Witness Name: Roger Halliday Statement No.: 1 Exhibits: RH Dated: 15 November 2023

UK COVID-19 INQUIRY

WITNESS STATEMENT OF ROGER HALLIDAY

In relation to the issues raised by the Rule 9 request dated 22 August 2023 in connection with Module 2A, I, Roger Halliday, will say as follows: -

- 1. I left the Scottish Government on secondment to take on the Chief Executive of Research Data Scotland role on a full time basis on 25 April 2022. Before this move, I filed useful documents in the Scottish Government electronic document store (ERDM), and have removed emails and files from personal data storage areas. I therefore, no longer have access to the calendars, emails and OneNote documents that I produced, contributed to or viewed during the period of the Covid enquiry. I do have access to files stored on ERDM, but this may not be as complete a record as from the OneNote files I had at the time. I can also confirm that I did not take or keep any non-digital notes during this time, as I used OneNote as a primary personal information store. I can confirm that I did not conduct official Covid business by WhatsApp or text during the period of interest for the Inquiry. The only relevant correspondence I made during this time was as a member of the Covid Analytical Team Leadership WhatsApp group. I no longer have a Scottish Government mobile phone and messages from this have been deleted. However, a colleague who still has access to the messages has submitted messages from this group to the Inquiry. I can also confirm that I did not have a personal mobile phone during the period Jan 2020 to February 2022.
- 2. As such, I have prepared this statement myself by reference to records and material provided to me by the Scottish Government. I have also received assistance from the

Scottish Government Covid Inquiry Information Governance Division. Unless stated otherwise, the facts stated in this witness statement are within my own knowledge and are true. Where they are not within my own knowledge, they are derived from sources to which I refer and are true to the best of my knowledge and belief.

3. References to exhibits in this statement are in the form [RH/000 - INQ000000].

Background, qualifications and role during the Covid-19 pandemic

- 4. I am Roger Halliday, the former Chief Statistician for Scotland. I graduated in 1993 with a first class BSc Honours degree in statistics from the University of St. Andrews. In September 1993, I joined the UK Government fast stream programme working as a statistician. I have worked as a statistician, an analyst, and policy official in the Department for Work and Pensions, Department of Health and Social Care, and in Scottish Government covering a range of social, economic and financial roles.
- 5. At the start of the inquiry period for Module 2A (21 January 2020), I had five roles in Scottish Government. These were:
 - a) Chief Statistician for Scotland. In this role, which I started in 2011, I was responsible for the official statistics that come out of Scottish public sector organisations: for their trustworthiness, quality and impact. I lead the development of statistical policies, the capability of statisticians and others in the production of official statistics, and recruitment of professional statisticians for a number of Scottish public bodies. I was also responsible for enabling collaboration between statisticians working in the Scottish public sector and their equivalents in other parts of the UK.
 - b) Scottish Government's Chief Data Officer. In this role, which I started in April 2017, I was responsible for developing policies and operations that enable organisations to secure greater value from data, enabling data sharing whilst demonstrating trustworthiness in the handling of data about people, places and businesses in Scotland. This included, for example development of policy on artificial intelligence and establishment of a digital identity solution for Scotland. I was also responsible for enabling collaboration between officials working in the

Scottish Government on data issues and their equivalents in other parts of the UK.

- c) Interim Chief Executive of Research Data Scotland (RDS). My role at this time, which I started in September 2019, was leading the establishment this organisation, which helps organisations to access sensitive data about people, places and businesses for the public good. In February 2020, I agreed to a secondment to this role on a full time basis from April 2020, though this was put on pause.
- d) Co-Director of the Administrative Data Research (ADR) Scotland programme since April 2013. This is an Economic and Social Research Council multi-year UK wide investment. It aims to secure greater value from our data by making this data securely available for research in the public good. My role was to lead a team across Scottish Government, National Records of Scotland, Public Health Scotland (prior to that was Information Services Division of National Services Scotland) and the University of Edinburgh in the preparation of data for use by academic research teams.
- e) Deputy Director in Digital Directorate of Scottish Government. Here I managed a digital delivery unit. This team managed a portfolio of digital transformation projects, such as a public sector payments programme.
- 6. On Tuesday 17th March 2020, I attended a Scottish Government Analytical Leadership Group. We discussed the analytical work being done in Government and the establishment of a Covid Analytical Team, led by Audrey MacDougall, who was also Scottish Government's Chief Social Researcher and head of Communities Analytical Team. Audrey asked for additional support. I spoke to my manager, Director of Digital, Colin Cook, about the potential for me to provide support and leadership to that team. He supported my proposal to join that team on a temporary basis whilst also continuing my other roles. I joined the Covid Analytical Team on Thursday 19th March 2020 as joint head of that team, alongside Audrey MacDougall.
- 7. My role was to lead the team who brought together data and evidence on that supported Scottish Government and wider public sector decision making. The division of work with Audrey MacDougall was that my focus was on quantitative and statistical data, including evidence about Covid transmission and modelling the path

of Covid. Her role was on the qualitative evidence and social research. Part of my role was communicating what the data and evidence was saying in an objective and timely way. The role also included leading the Scottish Covid data and intelligence network.

- 8. Given the intensity of my role as Joint head of the Covid Analysis Team, it was clear that I was unable to dedicate the time I had previously to all of my former roles. As such, in mid-April 2020, I agreed with my line manager to hand over the role of the Chief Data Officer on a temporary basis. I also agreed with the Director of the Administrative Data Research-UK to align the ADR-Scotland programme with the Covid pandemic and delay some pre-existing work in that programme.
- 9. The groups that I was a member of during the period of interest for the enquiry that were relevant to its business were the following:
 - a) Scottish Covid-19 Advisory Group (SGCAG). I attended meetings of this group until January 2021. The role of this group was to provide clear and balanced evidence to Scottish Ministers to support their management of the pandemic. My role was to source and share evidence on topics of interest where this added to the expertise on the group, to share the statistics and modelling, and to seek views from the group on the analytical work my team led. This had a clear terms of reference, which didn't change during my period on the group.
 - b) Scottish Government Chiefs Group. I attended meetings of this group until April 2022. Its role was to take a more strategic approach to forward planning the expert advice requirements across Scottish Government. My role was to contribute to shaping approaches to developing the evidence base and advice to Ministers around the management of the pandemic and post-pandemic strategy, and to lead on how we could use data to support advice and decision making.
 - c) Scottish Covid Data and Intelligence Network Delivery Group. I chaired this group. The aim of the Covid Data and Intelligence Network is described in paras 32 and 33 below. The aim of this group was to oversee delivery of the pieces of work the Network has prioritised, and to make connections between people with shared challenges through showcasing those challenges or innovations people made.

- There were occasional times where I attended Scottish Government Resilience Room (SGoRR) meetings where I had some evidence to share. During May 2020 to Jan 2021, I regularly attended Cabinet briefings where my role was to provide evidence about the state of the pandemic.
- 11. A senior Operational Researcher in Scottish Government was an observer at the Scientific Pandemic Influenza Group on Modelling (SPI-M) meeting, and a senior Social Researcher, was an observer at the Scientific Pandemic Insights Group on Behaviours (SPI-B) meetings. Both of these people were in the Covid Analytical Team. These groups were invaluable during the pandemic in sharing evidence and supporting the best practice approach of getting many different approaches to modelling that are brought together in a consensus.
- Having a shared data and evidence base around Covid was vital in supporting Ministers across different Governments. This avoided situations where Ministers were using different figures.
 - a) The relationship between my team and the Cabinet Office worked well and is described in para 20.
 - b) Data sharing on the level of Covid in other countries was managed by the Foreign Office initially, and then by the Health Security Agency. This generally worked well and is described in para 30 below.
 - c) For official statistics, I worked closely with the Office for National Statistics (ONS) and Chief Statisticians in Wales and Northern Ireland. We had an established group (the Inter-Administration Committee) which supported shared decision making. ONS briefed us on development of their surveys of public attitudes, business and the covid infection survey. While we had limited scope for changing survey design, we were included from the start and throughout. We also were connected closely to the ONS data science campus, who had access to some sensitive data on transport and travel patterns, and on spending. This was a useful addition to our evidence base. One area that proved problematic was around sharing the results of the covid infection study. We made the ask to receive case level survey responses during summer 2020, so we could link this to administrative data on testing, vaccination, hospital admissions, and vital

events for specific research projects. This data hasn't yet been shared, despite a lot of effort on behalf of Scottish Government statisticians to do this. It is unclear to me why this did not happen.

d) Data sharing with other Government Departments would have significantly supported the evidence based we had to inform Covid-19 response and postpandemic planning. My role was to liaise with UK Government Departments and broker arrangements. I wrote to the Department for Work and Pensions (DWP) in June 2020 with a clear ask for data for a defined set of purposes, for example understanding the effect of covid on work and poverty in Scotland. I followed up on a number of occasions with DWP officials who assured me of progress.

However, no tangible progress was made for a year after that. We established a working group at the start of 2022 to give the issue further focus, but as yet no data sharing has happened. This seems to have been a missed opportunity.

- 13. My main interactions with Local Authorities were in two areas:
 - a) In developing and operating the policy on local/regional restrictions as described in paragraphs 28 and 29.
 - b) As part of the data and intelligence network, supporting efforts by Local Authority officials to use data to support local decision making.

Initial understanding and response to Covid-19 (January 2020 to March 2020)

14. I first became aware of Covid-19 in an official capacity when the COVID-19 Modelling and Analysis Hub was established on 04th March 2020. The hub eventually changed name to Covid Analytical Team, which is the terminology I've used throughout this statement. This stemmed from a notification from Audrey MacDougall to stand up the analytical resilience response, a team of trained analysts from across Scottish Government who, as part of their role, come together in emergency situations to provide analytical advice. Members of my team joined that response. The scale of this team grew during March and April to be around 30 people by the start of May. This was achieved by re-prioritising work in Scottish Government and its agencies. We secured specialist modelling skills, for example, from Marine Scotland. While team members worked long hours, from the start of May 2020 we were able to make arrangements for people to have at least two days away from work each week. As such, we felt the resource in the Covid Analytical Team was sufficient for the work we were being asked to do.

- 15. As described above, my role in the Covid Analytical Team started on 19th March. My initial role was to understand the modelling work that the team had done and communicate that to senior officials. My team prepared a slide pack summarising the results, and I had a call with John Connaghan (Scottish Government Director of NHS Performance) and Richard Foggo (Scottish Government Director of Population Health) on the evening of 19th March to talk through the modelling. The team updated the model using data received on Friday 20th March, and again I shared the slide pack and talked to these two Directors about the results. I had a meeting with Ken Thomson (Director General Constitution and External Affairs) on Sunday 22nd to present those results and help him talk them through with Scottish Government Ministers. I was able to objectively outline the likely path of Covid with and without a lockdown policy decision [RH/001 INQ000292553] [RH/001a INQ000292557].
- I can confirm that I was not involved in discussions about the NIKE conference in Edinburgh on 26/27 February 2020, or the Scotland vs France six nations rugby match at Murrayfield on 8th March.
- 17. I joined the Covid Analysis Team on 19th March, and as such the focus of Scottish Government at that time was on potential policy options to minimise deaths from Covid. My recollection is that the modelling that I was involved in on 19th and 20th March considered three options – the status quo, closing schools and social activities, and a full lock down. I was not aware of other strategies being considered at that time, or any thinking about whether Scotland should align or diverge with the UK Government. Given the time I joined the team, I wasn't involved beyond the conversations described in para 15 about timeliness of decisions on a national lockdown. The data for this modelling was using a combination of the UK model together with specific data on Covid cases, hospital admissions, ICU admissions and deaths. My recollection is that projections used looked 3 months forward and that it was clear from the data at that time that without a lock down the NHS would run out of capacity both in ICU and non-ICU beds, and there would be significant number of additional deaths from Covid.

- Once I joined the team, I oversaw the production of a daily written brief to Cabinet Secretary for Health and senior officials summarising the modelling.
- 19. I cannot recall providing any advice during March 2020 on specific policy questions such as community testing or the discharge of patients into care homes. The evidence on specific issues was very limited. Our priorities were to (a) improve the modelling evidence we had for Scotland, (b) establish routes and flows of UK and international evidence on how Covid spread to support policy specific questions, and (c) build the capacity and skills of the Covid Analytical Team.
- 20. During March, we established a daily flow of data from Scottish Government to the UK Government Cabinet Office. I felt that the arrangements for this were based on a collective desire to have an efficient way of securing definitive numbers for use in public briefings by all Governments around the UK, and an example of strong collaborative working. We agreed logistics for the data sharing and arrangements for access to UK data.

Role in relation to non-pharmaceutical interventions ("NPIs")

- 21. My team was responsible for developing modelling of the Covid pandemic as it affected people living in Scotland.
 - a) This was initially by using a UK wide model developed by Imperial College scaled to Scotland. This presented estimates of infections, hospitalisations, those needing ICU, people recovered and deaths and showed a reasonable worst-case scenario. This was good enough to support decisions on initial lockdown and on managing NHS Scotland capacity.
 - b) On 28th March 2020, First Minister agreed for my team to share the Scotland modelling to public bodies directly needing this for planning purposes. This was shared on 01st April with the Ministry of Defence (MoD), Health Boards and Integrated Joint Boards.

- c) Quality assurance of the modelling had been taking place since activation. This included checking by more than one person that the right inputs and data were included in the model, that there were no transposition errors and that the model outputs made sense, a more formal peer review of was carried out during April through a network of Government modellers across the nations of the UK.
- d) Good practice in disease modelling is to have a range of approaches and reach a consensus. Through our presence at the SPI-M meetings, we were able to argue for a range of models that provided results for the UK Nations and regions of England. This provided significant reassurance about the quality of the modelling outputs. The UK Defence Science and Technology Laboratory (DSTL) team were responsible for agreeing a consensus range for each of the model outputs for each area of the UK. My role was to explain these consensus ranges as described in para 49.
- e) In addition, my team developed a Covid model that exclusively ran on Scottish data, based upon the Imperial College model. In particular, this was based upon Public Health Scotland data about Covid testing, hospital admissions, ICU admissions and deaths. Some UK assumptions were made until they could be replaced with Scottish data. This was able to be added to the models validated through the SPI-M process and brought into an agreed consensus for the R rate and growth rate of Covid-19 plus likely incidence rate. Evidence to underpin the assumptions in the model were predominantly drawn from material presented at the SPI-M meetings.
- f) As such, I felt that the modelling advice we were able to give to Ministers developed into a strong offering from May 2020. An indicator of this is that the Scottish Government modelling provided results within the UK Defence Science and Technology Laboratory (DSTL) consensus range every week. As such, the Scottish Government Covid-19 Advisory Group didn't commission additional modelling.
- g) The advice from my team was always given with integrity for summarising a true picture of what the evidence showed, and its implications for the choices that were open to Ministers. Examples of this was the briefing on the March 2020 lockdown described in para 15 [RH/002-INQ000292558] [RH/002a -

INQ000292559] [RH/002b – INQ000292560] and the Jan 2021 lockdown described in para 32.

- h) While the advice from me and my team was put together quickly, there were good processes for quality assurance that gave me (and therefore the readers) confidence in it. In addition, I have significant experience in communicating analysis in ways that can be understood and then retold by others. Indeed, I have led public sector wide programmes to build communication skills of Scottish analysts. As such, I feel that the advice from my team during the pandemic was transparent, clear and comprehensible.
- i) One thing that was clear from the evidence on modelling is that, at a time of increasing case numbers, introducing restrictions on people mixing earlier rather than later is helpful for both reducing the overall number of people infected, those who need hospitalisation or who die, and the overall time that restrictions are needed to bring Covid infection rates back down to manageable levels. However, as described in para 49, Ministers were weighing up a range of sources of evidence in coming to decisions about when to change the restrictions in place.
- 22. My recommended approach to arrangements for the publication of data and evidence during the pandemic was to be as open as possible and publish both data and explanations of how figures were calculated. This was strongly supported by Scottish Government Ministers. As such we started publishing a weekly output from our models on 21st May 2020 with text, charts and maps summarising results. It was important to take time to be able to fully explain how the modelling worked before publication. We were able to add to that in August 2020 with the start of weekly figures on areas experiencing higher than expected levels of Covid. We started publishing figures in November from modelling looking at changes in mixing behaviour of adults in Scotland.
- 23. Having a Scotland specific model my team was able to estimate the effects of some policy choices open to Scottish Government. From memory, this was available for lifting the work from home arrangements, opening of schools, and opening up specific industries like construction. It was based on international work on changes to the Covid reproduction rate when other countries (or parts of countries) had made

those changes. The modelling presented outputs as a range rather than a definitive prediction. This was to reflect the level of uncertainty that modelling necessarily includes.

- 24. For other choices, my team developed an evidence based risk assessment based upon the scale of the change, the inherent Covid risk factors that would be triggered by that change, and the extent to which these risk factors could be mitigated. This could give a qualitative estimate of the relative risk of different interventions in the absence of definitive modelling, which just was not possible to do. This assessment included an analysis of the effects of vulnerable groups in society based on the evidence available at the time.
- 25. A model emerged of consideration of four harms: (1) from contracting Covid itself (2) from effects on the wider NHS (3) wider social effects and (4) wider economic effects. Scottish Government policy was to try to minimise effects across the four harms. My team led on evidence on the harm from contracting Covid. Scottish Government Health and Care Analytical team led on the wider NHS harms, the Chief Social Policy Advisor's team led on the wider social harms, and the Chief Economist on wider economic harms. In addition, the role of my team was to collate and share evidence on each of the four harms.
- 26. Our approach was, in general, to liaise closely with the relevant Scottish Government policy and analytical officials who were experts in the topic area: providing those teams with the evidence for them to provide advice to their Ministers. As such, I wasn't directly involved in drafting Covid regulations or legislation, rather in providing advice to the officials who were drafting the legislation. In addition, my team developed a "4 harms dashboard" that was published on a weekly basis and graphically showed trends in indicators across each of the four harms RH/003 INQ000221924 Data to populate this was collated by my team who kept the dashboard up to date.
- 27. My team liaised with Scottish Government Communications colleagues to commission a regular survey of public attitudes to Covid restrictions. We published these findings on a regular basis, and the evidence was included in briefing to Ministers about changes to specific restrictions.

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- 28. During the early summer of 2020, the option of removing restrictions quicker in some parts of Scotland emerged. This soon turned to thinking about re-introduction of some restrictions to deal with the anticipated uptick in Covid following reduced NPIs and the colder months. In early September, I worked with the Dominic Munro (Scottish Government Director of Covid Exit Strategy) on a proposal for Ministers on local/regional restrictions. My role was to develop some criteria using the data for objectively introducing or relaxing restrictions. This involved simulating the potential effect of such a policy.
- 29. To support a policy of introducing local restrictions, my team developed some management information. This presented data by Local Authority area and trends on the five measures used to support decision making on any changes to those restrictions. This data was shared with Scottish Government officials, Ministers, Directors of Public Health, and Local Authority Chief Executives on at least a weekly basis.
- 30. My recollection is that I was alerted to the issue of foreign travel in June 2020. My role was to gather evidence that would support a Scottish Government policy around foreign travel and provide this to Ministers. Evidence came from two sources: modelling done at the London School of Hygiene and Tropical Medicine, and data from the European Centre for Disease Prevention and Control website about the scale of Covid cases [RH/004-INQ000323606].
- 31. My judgement at the time was that the modelling was the primary source of data, given that arrangements for covid testing were so different around the world. The modelling was pretty good, but I do remember having a time during July 2020 when a figure produced by the modelling for Spain was much higher than neighbouring countries. Audrey MacDougall challenged this with UK Government officials supported the modelled estimates. This meant that decisions on foreign travel were taken with the best data at the time, but this was later shown not to be accurate [RH/005 INQ000292564] and [RH/006 INQ000292565].
- 32. Research was happening at pace on a global scale and a significant challenge was sifting through this to identify what was useful and sharing this with appropriate people. This was a significant role for my team. We established routes for scanning

for evidence, using formal channels such as the Scientific Advisory Group for Emergencies (SAGE), SGCAG, SPI-M and SPI-B groups, and using networks of people we were working with. We had a weekly summary of new evidence and held a seminar for officials. This was very useful for identifying evidence gaps that we could investigate during the following week. In addition, a slide pack summary of modelling outputs was sent on a weekly basis to NHS Board Chief Executives for planning purposes and I held a weekly briefing session for NHS staff.

33. In early December 2020, the modelling, as reported through a SPI-M group meeting showed significant worsening of the situation with an increase in the R number following the spread of a new variant with (at that time) limited knowledge about its effect on health outcomes. I shared findings with senior officials (in particular Ken Thomson, Richard Foggo, Gregor Smith (Chief Medical Officer), Jason Leitch (National Clinical Director) and Dominic Munro) and our assessment was that I should prepare a briefing to Ministers with the evidence giving an option for a further lockdown. This was sent to the First Minister, Deputy First Minister and Cabinet Secretary for Health on 24th December 2020 [RH/007 - INQ000292561] [RH/007a - INQ000292562] [RH/007b -INQ000292563]. I was then involved in a meeting of the SGoRR committee on 27th December 2020 where I summarised the evidence, particularly on the effect of taking that decision at different times. Decisions to introduce a further lockdown were ultimately then taken by the Scottish Cabinet, using the wide range of evidence.

Role in relation to medical and scientific expertise, data and modelling

- 34. As part of my role as Chief Statistician (and initially as Chief Data Officer), I recognised the need to ensure data was flowing quickly between organisations who needed it. Together with my successor as Chief Data Officer, Albert King, and with the backing of the SGCAG, we established the Covid-19 data and intelligence network. At the start of 2022 membership was several hundred with almost 200 members attending online network events. The aim of the network was to create the space where we could get data sharing happening, and to make sure this was done legally, ethically, and with the support of the public.
- 35. The network identified shared challenges across the public sector, and brought people together to solve those challenges, supported by a small expert team in

Scottish Government. These were both topic based challenges like how we could best identify at risk groups using data, and policy challenges such as establishing a data ethics approach for public bodies.

- 36. One area the Data and Intelligence network prioritised was to improve the available data on protected equality characteristics, such as sex, race, disability, sexual orientation [RH/008-INQ000292566]. We recognised that no one organisation held complete data, so started a project to use data linkage to pool data from a range of sources to hold, for research and analysis purposes, a de-identified equalities research dataset. This has been developed following significant consultation with interest groups and is held securely in Scotland's National Data Safe Haven, not-forprofit highly secure computing spaces that act as data custodians and provide access to data for approved researchers.
- 37. In September 2020, my team started to produce a weekly summary of the evidence in a "state of the epidemic in Scotland". This was for Ministers and officials and was formally published weekly from 4th January 2021. This brought together a range of sources of data, such as modelling, public attitudes, Public Health Scotland statistics, the ONS Covid infection survey, the Scottish Contact Survey, and intelligence on new variants. It tried to answer questions: where are we now? What do we know about how we got here? And what is likely to happen next? This was the basis of written briefing to Ministers, as well as regular oral briefing to the Cabinet. This was an opportunity for Cabinet members to challenge the advice my team and I provided.
- 38. As Chief Statistician, I was responsible for the quality of any Scottish official statistics. These are produced to the UK code of practice for official statistics. The code applied equally in the pandemic. A key component of that is being open with the data and the methods used to produce the statistics. As described in para 22 above, Audrey MacDougall and I agreed with Ministers the principle of being as open as possible on these issues.
- 39. There were significant challenges with data collection over the period of the pandemic. For example, household surveys conducted on a face to face basis needed to either pause or to be conducted by a combination of telephone and online responses. My role was to provide advice to statistical colleagues about the handling of changes, and (at times) to communicate to statistical stakeholders about why we were making decisions, for example the decision to pause household interviewing in

early March 2020. I was also responsible for statistical resourcing. However, the direct management and resources of most statisticians working in Scottish Government and the Scottish public sector weren't mine directly. This involved persuading statistical teams across the public sector to allow people to leave on a temporary basis to fill new posts (or existing vacancies) stemming from the pandemic. As such, we were able (to a large extent) to have the resources in the right places to support the statistical and evidence needs of decision makers.

- 40. My role as Chief Statistician meant that I was responsible for ensuring high quality statistics were produced where there was a clear need from the public or decision makers. I therefore had to work with a range of senior statisticians working across Scottish Government, Public Health Scotland, and National Records of Scotland to make sure they had credible plans for standing up new data collections (or putting data collections on hold) where necessary. Senior Statisticians ran teams of statisticians and other analysts across a portfolio of subjects, for example local Government finance or schools. In my role as Chief Statistician, there was an established group bringing together all senior statisticians across Scottish Government and National Records of Scotland that I used to do this. I would support senior statisticians in their thinking around choices they had for making changes and help manage relationships (for example with senior officials, Ministers or the Office for Statistics Regulation) that supported necessary changes. I therefore had limited liaison about the production of official statistics directly with Scottish public bodies and local government. Rather this was done through the statistician teams across Scottish Government, Public Health Scotland, and National Records of Scotland.
- 41. I had little direct liaison with Public Health agencies elsewhere in the UK, with the exception of data on travel (mentioned in para 30), or when the Joint Biosecurity Centre took on the role for coordinating the SPI-M group.
- 42. I also had little direct interaction with international bodies during the pandemic, other than accessing data on the extent of Covid from their websites.
- 43. Research Data Scotland was a new organisation. In fact, it was only formally established as an organisation with Companies House in October 2021. The initial set up phase (from the start of 2020 to Oct 21) was being run from Scottish

Government. This included agreeing the organisational structure, recruiting staff, and developing a strategy and business plan. These plans were scaled back from March 2020, and our focus was on enabling data to be made available for Covid related research. My team worked jointly with the Electronic Data and Research Information Service (eDRIS) which is part of Public Health Scotland. Together we launched a Covid research data service in May 2020. This enabled researchers to access around 40 case level datasets that could be linked to give a view for a person e.g. linking data on vaccinations a person had with data on spells they had in hospital. Over 150 research projects were delivered through this service in 2020-21 and 202122. My role was to oversee the establishment of this service, and ensure it was delivering well. I also had a role in enabling GP data to be available via the service, which was achieved early in 2021.

Data and modelling

- 44. In August 2020, my team established the Scottish Contact Survey. This was a behavioural survey which asked for details of the extent to which adults in Scotland were mixing and settings in which this was happening. It mirrored the methodology used in the Comix survey run by the London School of Hygiene and Tropical Medicine but had an adequate sample size for Scotland. As mentioned above, this was additional evidence to support the range of modelling available from summer 2020.
- 45. My team contributed to the development of the Public Health Scotland Covid-19 dashboard by providing advice as a dashboard user, and by contributing to quality assurance.
- 46. As described in para 2, I managed a Digital Delivery Unit at the Scottish Government. During the pandemic, this team was asked by Ministers to bring together a digital approach to support contact tracing in communal venues. This started as an assessment of the NHS England digital check in type service. There were concerns about the integration of the NHS England service with the Scottish public health and test/protect systems, so Ministers asked my team to develop a service for Scotland. This became Check in Scotland. This was a service that offered public venues (like pubs, restaurants or hospitals) a QR code. This was displayed at the venue and then people checked in/out using a smart phone. This then allowed those people to be traced if someone attending the venue at the same time was subsequently

discovered to have covid, linked to the Protect Scotland app. My primary role here was to provide advice to the development team about Information Governance and about stakeholder engagement, as well as assuring delivery. The app was used by more than 27,000 businesses (more than two thirds of all hospitality venues in Scotland), has been downloaded more than 500,000 times and facilitated more than 20 million check-ins. This enabled 300,000 contacts to be traced, delivering approximately £7.7million in efficiency savings in the contact tracing process.

47. The pandemic shone a light on the breadth and quality of data underpinning official statistics. Statisticians across Scottish Government were able to stand up new data collections (for example on Covid business grants) or increase the frequency of data collections (for example on school attendance and absence). It also exposed areas where data needed to improve, in particular social care. I stayed in regular touch (through the governance structure of the data and intelligence network) with a project led by Deputy Chief Medical Officer, Graham Ellis, to develop data on social care. This started in summer 2020. It was clear that there needed to be fundamental review of this area and this work is continuing today.

Modelling

- 48. The SGCAG agreed that advice on modelling to Scottish Ministers was provided by my Scottish Government Covid Analysis team rather than other routes such as PHS or academic groups. This is because my team had established processes through the SPI-M process and could therefore use this consensus to report both to Ministers and the SGCAG.
- 49. The outputs of the modelling my team produced were communicated in writing on a weekly basis to the Deputy First Minister and the Cabinet Secretary for Health and Care. This was done on a Wednesday evening following the models running over the previous weekend, the SPI-M meeting on the Monday and consensus assessment by the DSTL modelling unit on the Wednesday.
- 50. My role was to help people understand how the modelling was done, its strengths and limitations and what the updated modelling meant. I met many groups of people to explain these issues, answer questions and reflect on comments in ways that allowed them to talk about the modelling work. This included speaking to the Scottish

Cabinet, Scottish Parliamentary Party leaders, the Scottish Government officials Executive Team, themed based stakeholder groups for example the construction industry, Directors of Public Health, Convention of Scottish Local Authorities (CoSLA) and Society of Local Authority Chief Executives and Senior Managers (SOLACE), a weekly call with NHS managers across Scotland, and to the public through the media. This included a segment on ITV news in May 2020. These groups could use this as a way of challenging the modelling outputs themselves as well as the methods we used. I also regularly worked with First Minister's speech writing team to help her to communicate modelling and statistics with clarity.

- 51. With this understanding, regular briefing and ad hoc briefing (such as described in para 32), the modelling was one component of evidence that Ministers used for decision making in the pandemic. There were clearly a much wider set of evidence used for decision making, as described in paras 25, 26 and 36) and I observed Ministers both receiving, understanding and using that array of evidence in making decisions. I do remember Scottish Government Ministers saying they were listening to scientific advice and using that in making decisions and this is what I observed. I cannot say whether this had an effect on managing public confidence.
- 52. In addition to the formal SPI-M process, my team spoke to a number of academic teams who were proposing or delivering different approaches to modelling, for example Professor Chris Robertson and his work with Public Health Scotland, and Professor Roland Kao at the University of Edinburgh. My policy was to support a wider range of modelling to be done, though we would only provide advice to Ministers based upon this modelling where it went through the formal SPI-M scrutiny process.
- 53. While I think there were a range of impressive developments in data collection sharing and linkage during pandemic, there are important further developments needed. It still takes too long to share sensitive data about a person, and some datasets are not currently available for research. A barrier here is having processes that owners of data trust for bringing data together and a willingness of owners to share data. I mentioned social care data in para 46. Five other areas I would specifically highlight where the availability of data for research would make a significant difference to pandemic relevant research are:-
 - a) from primary care to help understand people at increased risk, and to support strategies such as prioritising vaccinations;

- b) on equalities to help understand how the pandemic was affecting different groups and ensure policies do not exacerbate inequalities. As described in para 35, work has happened on this;
- c) from the population census to help understand family and household dynamics, which were so important in the spread of Covid;
- d) on travel patterns there was some excellent work by the ONS using mobile phone data, though this is not available for academic research; and
- e) on personal finance to help understand the financial consequences of policy choices and help plan mitigations.
- 54. There were linked datasets brought together for the pandemic that were incredibly useful, such as the Early Pandemic Evaluation and Enhanced Surveillance of COVID-19 (EAVE II) dataset in Scotland. This brought together data on Covid vaccinations, testing, hospital admissions, deaths and primary care details for over four and a half million Scottish people. This enabled world leading research to be done quickly on vaccine effectiveness, and on relative risk of Covid. The assembly of such a dataset took at least six months, though once it was established it could be updated relatively easily. Maintenance of such a data asset should be an integral part of pandemic preparedness.
- 55. In addition, the broader capability of enabling data to be made available to researchers at pace and in ways that can link across a person, place or business was a part of our critical national infrastructure during the pandemic. Ensuring this is in place during non-emergency times is needed to enable this infrastructure to be brought to bear during a pandemic too. As such, I'm delighted to be leading Research Data Scotland to enable this to happen.

Advisory bodies

56. I feel that my working relationships with senior officials including the Scottish Government Chief Scientific Advisor, the Chief Medical Officer, Deputy Chief Medical Officers, the National Clinical Director, and key Scottish Government ministerial decision makers was very good. It was built upon a respect for the skills and experience that we each brought, knowing our roles in the pandemic response, and that we were all working above and beyond what would normally be required in nonemergency times. I had way more contact with Ministers, and in particular the First Minister than I had prior to Covid, and I felt that data, statistics, analysis and modelling were central to policy making in ways that were not previously always the case. As such, I feel that this significantly helped the response.

- 57. As described in para 10, I was a member of the SGCAG until January 2021. However, I wasn't directly involved in its establishment. As mentioned in para 3, ensuring evidence is gathered and shared was a vital role for my team. There were many issues where interpretation of evidence was not straightforward. There was a risk before the SGCAG was formed that Ministers would get different pieces of expert advice on the same issues. I'm not aware of this happening, but systems of seeking, sharing and managing the evidence on Covid was developing in the period to April 2020. The SGCAG filled an important role in providing clear advice to Ministers (and wider) interpreting evidence on such matters, for example on use of masks. By having a range of scientific disciplines experience and backgrounds, it was possible to get a range of views on this, and to reach consensus on the strength of evidence, and pros/cons of different options (even when certain members of SGCAG had strong views). There wasn't an additional peer review of the evidence, though this was regularly published. My role was making sure evidence available to my team was fed into those analysis and communication of evidence tasks. As such, I feel that the SGCAG fulfilled a very useful function for Scottish Government Ministers.
- 58. At times the SGCAG brought in additional expertise, such as the Scottish Government Chief Economist, Gary Gillespie, for advice on specific issues. At times, the group established a subgroup to provide deeper analysis about specific issues, for example on education and the return to school in August 2020. There were also groups on which SGCAG members advised and where the SGCAG discussed, in particular around at-risk and vulnerable groups where Professor Aziz Sheikh sat on a Scottish Government group on ethnicity and the pandemic. I cannot recall the arrangements for bringing additional expertise beyond these examples.
- 59. I cannot recall any times during my time in the Covid Analysis Team where scientific advice that my team provided was not acknowledged and considered alongside other

evidence – as per para 51. Similarly, I'm not aware of significant policy choices that were made in the absence of any evidence. At times, the evidence was partial, but the role of my team was to bring together the evidence available and to describe its strengths and limitations.

- 60. In my time jointly leading the Covid Analysis Team, I worked closely with senior scientific and medical advisors, such as Chief Scientific Advisor, the Chief Medical Officer, Deputy Chief Medical Officers, the National Clinical Director. My role was to source and share evidence and modelling with them. This is to enable them to advise Ministers and communicate with the public and with other stakeholders. The other side to this was to seek views from these people about gaps in the evidence base that my team could source, and to hear and respond to their challenges about the evidence (including its interpretation) that my team presented.
- 61. The Scottish Government Chiefs Group has operated since July 2020. Minutes were taken at meetings, but not published. Alongside this personal statement, I have shared a draft terms of reference and the minutes that I could find on the Scottish Government electronic file store [ERDM] [RH/009-INQ000292567 to RH/018-INQ000292576].
- 62. Scottish Government Ministers and senior officials commissioned advice from my team on a regular basis. Asks were clear and based upon the Scottish Government's Covid strategy as described in First Minister's daily public statements, and the "Coronavirus: Scotland's route map through and out of the crisis" published on 21st May 2020 [RH/019] INQ000078400].
- 63. As described in paras 20 and 26, my team were responsible for providing Scottish data to the UK Covid-19 dashboard and the Scottish 4 harms dashboard. We use data from these dashboards and from the public health Scotland Covid dashboard to provide briefing and to put together the Local Authority report as described in para 29. I feel that, while significant resource went it their publication, there was clearly a huge benefit from having a single definitive set of very timely data.

Divergence

64. As described in para 36, Scottish Government Ministers role was to make policy decisions under their remit, including whether and when to diverge from other parts of the UK, based on a wide range of evidence (as described in para 50) and other factors. The role of my team was to bring together evidence to Ministers and advisors that was as comprehensive as possible and outlined the strengths and weaknesses of that evidence. As described in para 11, this included working closely with the UK Government to share evidence. While evidence on effects of policies was shared, the circumstances in each nation of the UK, and within nations were different, for example levels of Covid, mixing, type of work people did, and demographics. As such, my view is that it was legitimate to consider situations for policy divergence across and within nations.

Role in Covid-19 public health communications

- 65. My view about Scottish Government's public health communications was that this was effective. Public attitudes surveys consistently found that Scottish Government Ministers (and Scottish Government more broadly) had high levels of trust compared to the UK Government and this was one of the contributing factors to relatively high levels of adherence to the NPIs in Scotland.
- 66. I only have one recollection of an alleged breach of rules and standards by someone from the Scottish Government by Dr Catherine Calderwood in early April 2020. This was resolved quickly and the fact that there were no other breaches that I can recall (compared to high profile incidents involving officials and Ministers from the UK Government) is likely to have contributed to the higher levels of trust in the Scottish Government compared to the UK Government described in para 64.

Key challenges and lessons learned

67. My recollection is that (in addition to the briefings mentioned in para 49), I attended the Scottish Parliament Covid-19 committee on two occasions: the first on 10th June 2020 where I described my role in the Covid Analytical Team. The second was in August 2020 where I supported Mr Yousaf in his role as Cabinet Secretary for Justice to discuss overseas travel.

- 68. Given the pace of change, my team regularly reviewed its operations. This allowed us to regularly ensure the analytical products we produced, briefing we provided, or how we worked with other teams and organisations remained as useful as possible. In addition, I contributed to a review of lessons learned during the pandemic led by the Royal Society of Edinburgh. I was able to talk through how data was used during the pandemic and the lessons I saw from this for good public service delivery. This was their post Covid-19 futures commission, which was published in November 2021.
- 69. As described in my evidence, I feel that the response to Covid from the statistics, data, analytical and scientific disciplines was generally excellent and I'm proud to have been a part of that. Our ability to bring people together through the data and intelligence network (paras 33-35), to directly brief Ministers to ensure they had fully understood and could scrutinise the evidence base (para 55), to reprioritise work of the statistical and analytical function in Scotland (para 38), and quickly standing up a service to make data available to researchers (para 42) all contributed to having evidence informed decision making in Scotland.
- 70. What could have made this even stronger was (a) having a mature service for researchers wanting to access public sector data for their work with (b) wider data availability (paras 46, 52), and (c) better data sharing between UK Government organisations and the Devolved Administrations. These three areas still require significant step change in collaboration, and ongoing investment to secure benefits both for future pandemics, but also in non-emergency times.

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.



Dated: _____15 November 2023