

Witness Name: Prof Michael Keating  
FRSE

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Dated: 14 April 2023

## **UK COVID-19 INQUIRY**

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### **WITNESS STATEMENT OF PROF MICHAEL KEATING FRSE, GENERAL SECRETARY OF THE ROYAL SOCIETY OF EDINBURGH (RSE), ON BEHALF OF THE RSE**

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I, Michael Keating, will say as follows: -

#### **Introduction**

1. The following constitutes the Royal Society of Edinburgh's ('RSE') evidence submission to Module 1 of the independent UK Covid-19 inquiry as sought under a Rule 9 Request.
2. The RSE is Scotland's National Academy and is a registered charity (no. SC000470). It was established in 1783 'for the advancement of learning and useful knowledge' and our contemporary mission remains the same: the deployment of knowledge for public good. Through the combined knowledge of our 1,800-strong Fellowship and our Young Academy of Scotland, we pursue four objectives: to inspire and support Scotland's most promising young talent across the research, business and public sectors in order to create value for the economy and society; to engage on key contemporary issues by providing an impartial forum for debate and discussion; to provide expertise to ensure that Scotland's policy makers and influencers have access to the best national, and indeed global, expertise; and to promote Scotland's

interests and reputation on the global stage. Our work spans across the UK and beyond, including through partnerships with 26 global national academies and wider collaboration with individuals and networks worldwide.

3. Reflecting the multi-disciplinarity of our Fellowship and Young Academy and cross-sectoral convening power, the RSE engages across a broad spectrum of issues spanning the sciences, arts, business, professions and the third and public sectors.
4. As detailed by the Module 1 terms of reference, what follows is a consideration of the UK's emergency preparedness, resilience and planning for a pandemic, informed by relevant expertise found within our Fellowship and Young Academy. Although the evidence brief instructs our response to consider the UK in the round, there are instance where we felt it was appropriate and important to highlight relevant regional differences to serve as comparative case studies. This was done where said regional differences led to significantly different outcomes during the pandemic.
5. For ease of reading, our response is presented in broadly chronological order, covering what happened **before the pandemic** (i.e. the pre-pandemic context of planning, preparedness and pre-existing resilience); what happened **during the pandemic** (i.e. pandemic response); and **lessons learned** as a result. Subtopics are presented under relevant italicised headings; in each section, if applicable, we provide a specific consideration of issues as they pertain to those facing pre-existing inequalities or vulnerabilities. We conclude by highlighting relevant past activities, publications and the key findings from our Post-Covid-19 Futures Commission and response to the UK Government's National Resilience Strategy consultation, as specified by the request. We also point to other organisations and evidence that the inquiry may wish to consult.

## General comments

6. We would like to recognise from the outset the difficult and unpredictable environment that characterised the early stages of the pandemic. Despite widespread uncertainty, decision-makers and especially those responsible for implementation were under pressure to respond rapidly and effectively and the stakes were extremely high if they did not. We believe the majority of individuals tasked with delivering the UK's pandemic preparedness and response acted in good conscience and to the best of their ability under extremely challenging conditions.

**Many of the failings we have identified point to systemic issues (e.g. issues with transparency and communication, the gap between policy design and delivery, etc.) that overrode the ability of any one individual to solve.**

7. Coupled with the physical and emotional exhaustion experienced by many on the frontline of response planning, a situation arose in which costly mistakes were much more likely to happen. While these conditions do not entirely excuse the failures that are detailed below, they do place them into an important structural and human context. Preparing for the next pandemic or national emergency will hinge on addressing these pervasive systemic challenges so that responsible individuals are more empowered to act.
8. For some, the pandemic response led to a significant breach of trust in government and this legacy must be addressed to prevent further erosion of public faith in government decision-making, which in more extreme cases could facilitate the spread of dangerous misinformation or disinformation which discredits government decision-making and discourages personal responsibility in times of crisis (e.g. by dissuading vaccine uptake).

**Pre-pandemic context (a. planning; b. preparedness; c. pre-existing resilience)**

9. We begin by commenting on the pre-pandemic context.

**a. Planning**

10. Prior to the arrival of Covid-19, pandemic planning had been conducted but implementation had been partial. The possibility of a zoonotic disease pandemic was recognised but the scale of potential impact was grossly underestimated.

*National Strategic Risk Assessment (NSRA)*

11. **In particular, through the National Strategic Risk Assessment (NSRA), there was quite a well-developed view of the challenges that a pandemic would introduce. However, this had not been translated into budgets and planning at the departmental level where more immediate challenges tend to take precedence over planning for future scenarios.** Indeed, there was never any requirement placed on government departments with responsibilities for specific

national risks to demonstrate that they had built those risks into their planning. The result was that there was underinvestment in the wisdom contained within the NSRA.

12. The NSRA also makes the mistake of assessing individual risks (such as pandemic risk) in isolation from other risks. When risks are treated on an individual basis, the risk of a major national event occurring is misperceived as being low due to the low individual probability associated with each event. However, **cumulatively speaking, the chances of any one outcome materialising are relatively high.** This cognitive misinterpretation of probability may explain why government was relatively ill-prepared despite having identified a pandemic as a discrete risk.

*Scientific Advisory Group for Emergencies (SAGE)*

13. Although the Scientific Advisory Group for Emergencies (SAGE) responded well to past emergencies, in our view it was not well-prepared for the Covid-19 pandemic. From our perspective, this is due to the unprecedented level of public interest in its activities and the extended duration of the pandemic.
14. **SAGE responded very slowly to the developing need to communicate its advice publicly in a more timely and effective way,** and it never managed to solve this problem. **This undermined SAGE's credibility in the eyes of the public at the precise time when it mattered most.** We note the independent review of the UK response to the 2009 swine flu influenza pandemic chaired by Dame Deirdre Hine had recommended that any future SAGE 'should release its descriptive papers and forecasts...at regular intervals'; in the early days of the pandemic, SAGE did lag behind in its publication schedule though this was rectified by April 2020.
15. As part of its Post-Covid-19 Futures Commission, the RSE convened roundtables with international representatives from Belgium, Brazil, Canada, Finland, Ghana, New Zealand, Taiwan and South Africa to compare and contrast national responses to communication and public engagement during the pandemic (RSE/1 - INQ000151269); the inquiry may be interested to evaluate SAGE's response against these global examples.

*Planning with respect to those facing pre-existing inequalities and vulnerabilities*

16. **Emergency and pandemic planning did not adequately account for pre-existing inequalities and vulnerabilities.**

17. **Where such planning did take account of pre-existing inequalities and vulnerabilities, it did so according to a narrow definition of what might constitute these categories.** For example, it neglected to account for groups for whom abiding by containment measures (e.g. self-isolating) would have been challenging or impossible due to financial constraints, such as wage labourers or those on zero-hour contracts. This demographic intersected with other factors such as increased risk associated with race and ethnicity which was not foreseen

18. **Regional or community variation and their impact on relative risk were also underappreciated.** Remote and rural communities in particular would have benefited from improved planning and engagement to ensure their specific needs were considered.

#### **b. Preparedness**

19. The result was a relatively low level of preparedness overall. As one example, the need for basic stocks of materials (e.g. personal protective equipment (PPE)) and equipment (e.g. respirators) was known but not fulfilled.

20. There are some exceptions to the above where we consider preparedness to have been adequate in certain respects and in certain regions of the UK. These are detailed below.

#### *Record linkage and data sharing*

21. Although not always explicitly done for reasons of emergency and pandemic preparedness, there were examples of successful record linkage and data sharing which made it far easier to quickly mobilise and analyse data during the Covid-19 pandemic to inform subsequent government responses, particularly by global standards. As a centralised and universal healthcare system, the NHS provided the ideal platform for coordinated data sharing and cooperative action, as compared to a healthcare system predicated on private – and therefore fragmented – providers.

22. **In general, the UK's response to the Covid-19 pandemic was hindered by barriers to record linkage and data sharing. This made it difficult to track the course of the pandemic and to react effectively.**
23. **These obstacles were less of an issue in Scotland and in Wales due to a better developed infrastructure for data sharing.** Over the decades before the pandemic began in 2020, some UK jurisdictions (particularly Scotland and Wales) made a deliberate decision to build capacity for ethical, anonymised record linkage across public sector administrative datasets to better understand population health. This capacity was already well-established by 2020 in Scotland, enabling linkage between the national mortality database, NHS hospitalisations and NHS pharmaceutical prescriptions, as one example. Early in the pandemic, a consortium of creative researchers obtained rapid ethical and administrative clearance through a carefully designed approval process – critically, also already in place in Scotland for some years – to use these data to determine the specific socio-demographic and medical risk factors that were linked to the worst Covid-19 outcomes: hospitalisation and death. This study was immediately used in practical public health decision-making because it identified those requiring greater protection from infection so that the appropriate preventative measures could be enacted, such as social isolation or 'shielding' and priority access to vaccines (RSE/2 - INQ000183330).
24. Another positive Scottish example would be the longstanding **Community Health Index (CHI)**, which had already been in place in Scotland for more than a decade prior to the pandemic and **provided a platform for administrative health data to be used to inform pandemic modelling and associated decision-making.** Scotland's CHI is a register of all patients in Scotland's publicly funded healthcare system. From birth, patients in NHS Scotland are identified by a 10-digit CHI number.<sup>1</sup>
25. Unlike the failure of care.data in England, initially between 2014-16 and repeated during Covid-19, the CHI was underpinned by public consultation and buy-in alongside best practice in safe data handling. In other words, **by the time the pandemic struck, there was already public acceptance and precedents for using the CHI for different analytical purposes, which made it easier to apply it**

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<sup>1</sup> The CHI is generally comprised of the patient's date of birth (DDMMYY) followed by four digits: 2 randomly generated, the third identifying sex (odd for males) and the fourth a check digit.

**to the study of Covid-19 in Scotland.** Additional 'safe haven' safeguards were put in place during Covid-19 by Public Health Scotland which enabled outstanding Scotland-wide analyses (RSE/3 - INQ000183329), such as those relating to vaccine effectiveness against different variants (RSE/4 - INQ000183328) essentially on a national cohort. Linkage was of event-dates and demography for those diagnosed, vaccinated, hospitalised, and deceased.

26. **Another example of effective data sharing infrastructure comes from established guidance and protocols relating to Mass Fatality Emergencies,** which provides a framework for public services and local authorities to mobilise in response to these incidents, including in cases of influenza pandemics.

27. Despite the success of CHI and other forms of record linkage, there remain some limitations with using certain datasets for research purposes. For example, GP records are still not fully machine-readable in a standardised way that facilitates their use for research purposes, despite efforts to achieve this.

### **c. Pre-existing resilience**

28. Prior to the Covid-19 pandemic, the government had undertaken minimal resilience planning and had done little to help individual citizens, households, local communities, local businesses, local government, and national institutions and corporate businesses to understand their own levels of resilience and how to respond in an emergency. Documents and discussions pertaining to major national emergencies (e.g. the NSRA) were largely classified with little to no public communication. The prevailing view in government was not to talk about the challenges associated with a major national emergency (for example, the NSRA is not publicly available). **The result was that those operating at all levels of society had not been provided with the appropriate information on what to do in an emergency and had not been told how to prepare. Consequently, they were surprised by the pandemic when it happened.**

#### *Resilience among those facing pre-existing inequalities and vulnerabilities*

29. Beyond the reasons listed above, **specific sectors were even less resilient than others, reflecting a lack of community engagement and support and the legacy of austerity measures.**

30. From an NHS and social care perspective, more than a decade of austerity and a corresponding lack of investment in public services placed the UK in a very vulnerable position with respect to a pandemic. The NHS and social care (and indeed, related sectors such as education, social work, the other emergency services, and primary care) were showing weakness long before the pandemic arrived. The innate sense of social responsibility most NHS and social care workers carry combined with the cessation of non-emergency care at the beginning of the pandemic, a strong work ethic, and unwavering duty to colleagues and patients carried these sectors through the first months or even longer, but came at the expense of their own health and wellbeing and eventually waned due to mounting pressures.
31. With over 100,000 vacancies in the NHS and somewhere closer to 150,000 in social care, the negative impact of Brexit on these workforces, heightened attrition and the trend towards less than full time (LTFT) working, a pandemic was perfectly positioned to destabilise the system.

### **Pandemic response**

32. Our following comments pertain to actions taken **during the pandemic**.

#### *Successes*

33. **The UK's vaccination programme was rapidly developed and was largely successful.** The efficient mobilisation of expertise, extant infrastructure for record-linkage and data sharing in some places (as detailed previously in this response), and streamlined regulatory procedures, coupled with well-coordinated national delivery by the NHS and third sector voluntary organisations, ensured that the UK population received timely access to vaccines, with an even faster rollout amongst those identified as high-risk. Given the protracted timeline that characterises drug innovation, the speed with which the vaccine programme was rolled out cannot be overstated and is a true testament to the remarkable united efforts of the UK research and medical community. It also provided a much-needed sense of national reassurance and optimism to steer the UK through the remainder of the pandemic.
34. The **Randomised Evaluation of Covid-19 Therapy (RECOVERY Trial)**, originating at the University of Oxford, was similarly swift in its set-up and provided a huge advantage to doctors both domestically and internationally by evaluating the effectiveness of different treatment interventions for hospitalised Covid-19 patients,



the legacy of which continues to the present day (RSE/5 - INQ000151265). As with the vaccine programme, it illustrated the power of the UK's healthcare and R&D system to share knowledge and cooperate on delivery. It proved to be a world-leading effort and should serve as a model for how future large-scale platform clinical trials of already-licensed medicines can be rapidly approved and delivered in times of global health crises.

35. The pandemic also incentivised the education sector to modernise its delivery systems (e.g. by mainstreaming remote learning), which could support widening access objectives over the long-term.

### *Failures*

36. With the benefit of hindsight, we believe that the UK Government failed in its response to the Covid-19 pandemic in several respects, as described below.
37. **There was an initial failure on the part of the UK Government to take the early signs of the pandemic seriously and to take appropriate action.** This led to greater mortality and illness/disability over and above what would have happened if more prompt and appropriate actions had been taken, notably the earlier introduction of social distancing measures.
38. **There was also a related delay in preparing adequate 'surge capacity' for hospitals.** This led to many hospitals being subsequently overwhelmed by large numbers of very sick Covid-19 patients, a substantial proportion of which required intensive care, including the use of a respirator.
39. Some experts believe earlier **inbound travel restrictions** might have slowed down the pandemic's initial pace; others point out that many of these restrictions, especially those deployed at a later stage, likely had no significant effect on the course of the pandemic as by then there was already massive community transmission within the UK (RSE/6 - INQ000151276; RSE/22 - INQ000151275; RSE/23 - INQ000151267). There were also many scientific inconsistencies in border control policies, including demonstrably ineffective practices such as temperature screening which miss out early infectious cases.

40. **There could have been earlier prioritisation of infection control measures toward those where evidence was accumulating to suggest their importance..**

These included intensive frequent cleaning of all services in public places with detergents/germicides and an overemphasis on handwashing to the exclusion of measures known to be effective for interrupting transmission of airborne (aerosolized) viruses such as Covid-19, including social distancing and improved indoor ventilation.

41. Scientific evidence available before the pandemic suggests that **contact-tracing strategies** of the kind deployed by the UK authorities are hardly ever cost-effective for microbes which are transmitted some days before symptoms even appear, especially through the air (RSE/7 - INQ000151263; RSE/8 - INQ000151262; RSE/9 - INQ000151264). Knowledge that many viruses in particular have this biological characteristic was widespread before the pandemic began but was apparently not well-heeded in decision-making.

42. **Public communications were poor at ensuring that only accurate and clear information about the pandemic was being broadcast.** Responsible public broadcasters, including the BBC, struggled to understand their role in delivering accurate information to the public. Since the BBC is mandated to serve the public interest, it needs to carry a significant level of responsibility for journalistic inaccuracy especially during the early stages of the pandemic. There are times when the BBC and other broadcasters need to understand that public interest is not best served by reflecting all minority views and that scientific evidence should have driven their reporting. There was a significant opportunity for press organisations to have formed their own groups of scientific advisers to ensure reporting accuracy but this issue was left to individual journalists' discretion. Broadcasters and newspapers regularly allocated coverage of the pandemic to political editors who had little understanding of the pandemic or the science underpinning pandemic management.

43. **Although national decision-making must occasionally be undertaken in confidence for legitimate purposes, this can too easily grow into a culture of secrecy whereby the public can feel uninformed and uninvolved with something which affects them.** Not only does this top-down approach often fail to pick up on the sensitivities that could either promote or hinder specific national responses, but it can also lead to suspicion and frustration on the part of the public, who are then much less inclined to act in accordance with these decisions. The

government's communication campaign during the pandemic should be fairly scrutinised to establish which information made it into the public domain and what was held back, the rationale behind these decisions, and the ensuing impacts as far as they can be determined.

44. There were multiple issues regarding the misinterpretation of tests for Covid-19 using saliva and blood, particularly their ability to consistently detect disease and how this perception was used to inform individual decision-making. This problem, which was widespread even among physicians, presumably resulted from longstanding inadequate training in the interpretation of medical test results, especially those which routinely include false negative and, although this not nearly as much an issue for Covid-19 rapid-antigen and definitive PCR tests, false positive results. As a result, **the public were told to 'test before socialising' as a precautionary measure while failing to communicate the likelihood of false negative results among pre-symptomatic, infectious individuals, which gave an unfounded sense of reassurance that infection risk had indeed been minimized in all cases** (RSE/10 - INQ000151273).

45. By law, deaths in Scotland must be reported within eight days of death having been ascertained. Elsewhere in the UK, the reporting of fact-of-death can be delayed by weeks, months or years for coroner-referred deaths. These reporting delays were longer than the doubling time of the epidemic leading to a potentially grossly inaccurate picture of the pandemic based on mortality rates. **Before the next pandemic, overdue legislation to end the late reporting of fact-of-death in England, Wales and Northern Ireland is essential.**

*Failures impacting those facing pre-existing inequalities or vulnerabilities*

46. To free up beds, **hospitals elected to rapidly discharge patients that were still unwell and potentially infectious.**

47. The above situation became progressively worse as **nursing homes/chronic-care settings were often unable to isolate patients effectively or to protect staff.** This in turn led to rapid infection of both existing residents and staff, creating severe staff shortages that further increased transmission due to fewer caregivers caring for more patients in the absence of adequate Personal Protective Equipment (PPE; masks, gowns, gloves) (RSE/11 - INQ000151266; RSE/12 - INQ000151259).

## Lessons learned

48. Some of the below lessons apply to emergency planning more generally while others are more specific to the threat of future pandemics.
49. The theme of **communication and transparency** occurs repeatedly throughout this evidence submission and is one we would indeed wish to emphasise. Government needs to find ways of talking to the public about their risks and their responsibilities for planning to mitigate those risks. This should apply at all levels within society.
50. Equally, government has a responsibility to be as forthcoming and inclusive as reasonably possible when preparing for, and responding, to a national emergency. This includes openly acknowledging assumptions, uncertainties and limitations where they exist. **Citizens deserve to know the basis behind their decision-making and to participate in said decision-making.** The medium is as important as the message, and there could be scope to examine whether various examples of public health messaging reached their intended audience. Different demographics consume different forms of media and it will not be enough to rely on traditional mechanisms going forward.

### SAGE

51. There may be no neat answer to the dilemma of providing advice that is fit for ministers as well as for public consumption but we suggest that more use could be made of the Science Media Centre or similar to help communicate the scientific advice produced by SAGE. **Engendering public trust in groups like SAGE is critical to combat the spread of misinformation and deliberate disinformation,** as was observed during the pandemic.
52. We recognise that when emergencies happen there is an imperative to act quickly which means there is a necessary trade-off between transparency and speed of action. However, for an emergency like a long-running pandemic, **greater transparency of process for appointing scientific advisors to SAGE could be implemented.** It would help to develop a method of inviting wider comment from the scientific community when responding to critical questions. This includes ensuring that the 'scientific community' includes scientists in the NHS and industry, not just

academics. SAGE did include some of these individuals, especially from the NHS and this is to be commended. It is important to be specific about this inclusiveness because academics often feel more empowered to speak publicly than those working in industry or the public service. Being open to external feedback and data is critical to allow for rapid recalibration and course correction based on new evidence.

#### *Availability of testing*

53. The **delay in making standardised, free-at-point-of-care, high-quality Covid-19 blood tests widely available could have been reduced**. Initially, this was a major problem for acute care clinicians, which was addressed in the first few months. However, the shortage of tests persisted for many months longer in primary care and nursing homes/chronic care settings (RSE/12 - INQ000151259).

#### *Lessons learned with respect to those facing pre-existing inequalities or vulnerabilities*

54. The **full extent of the pandemic's impact on groups facing pre-existing inequalities or vulnerabilities (i.e. frail older people, people with disabilities, and people made vulnerable due to poverty, lack of employment, domestic abuse, etc.) remains to be fully understood and indeed, it may be some time before longer-term impacts become apparent** (RSE/14 - INQ000151277; RSE/15 - INQ000151268).

55. In the case of disproportionate impacts on care homes, this outcome may have been lessened or avoided if the UK had incorporated more **social networking analyses** into its response planning, which could have helped in gauging the spread of the virus as a function of social contact.

56. **Among older people, accelerated frailty has been observed and should be subject to further clinical evaluation**. These individuals are likely to have developed greater and perhaps more complex care needs as a result of prolonged isolation during the pandemic or from having contracted Covid-19, placing further strain on an already burdened health and social care system.

#### **Related activities and publications**

*RSE Post-Covid-19 Futures Commission*

57. The RSE Post-Covid-19 Futures Commission was established to identify and address some of the immediate policy implications and challenges arising from the coronavirus outbreak and support the future of Scotland beyond the immediate crisis. The Commission brought together leading practitioners and thinkers from various sectors along with those with direct lived experience of the pandemic to explore four key themes: how to build national resilience; what makes good public debate and participation; the use of data, evidence and science in understanding and responding to Covid-19; and how inclusive public service was witnessed throughout the pandemic.

58. The Commission published its key recommendations in October 2021, as summarised below (RSE/16 - INQ000151260):

- We need to build on the momentum for change generated by Covid-19 to support sustained action and improvement.
- There needs to be a step change in the way in which people are involved in decisions that affect their lives.
- We need to enhance the ability to access and engage with evidence and data.
- We need to put the necessary infrastructure in place to support better preparedness for future challenges.

#### *National Resilience Strategy*

59. The RSE responded to a consultation by UK Government on developing a National Resilience Strategy for the UK in October 2021 (RSE/17 - INQ000151270). Our key observations and recommendations were as follows:

- A national risk register and a national risk assessment, under continuous review, with long-term foresighting is required. These need to cover the aggregate and interdependent risk to the UK. Only by understanding the totality of the collective risk can we gauge the national risk. Everybody and every organisation has a role to play in supporting resilience in order to build systemic resilience. A significant step forward is needed to help all parts of society to understand risks and to

enable them to support national resilience. The strategy needs to support a culture of preparedness where resilience is proactively considered at all scales in the face of both known and unknown risks.

- Government needs to communicate and discuss national risks openly and honestly with the public. Too often, national risk registers and assessments are restricted to specialists and are not the subject of national debate. This calls for transparency and widespread public debate about risk identification and risk management so that the public is well informed and can play its part in supporting resilience.
- While it is impossible to predict and mitigate all causes of potential failure, it is important for decision-makers to consciously decide on the desirable level of resilience. Public input and buy-in is crucial to decision making processes aimed at determining desired levels of resilience and in balancing potential trade-offs between different options. A key question which needs to be addressed is whether there is an unavoidable trade-off between economic efficiency and resilience. If this is true, which seems likely in many sectors of the economy, then building a resilient nation will need different economic objectives from those currently being pursued across the developed world.
- Significantly, it is not clear how the Cabinet Office plans to evaluate the effectiveness or assess the success of the strategy. Without embedding within the strategy an approach for measuring resilience, government and others will be unable to assess the effectiveness of the strategy nor be able to modify approaches based on evaluative evidence. The Cabinet Office should consider the creation of a set of key performance measures for assessing progress towards greater resilience.
- The call for evidence recognised the importance of partnership working between the UK Government and the Devolved Administrations on resilience. However, the plans are silent on how this is to be operationalised. It is crucial that the Devolved Administrations are involved in the development and implementation of the National Resilience Strategy given the interplay of reserved and devolved responsibilities.

#### *Additional key articles and reports*

60. The RSE has regularly engaged with UK parliamentary committees to provide evidence in support of inquiries focused on emergency and pandemic planning, preparedness and resilience. The most relevant of these are listed below.

- ‘Risk Assessment and Risk Planning: a response to the House of Lords Assessment and Risk Planning Committee’ (February 2021) (RSE/18 - INQ000151271)
- ‘UK Science, Research and Technology Capability and Influence in Global Disease Outbreaks: a response to the House of Commons Science and Technology Committee’ (August 2020) (RSE/19 - INQ000151272)
- ‘Science in Emergencies: Chemical, Biological, Radiological or Nuclear (CBRN) Incidents: a response to the House of Commons Science and Technology Committee’ (May 2016) (RSE/20 - INQ000151261)

#### **Other resources**

61. We would also draw the inquiry’s attention to the Scottish Scientific Advisory Council’s report, *Building on the Science Legacy of Covid-19 in Scotland* (2022) (RSE/21 - INQ000151274).

#### **Statement of Truth**

I believe that the facts stated in this witness statement are true. I understand that proceedings may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief of its truth.

NR

Signed: \_\_\_\_\_



**Dated:** 14 April 2023