10) A long, continually evolving crisis...

- provides time for the consolidation and/or remodelling of makeshift structures;
- provides time for the closure of capability and capacity gaps;
- requires strenuous continued efforts from every structure and everyone involved;
- creates widespread fatigue and sees the waning over time of a unified crisis mindset.

RECOMMENDATIONS

➔ Consolidate structures and procedures that proved to be successful and eradicate weaknesses and capability gaps.
➔ Prepare and establish long-term crisis structures and reserve capacities which can learn from, and take over the role of, emergency capacities.
➔ Use gaps or easings in the crisis to consider and prepare for potential new phases.
➔ Continue to engage in effective communication to keep up morale and awareness and emphasise the importance of unity and solidarity.

Conclusion

There is a growing acceptance that 'long emergencies' – sustained, cross-cutting, population-wide crises – are becoming more likely. This is not confined to pandemics: potential long emergencies include war, energy shortages, large-scale digital disruption, and the effects of climate change, to name a few. COVID-19 was the first example of a global twenty-first-century 'long emergency', and no country claims to have got everything right in its response. It is unlikely to be the last.

That is why the study of crisis management, and the implementation of practical improvements, should be a significant priority for statecraft over the coming years. In this study, three particular themes have emerged:

- **Coordination:** how the state marshals its crisis management mechanisms, its data, the right range of experts, the entirety of the functions of government and all the different tiers of government, both to assess the scale of the problem and to optimise the impact of its interventions.

- **Capability:** how governments can ensure they have the right frameworks, relationships and skills across the whole of society to grapple with the series of major requirements a crisis triggers – some unpredicted, and some without any existing solution.

- **Capacity:** how the state can ensure all of these efforts are geared up to deliver an impact that is commensurate with the scale of the challenge and that can be sustained over a lengthy period.

It is the hope of this project to have contributed in a small way to this essential process of learning about how to improve and update crisis preparations for the era of long emergencies. We hope that transnational learning, and international cooperation more generally, will play a major role in all countries' preparations for the crises to come.

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CRISIS MANAGEMENT FOR LONG EMERGENCIES: TEN THEMES ACROSS COMPARATOR COUNTRIES

Looking at the varied experience of managing COVID-19 in Singapore, Germany, Australia, Italy and the UK, what lessons can we learn about managing long emergencies?

Ten key factors that support success are:

1. Prioritising crisis preparation
2. Knowing who is supposed to do what in a crisis…
3. …But leaving room for agility and creativity
4. Effectively bringing together the central and the local…
5. …And the international…
6. …And the private sector
7. Having a clear legal framework for emergencies
8. Knowing how to use expertise
9. Securing public trust
10. Having the stamina to keep evolving

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