Witness Name: Julie Fitzpatrick

Statement No.: 1

Exhibits: Jfi

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UK COVID-19 INQUIRY

WITNESS STATEMENT OF PROFESSOR JULIE FITZPATRICK, CHIEF SCIENTIFIC ADVISER FOR SCOTLAND

In relation to the issues raised by the Rule 9 request dated 17 August 2023 in connection with Module 2A, I, Julie Fitzpatrick, will say as follows: -

1. I am Professor Julie Fitzpatrick, Chief Scientific Adviser to Scotland ("CSA"), St Andrews House, Regent Road, Edinburgh. I was seconded to the Scottish Government ("SG") as CSA on a part-time basis (0.6FTE) from June 2021 until September 2023, after which I became an employee of SG on a 23-month fixed-term appointment. I retain the same part-time position. I have answered most of the questions from my experience as CSA.

2. Prior to taking up my post as CSA, I was Director of the Moredun Research Institute and CEO of the Moredun Group of companies and charities from 2004 until 2023. For the two years from June 2021 to September 2023, I worked 0.4 FTE in this position and at the same time as my 0.6 FTE post with SG. I have answered some of the questions from my experience as Director of the Moredun Research Institute.

3. I have prepared this statement myself by reference to records and material provided to me by the SG. I have also received assistance from the SG Covid Inquiry

Information Governance Division and information on Scottish modelling was obtained from the Chief Social Researcher's office.

4. The Moredun Group focuses on research, development and commercialisation of solutions for infectious diseases of livestock, wildlife and zoonoses (diseases which transfer from animals to humans). I therefore have a background in biology, animal science and epidemiology. I have answered some of the questions below based on this knowledge and expertise and not from my experience as CSA. Where this is the case, I have made this clear at the start of the relevant sections.

5. 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.

6. References to exhibits in this statement are in the form [Jfi/number - INQ000000].

7. As the Inquiry acknowledges in its Rule 9 request, I took over the role of CSA from Prof Sheila Rowan on 13 June 2021 and therefore I have limited knowledge of matters relating to Module 2A's scope before my appointment. There are also some matters which I am unable to comment on as they fall outside my remit as. CSA. As I mention below, the role of CSA in Scotland is not the same as the UK Government Chief Scientific Adviser ("UK GCSA"). However, I have carefully considered all questions put to me and I have provided comments where I am able to do so.

Sources of advice; medical and scientific expertise, data and modelling

a) CSA roles and responsibilities

8. The CSA for Scotland is responsible for: providing expert scientific advice to the Scottish Government about science-related issues, evidence and new developments that may have an impact on its work; championing the use of science to inform policy development across the Scottish Government; supporting Scotland's world-leading science base and its potential to benefit Scotland's economy, people and

environment. In the event of a public health emergency, it is the Chief Medical Officer ("CMO") who will lead on public health advice. As CSA, one of my principal roles is to ensure coordination of scientific advice across government. One of the key differences in Scotland is that the UK GCSA chairs SAGE, and there is no equivalent role (or group) for CSA Scotland. While in Scotland, the Scottish Government Covid-19 Advisory Group ("SGCAG") was set up to provide scientific advice to Scottish Government during the pandemic, it is not a directly equivalent group to the Scientific Advisory Group on Emergencies ("SAGE"), and the SGCAG is chaired by an independent Chair rather than the CSA.

9. Meetings named "Meetings of the Chiefs" in SG took place throughout the pandemic, and the CMO and I acted as joint Chairs, with me taking over the joint chair position when the previous CSA, Prof Sheila Rowan, stood down. Other attendees included the Chief Scientist (Health), the Chief Scientist for the Environment, Rural Affairs and Agriculture, and the Chiefs within SG (Economist, Statistician, Analyst, Social Research, Social Policy), the Director General for Communities, and the Director for Advanced Learning and Science. I did not have a direct working relationship with the National Clinical Director.

10. I attended the SGCAG meetings, chaired by Professor Andrew Morris, where the CMO and one or more of the Deputy Chief Medical Officers for Scotland ("DCMOs"), the Chief Scientist (Health), the Chief Policy Adviser, two senior representatives from Public Health Scotland and eleven individual academics from six universities across Scotland were present. I attended meetings of the two Subgroups of SGCAG, one covering "Education and Children's Issues" and the other "Universities and Colleges". One or more of the DCMOs attended the Subgroup meetings. All the meetings I attended discussed data and evidence relating to the pandemic itself and its impact on various groups and communities. All advice was summarised in the minutes of the meetings and communicated by the Chairs of the SGCAG and its Subgroups. Attendance at all meetings was included in the published minutes and I understand that a log of all attendees at each meeting has already been provided to the Inquiry.

11. I provided scientific advice via the meetings described and not on a one-to-one basis with any individuals. I was able to inform SGCAG meetings of the outputs from SAGE meetings, and "Meetings of the Chiefs" and the two SGCAG Subgroup meetings of the outputs of both SAGE and SGCAG. My responsibilities did not relate to the early response to the pandemic as many decisions had been made by the time I was appointed as CSA in June 2021.

b) CMO/CMOD advice and medical/scientific advisory bodies

12. I attended all SAGE meetings in my role as CSA from my appointment in June 2021. My first SAGE meeting was on the 7th of July 2021 and was meeting number 93. My final SAGE meeting was on the 10th of February 2022 and was meeting number 105. I took over that position when my predecessor Prof Sheila Rowan stood down as CSA. SAGE meetings provided scientific evidence and papers relating to all aspects of the pandemic. I, and others who attended SAGE on behalf of SG, relayed relevant information to SGCAG. I attended the "Covid-19 Science Coordination Group" and the "GO-Science 4 Nations' Chief Medical and Scientific Officers" meetings. These meetings helped in understanding similarities and differences in the spread of the pandemic and responses to it.

13. I attended all meetings described above remotely by Teams.

14. I did not attend SPI-M, SPI-B, JCVI, NERVTAG meetings, however data and evidence provided at these meetings were fed into SAGE meetings on a regular basis, and especially from SPI-M and SPI-B.

15. The purpose of the meetings which I attended after taking up my post as CSA in June 2021: SAGE, SGCAG and its Subgroups, the "Meeting of the Chiefs", "Covid-19 Science Coordination Group" and the "GO-Science 4 Nations' meetings, remained broadly the same and the frequency of the meetings were unchanged.

16. There was a change of emphasis from managing a rapidly expanding pandemic to adopting approaches to preventing infection. Changes included that meetings were focused on understanding the variants of SARS-CoV-2 because of the sequencing of

the virus. Discussions around improving diagnostics, including the use of waste-water monitoring, the development of novel vaccines and their effectiveness in protection, and the wider impact of the pandemic on the "4 Harms" (the "4 Harms" referred to the SG Framework which covered i) direct Covid health harms; ii) indirect COVID health harms iii) economic harm and iv) social harm)) became larger agenda items.

17. The overarching principles which guided core political and administrative decision-making which I observed was that SG based its decisions on scientific data and evidence which was provided at international, national (UK) and Scottish levels. The main aim was to prevent deaths and serious disease in the population by reducing interactions among susceptible people (lockdowns). Another main aim was to ensure the NHS was not overwhelmed by cases, especially those who required specialised hospital treatment. As the pandemic progressed the principles of preventing infection using diagnostics and vaccines became a priority, in addition to the behavioral changes of working from/education from home. The principle of addressing the wider impacts of the pandemic "the 4 Harms" became a priority as evidence of this was made available.

18. I understood that scientific data and evidence was provided to ministers and their advisers via appropriate channels (eg Chairs and the CMO/DCMOs) from the meetings described above.

19. I was aware of ministers and advisers referring to "following scientific advice". I believe it did represent how decision makers acted during the pandemic. As SARS-CoV-2 was an emerging pathogen, little data and information was available at the start of the pandemic. As data was collected, collated, and the evidence base grew, I witnessed appropriate consideration of options based on increasing information and the certainty/uncertainty around that. I think the "following scientific advice" message was a very important element of managing public confidence and as a result of this, compliance with the measures adopted was generally high.

20. It is well recognised that decision making in government often considers scientific advice along with several other factors.

21. I consider that the policies adopted by SG were informed by, and based on, scientific evidence from multiple sources. I saw no evidence of policies driving scientific advice.

22. I have not heard of the quote "the idea that no death from novel coronavirus is acceptable", and have not read Prof Woolhouse's book, and therefore I am not able to comment as to what extent SG policy was driven by this phrase.

23. There were multiple policies relating to "COVID safe measures" in Scotland, and these were similar across the 4 Nations. These policies were guided and informed by the overarching 4 Harms Strategy which included social distancing, lockdowns, instructions to "stay at home" where possible, the use of face masks and disinfectant hand gels, testing and isolation.

24. Representatives from Public Health Scotland attended several of the meetings I described above, and they were involved in data analysis and modelling which was presented at regular SG update meetings for civil servants. Representatives from Scottish local authorities were present at the SGCAG Subgroup meetings, mainly on issues around Education and Children's Issues. I did not interact with the Scottish territorial health boards, Scottish local authorities (except for links with representatives from education mentioned above), primary care services, independent sector care providers or other major public authorities or sectors. I, and the advisory bodies I attended, interacted by presenting minutes, reports and papers which were relayed to the CMO by the Chairs of the meetings.

25. There was a strong, communicative and respectful relationship among all the medical (CMO, DCMOs) and scientific advisers (Chief's Group) and the advisory bodies which I attended. Scientific data and information were presented at all meetings to provide an update on the progress of the pandemic and to inform subsequent discussions. All those who attended meetings were encouraged to speak and to present their views. I consider the working relationships contributed to key decisions made in SG, to communications, and to high levels of compliance with measures to reduce and prevent infection.

26. I, and the team of Chief Scientific Advisers in SG (the Chief Scientist (Health) and the CSA for the Environment, Natural Resources and Agriculture), provided advice via the advisory groups which we attended.

27. I did not attend any Cabinet meetings or 4 Harms Group meetings. I attended only two SGoRR meetings, on the 22nd and 29th June 2021, papers provided [Jfi/001 - INQ000233443] [Jfi/002 - INQ000233428] [Jfi/003 - INQ000348711]. As described in my questionnaire response and above in this response, in Scotland, it is the CMO who leads on advice in the event of a public health emergency.

c) Informal Decision Making and communication

28. I was not involved in any informal or non-minuted meetings. I did not communicate with anyone in SG on messaging platforms. I did not use messaging platforms and am not aware of the use of these by others. I am unaware of informal or private conversations among decision makers in Scotland.

29. The UK-Chief Scientific Advisors (UK-CSA) Network have a WhatsApp group but this was not used for messages about the pandemic during the period after my appointment as CSA from June 2021. Messages were not retained as following an update to/reset of the phone the messages were deleted.

30. Minutes of meetings I attended were not verbatim but covered all the main points of discussion and actions arising. The records included differing views when these occurred. I have also retained a number of notebooks from the period, which include my own notes of the meetings in which I participated. These will be made available to the inquiry. I did not use any electronic notebooks.

d) Scottish Government Covid-19 Advisory group ("SGCAG") and SAGE

<u>Constitution, membership and role</u>

31. In my view both SAGE and SGCAG had sufficient representatives of the various interests relevant to decision making during the pandemic. I don't necessarily see them as "competing" interests but rather "different perspectives and priorities". A balance had to be struck between keeping the meetings a manageable size and the number of "representative interests". I believe this was achieved.

32. I had no concerns about the adequacy or quality of the scientific data and evidence provided to me and others at all meetings. It was excellent including SAGE, SGCAG and its Subgroups. Scientific advice was presented by individuals with expertise and experience in their various fields and this was discussed and recorded. SAGE participants included those with expertise in health economics; clinical advice, including from the field of respiratory medicine; virology; immunology; ethics; education; and at-risk and vulnerable groups. SGCAG participants included those with expertise in health economics; clinical advice, including from the field of respiratory medicine; virology; immunology; ethics; education; and at-risk and vulnerable groups.

33. SAGE has been established for some time and was shown to be effective in managing a number of emergencies. It was fortunate that SAGE was an established structure as it allowed a very rapid consideration of the pandemic. Procedures and processes had been established around organising meetings, recording and disseminating information.

34. SGCAG was established prior to my taking up my post as CSA in June 2021. I consider that the composition of the group was appropriate for the discussions that took place. This included the Chair, the CMO, DCMOs, civil servants, CSAs and other advisers.

35. I did not witness any instance of advice not being followed by SG.

Sub-groups

36. The Subgroups worked very effectively. Both were attended by relevant civil servants with oversight of Early Learning Years establishments and primary and secondary

schools (Subgroup on Education and Children's Issues), and post-school education (Subgroup on Universities and Colleges), and by scientific discipline experts, by DCMOs and by me as CSA. The Subgroups focussed mainly on responses to the pandemic that affected these sectors including the 4 Harms. The meetings were informed by updates on the status of the pandemic.

Operation of advisory structures

37. Key advice from me personally was to relay discussions on scientific data and evidence from SAGE to SGCAG and its Subgroups. I provided updates on the progress of the epidemic including case numbers in Scotland and the 4 Nations, information on the emergence of variants of the virus and discussions on their likely severity and or effectiveness of vaccination. As evidence gathered on the impact on at risk and vulnerable groups, I participated in discussions on these as they might impact on Scottish policies such as school closures and Long-COVID. I am aware that the Chief Scientist (Health) provided specific advice on diagnostics for SARS-CoV-2, and that the Chief Scientific Adviser for Environment, Rural Affairs and Agriculture was involved in establishing wastewater screening for the virus.

38. Key advice from SGCAG covered all aspects of the pandemic including understanding the spread of the virus within the UK and Scotland, understanding the use of technologies such as diagnostics and vaccines, and methods of reducing or preventing spread of the virus including non-pharmaceutical interventions ("NPIs").

39. I thought SGCAG was very effective in formulating advice. It considered outputs from SAGE and also included consideration of data relating specifically to Scotland e.g. local authorities, hospital capacity, and the 4 Harms. SGCAG played a significant role in understanding the emergence of new variants and how these might affect the population, including those who were vaccinated and unvaccinated.

40. As CSA I mainly provided interpretation of the outputs and discussions that took place at SAGE. The CMO was a main decision maker (in terms of public health advice for Ministers) at SGCAG although his decisions were not discussed at the meetings which I attended. The DCMOs were decision makers at the SGCAG

Subgroups. I did not witness any difference of opinions during my attendance at meetings and so am unable to state how these were communicated to core decision makers.

41. I was not aware of how the CMO/DCMOs provided briefings/advice to Ministers and others. I received weekly information on "State of the Epidemic Reports" (circulated by the C-19 Analysis Division) and "COVID Review/Response" (circulated by Covid-19 Governance and Decision Making/Covid Co-ordination Directorate). I was also copied into the Cabinet papers on the pandemic and had the opportunity to comment.

42. The remit of the CSA in Scotland differs to that of the GCSA in the UK and is explained in my questionnaire response [Jfi/004 **INQ000184896** and above in this response. The CMO is in the lead in emergencies relating to public health. I contributed to SG's response to the pandemic through my participation in multiple meetings described above. I did not submit any papers or submissions personally to Ministers.

43. The Chiefs' Group was created during the pandemic and before I took up my role as CSA in June 2021. The main aim was to provide a forum for the three Chief Scientific Advisers (CSAs) and the Chiefs within SG (Medical Officer, Economist, Statistician, Analyst, Social Research, Social Policy), the then Director General Education, Communities and Justice, and the Director for Advanced Learning and Science, to share information about evidence and advice commissions, and to discuss the progression and broad impacts of the pandemic and the SG's response to them.

44. I was unaware of the commissioning process for SGCAG and I was not approached personally to provide advice.

45. Both the UK and Scottish Covid-19 dashboards were an essential tool which allowed rapid understanding of the progress of the epidemic and the impact of interventions. These dashboards were a method of presenting summary data about multiple aspects of the pandemic in a clear and consistent manner, making it relatively easy to understand and assess the relevance of the data. The dashboards for both the UK

and Scottish COVID-19 information were updated and presented regularly. The data was provided promptly and regularly throughout the period when I was CSA. The data was high quality and contemporary.

46. Communication to senior decision makers was from the meetings which I attended via the Chairs and the decision makers themselves (CMO, DCMOs).

47. The issue of palatability and acceptability of options by policy makers was never mentioned in my presence at SGCAG meetings. All advice on policies was welcomed and recorded. I was not in post as CSA in the initial months of the pandemic.

48. I think the information provided to the SG was transparent, clear and comprehensible by all/most civil servants and others across SG. The information was presented in plain English text, data was presented clearly and consistently in graphs and other images and included estimates of uncertainty. Information on the data itself (e.g., collection, analytical methods and limitations) was included in footnotes for clarity. Information was summarised and was circulated by email and presented at internal SG teams meetings regularly.

49. Ministers and officials were able to ask questions or challenge advice at any time during the pandemic. As I did not personally provide advice to Ministers, questions regarding mechanisms for Ministers to challenge advice may be more relevant for medical advisers to answer.

50. In terms of how meetings were conducted or how advice was formulated by SGCAG, the Chair and Secretariat of SGCAG were responsible for the operation of the group. Members were free and encouraged to bring areas forward for discussion and to formulate advice on that basis. I believe that formal commissioning took place early in the pandemic by a number of policy teams, however by the time I took up the role as CSA in June 2021, this happened only occasionally.

51. I consider that I and SGCAG took advice from a wide variety of scientific disciplines. Epidemiology is the study of infectious disease in populations and was absolutely

critical in describing the pandemic and its progress worldwide and in the UK and Scotland. Molecular epidemiology allowed the understanding of the emergence of variants of SARS-CoV-2 which was essential in deciding on interventions. The use of modelling was also critical in assessing the progress of the epidemic and the possible impact of multiple interventions. As the pandemic progressed and the wider, 4 Harms of the disease became clear, the disciplines of social scientists, educationalists and economists took an increased focus at the meetings I attended.

52. I was not aware of conflicts arising from medical/scientific information and from data modelling from the time I took up the role as CSA. The modelling conducted by SAGE and within SG was undertaken by different academic and/or government scientists and broadly presented similar scenarios.

53. I am unable to comment on if conflicts were understood by decision makers and how these might have been resolved and am unable to comment on how information and advice was reconciled. As noted above, I was not directly involved in providing such advice, and all advice I provided was via the meetings of the various advisory groups I attended.

54. I am unaware of any peer review process of individuals or bodies providing advice taking place and did not witness any examples of advice or models being provided but not followed during my time as CSA from June 2021.

55. I was not aware of any examples of advice or models not being sought during my time as CSA from June 2021.

56. Issues around the weighing of medical and scientific advice with other considerations were discussed at a number of the meetings I attended. I did not witness many meetings at SG where the economy was discussed although it was mentioned at the "Meetings of the Chief's" meetings. Impacts on non-Covid related illness and its treatment, education, inequalities, vulnerabilities, mental health and societal issues formed part of the agendas of a number of meetings including and especially the SGCAG Subgroup meetings. Data was presented regularly at the Subgroup meetings and extensive discussions took place on all the subjects above. These are

covered in the minutes and on the advice which was transmitted by the Chairs to core decision makers.

57. I did not personally receive representations from patient groups, but as CSA I would not have expected to do so. The CMO and other medical advisers would be able to provide advice on their engagement with patient groups and similar stakeholders.

Mechanics of the provision of SGCAG advice

58. The members of SGCAG provided comments on the data and modelling summaries on the pandemic provided from their own scientific expertise and disciplines. The members of the group heard reports from those who had attended SAGE and other meetings including SPI-M and SPI-B and were able to discuss these from a "Scottish perspective" taking into account information and evidence collected by SG and others in Scotland. All members voiced their opinions and advice and these were recorded in the minutes. Discussions considered information from SAGE as well as data and evidence provided from Scotland. Discussions were recorded by the Secretariat for the minutes.

59. During the period from when I took up the role of CSA in June 2021 I am not aware of any SGCAG members not being invited to meetings due to differences of opinion or disagreeing with the consensus view. The operation of the SGCAG, including from whom briefings were provided, is a matter for the Chair and Secretariat of the SGCAG.

60. I believe that issues covering the impact of the virus or actual/contemplated counter-measures taken to combat it on the medically vulnerable; the definition of vulnerable groups; and the impact of the virus or such countermeasures on groups with protected characteristics were covered by the SGCAG at meetings prior to me taking up my post as CSA in June 2021. Similarly, I do not recall "other sources of information" for these issues being discussed at meetings I attended after I took up post as CSA in June 2021.

61. I believe advice from SGCAG on NPIs including in connection with lockdowns, school, care homes, face coverings and physical distancing were covered at the meetings prior to me taking up my post as CSA in June 2021.

62. My understanding is that officials carry out impact assessments of policies, therefore it would be appropriate that SGCAG, as a scientific advisory body rather than a policy making forum, was not involved in these.

SAGE

63. I was not in post as CSA until June 2021 and therefore cannot say what consideration or consultation took place regarding devolved administration participants at SAGE when the SAGE Covid meetings were instigated. My understanding is that all attendees take part in meetings at the invitation of the UK GCSA, according to the published guidelines on SAGE operation [Jfi/005 - INQ000348714]. Issues around the operation of SAGE, including the choice of expert attendees, are a matter for the UK GCSA and the SAGE Secretariat in the UK Government Office for Science.

64. From my experience as CSA from June 2021, SAGE was informed by data and evidence from SG and representatives from SG were in a position to comment at the meetings and on the papers. I was not aware of differing advice in the meetings of SAGE and SGCAG I attended.

65. I witnessed the data, modelling and advice emanating from SAGE, presented at meetings and recorded in minutes and papers. I was responsible, along with others, on viewing this from a Scottish perspective at SGCAG along with data and modelling conducted in Scotland. A number of members of SGCAG were members of modelling groups and they commented on discussions and outputs at those Subgroup meetings.

66. I did not witness discussions about conflicts in the data, modelling and advice emanating from SGCAG during my attendance at SGCAG meetings from June 2021,

and I did not witness advice which differed between SAGE and SGCAG during my attendance at SGCAG meetings from June 2021.

67. I was not aware of any issues about Scotland's access to data, information or advice during my post as CSA, which started in June 2021.

68. I cannot say how the pandemic assumptions (including modelling assumptions) affected the initial pandemic response, as I was not in post as CSA until June 2021.

69. In terms of any change in the meetings of SAGE, SGCAG and its sub-groups, I was not in post as CSA until June 2021. At the time I started to attend SAGE and SGCAG meetings, the agenda items and content of meetings appeared to have been well established and I did not witness any substantial changes.

70. From my experience as CSA from June 2021, SAGE was informed by data and evidence from SG and representatives from SG were able to comment at the meetings and on papers. I was not aware of differing advice in the meetings of SAGE and SGCAG I attended.

71. I do not feel that a particular discipline had too much influence at SAGE discussions. I consider that epidemiology and modelling was essential in understanding the course of the pandemic and in considering options for interventions.

72. The issue of preparing for the next pandemic has been commissioned by the previous First Minister and a report is due to be published from the Standing Committee on Pandemic Preparedness (SCoPP). This is Chaired by Prof Andrew Morris and the CS (Health) and I, as CSA, are Vice-Chairs of this committee. SCoPP has provided initial recommendations in an interim report [Jfi/006 - INQ000103004] which covers the principal areas of focus: creation of a Centre (or Network) for pandemic preparedness; data collection, access and analysis; provision of scientific advice; and technological developments.

Data and modelling

73. The key sources of data and modelling information and advice used in the Scottish Government's response to Covid-19 came from the following forums:

UK Level Modelling Groups including:

- SPI-M-O subgroup of SAGE. SG sat on SPI-M-O as an official;
- MRG (Epidemiology Modelling Review Group)– SG submitted modelling to this group and attended their calls which was included in the consensus modelling (models covering the 4 nations);
- JAWG (Joint Analytical Working Group) – previously four countries group, between the Devolved Administrations and JBC/UKHSA (Joint Biosecurity Centre/UK Health Security Agency) to discuss pandemic trends in each of the 4 nations and included modelling.

SG Level Modelling Groups including:

- SG/Roslin – regular calls between SG and Roslin Institute at Edinburgh University where spatial modelling was discussed
- SG/PHS – regular calls between SG and Public Health Scotland where SG modelling was presented to and then given to Public Health Scotland for inclusion in their whole system modelling.

Modelling from many groups was presented at multiple meetings in SG. These were led by the Chief Social Researcher and her team and included:

- NIMT (National Incident Management Team);
- Thursday Analytical Calls;
- Policy Catch Ups;
- Forward Planning Group;
- 4 Harms Group;
- Covid Recovery Group; Scientific Advisory Sub-Group on Education and Children's Issues;
- Wastewater Devolved Administrations Working Group;
- SG Wastewater Monitoring Working Group;
- UKHSA/JBC Weekly Alert Level Update;
- UKHSA/JBC International Risk Assessment meeting; and

- The Social Care Working Group (SCWG).

74. I believe that I and others advising the Scottish Government had adequate access to reliable data and modelling information. More detailed questions about modelling used by the Scottish Government are more appropriately addressed to the Chief Social Researcher.

75. The digital services operated by the Scottish Government to facilitate the pandemic response were in place when I took up my role as CSA in June 2021. The COVID-19 dashboards, including the Public Health Scotland dashboards provided updates and background information on the progress of the pandemic at many of the meetings I attended. Dashboards were a method of presenting summary data about multiple aspects of the pandemic in a clear and consistent manner, making it relatively easy to understand and assess the relevance of the data. The COVID-19 and Public Health Scotland dashboards were only two of many dashboards deployed during the pandemic that were updated and presented regularly.

76. I was aware of the other digital services such as those provided on the SG website but from my own personal reading. I was not involved in using these services in my role as CSA, but I consider that I had adequate access to data for me to conduct my role as CSA.

77. Data sharing was well advanced by the time I took up my role as CSA in June 2021. The meetings of 4 Nations COVID Group was particularly helpful in comparing regional differences in the pandemic and responses to those.

78. Data visualisation was very important and the use of simple and clear graphs and images were established. There was a consistency in the presentation of information which made it easier for all decision-makers to understand the data and models.

79. The use of data to assess the impacts and effectiveness of NPIs was not covered in discussions at meetings which I attended when I took up my role as CSA in June 2021. Similarly, I was not involved in any meetings where there were discussions

about movement of individuals as a means of trying to control transmission, compliance with restrictions and contact patterns, including for example the UK-wide CoMix (the social contact) study and the Covid-19 Scottish Contact Survey (which assessed the average number of contacts between age groups) after I took up my role as CSA in June 2021.

80. Modelling was conducted by SG Central Analysis Division. SG modellers held direct discussions with some university groups such as Imperial College about their local modelling, and Chris Robertson (University of Strathclyde).

81. The modelling made available to SG was extensive and comprehensive. I can only comment on those I encountered at meetings after I took up my role as CSA in June 2021.

82. I believe I had access to adequate and timely, clear, relevant and reliable modelling from taking up my post in June 2021.

83. In terms of a consensus approach, modelling at SPI-M and then SAGE was conducted by at least three academic groups based at different universities in England. The outputs of all models were presented and discussed. At SGCAG, outputs from SAGE were discussed in comparison with modelling using Scottish data and/or conducted by modellers in Scotland.

84. I believe that modelling of epidemiological outcomes was both reliable and of high quality. The modelling was conducted by expert individuals and groups, both from academia (universities) and from within government (analytical groups). The models were based on current and appropriate methodologies.

85. I did not witness any discussions about a lack of data or data lags affecting the reliability of modelling from when I took up role as CSA in June 2021.

86. In my opinion, the models used were sufficiently transparent, including in respect of the key assumptions included in the model and the sensitivity to errors in those assumptions. They were clearly presented in text documents and in presentations.

87. In my view, it was important to be confident about the model outputs and to discuss them with academics prior to publication. Peer review was undertaken by different modelling groups, including but not limited to the University of Warwick, Imperial College London, Cambridge/Public Health England, the London School of Hygiene and Tropical Medicine (LSHTM), considering each other's models on a regular basis and these were then discussed at SAGE. It is challenging to know how far to share the models during an emergency and there is the possible issue of miscommunication and confusion among the public.

88. A variety of scenarios were modelled and included assumptions on the transmission rates of different variants, and the effectiveness of vaccination. Models were also created to examine the effect of serious versus moderate severity of disease on hospital bed occupancy.

89. Discussions about models for lockdowns did not take place at meetings which I attended when I took up my role as CSA in June 2021.

90. I believe that the CMO and DCMOs understood the data and modelling. I base this view on discussions we had at various meetings. I am unable to answer the question on ministerial assessments of the management of the pandemic as I was not present at meetings where this was considered.

91. There was an increased emphasis on modelling the 4 Harms impact of the pandemic as knowledge was gained over time. I am unable to comment on whether or not this was sufficient.

92. There was an increased emphasis on modelling the 4 Harms impact of the pandemic, including vulnerable and at risk groups, as knowledge was gained over time.

93. In terms of what, if anything, could be done to improve data collection, sharing and linkage across health and care systems, Scottish Government directorates and the

other nations of the UK and regions for any future pandemic, I believe that the following would be helpful:

a. Substantial funding for data collection, collation and sharing.
b. Improved processes for use/ sharing of patient data during a pandemic.
c. Improved social services to reduce the risk of individuals moving from hospitals, or other places, into care homes, or other locations, where vulnerable people are housed in groups, and where infectious diseases can spread particularly rapidly.
d. Consideration of quarantine hospitals for pandemics.

94. All models I was exposed to after taking up my role as CSA in June 2021 were of high quality and useful. I am unaware of issues, obstacles or missed opportunities during my time in post.

f) Other sources of information and advice

95. I did not seek independent advice external to government specifically, however, I was Director of the Moredun Research Institute, as a part-time role, in addition to my role as CSA from June 2021. I had access to scientific information from several sources including publication of scientific manuscripts and I regularly sought information from a number of websites including those from WHO, UKG and SG.

g) Intergovernmental working

96. Communication was good among colleagues from the devolved administrations, including Scotland, with GO-Science and with SAGE. Meetings were regular, constructive and recorded in minutes.

97. As CSA, I was involved in weekly meetings of the CSA within the 4 Nations and with senior representatives from GO-Science from June 2021. Medical advisers were present at some of these meetings.

98. Communications among the 4 Nations administration were strong on sharing information and in taking a coordinated approach in most instances. Where

differences in the pandemic occurred across the 4 Nations, these were recognised, and fed into relevant meetings within Scotland via the SGCAG and its Subgroup meetings.

99. The objectives of intergovernmental medical and scientific advisers' meetings ("Covid-19 Science Coordination Group" and the "GO-Science 4 Nations" Group) included information sharing and two-way communications between GO-Science and the Devolved Administrations including Scotland. The meetings were minuted by GO-Science but did not always include consideration of papers.

100. Discussions and outcomes were discussed at SGCAG and communicated via the CMO to decision makers as appropriate.

101. I consider the meetings helped to increase understanding of the course of the pandemic and regional issues around the response. This helped to inform the Scottish response.

102. I was informed of some, although not all, steps taken by other administrations in the meetings described above.

103. I did not play a personal role with regard to efforts to coordinate matters which involved both devolved and reserved competence, and I am unable to comment on the role of others, or to comment on communication between SG and the Office of the Secretary of State for Scotland.

h) Funding and competence

104. Based on my experience as CSA I cannot answer questions regarding funding and devolved competence as I was not aware of any issues in the areas of funding and the 'limits of devolution'.

i) Conclusions and lessons learned

105. In my opinion the preparation of medical and scientific advice was fit for purpose. I am not able to comment specifically about procedures for preparation and communication of medical and scientific advice as I was not involved in this activity with reference to core decision makers other than the CMO/DCMOs. My role as CSA was to provide advice from the meetings which I attended and described above.

106. External scrutiny was involved by publication of papers considered and the minutes of meetings of SAGE and SGCAG and this should be continued for any future pandemic. Internal scrutiny could be improved by inclusion of a wide range of scientific disciplines from the start of a pandemic including socio-economics, behavioural science, and communications technologies and approaches.

107. I only contributed advice during SGCAG and its sub-group meetings and I did not provide personal advice to core decision makers, therefore I have no published documents relating to that. My recollection is that minutes and advice from SGCAG were published during the pandemic.

108. I considered that the First Minister, Cabinet Secretaries, Minsters, senior civil servants and advisers worked effectively during the time I was CSA from June 2021, making appropriate use of scientific and medical advice along with wider policy considerations.

109. I had no concerns about the performance of my counterparts in the UK government and the devolved administrations. However, I was concerned about the actions of the then Prime Minister in breaking lockdown rules. I believe this was detrimental to public trust and confidence in core decision makers, although it is not possible to assess the full impact. I did not discuss this with my colleagues within SG.

Initial understanding and responses to Covid-19 in the period from January to March 2020; decisions taken to the end of the second lockdown on 2 April 2021, including on testing and non-pharmaceutical interventions (NPIs)

110. I first became aware of COVID-19 from news reports of cases occurring in China in early 2020. I then followed the transmission of infections on the WHO website.

111. The Inquiry has asked me a series of questions related to testing and decisions taken by the Scottish Government in relation to NPIs, the first lockdown in 2020, and other decisions taken by the Scottish Government or other issues from May 2020 to the end of the second lockdown, which ended on 2 April 2021. Events and decisions in this period pre-date my term as CSA, which started on 13 June 2021, and I am therefore unable to answer or provide further information on these issues.

112. However, I am able to provide further detail about my involvement in collective advice regarding schools, universities and colleges, from when my term as CSA began on 13 June 2021. As stated above (paragraph 10) upon becoming CSA Scotland I became a member of the SG Advisory Group subgroups on "Education and Children's Issues", and "Universities and Colleges". My attendance continued until the meetings ceased in March 2022 (Education and Childrens' Issues) and May 2022 (Universities and Colleges). In both the Subgroup meetings, a presentation was provided by Scottish Government representatives from Public Health Scotland and the Central Analysis Division as the first agenda item. This provided an up-to-date background to help frame the discussions relating to educational issues. I was always asked if I had comments which I would like to add, based on my attendance at SAGE and SGCAG meetings, and I was therefore able to link recent scientific evidence to considerations on options for mitigations to reduce transmission of COVID-19 in places of education and the 4 Harms impacts covered by the Subgroups.

113. The decision to close schools was made by the Scottish Government prior to me taking up the role of CSA in June 2021. The continued closure of schools during my time as CSA was informed by scientific evidence that reducing contacts among susceptible individuals, in this case mainly children (schools) and mainly young adults (colleges and universities), was an important factor in reducing transmission of the virus. There was scientific evidence that the virus was transmitted mainly by aerosol rather than droplets and schools, colleges and universities were places where people shared the same air space in sometimes poorly ventilated rooms and

lecture theatres. There was evidence that children who became infected in schools transmitted the virus to household contacts and thus contributed to the trajectory of the pandemic. Medical information was available which suggested, as children were not initially included in vaccination programmes until this was considered safe, that reducing contacts by closing schools was an important and essential mitigation for COVID.

114. I consider that school closures were effective in reducing transmission of the virus, however, data on this was not available at the time of decision making. Attribution of different mitigations for reducing COVID (such as school closures) was not possible due to concurrent mitigations also being deployed (such as working from home, vaccination of adults).

Decisions relating to the period between April 2021 and April 2022

a) General

115. I cannot comment on decision-making and scientific advice in connection with easing the second lockdown in April 2021 as this took place before my term as CSA began in June 2021.

b) The move to level zero

116. As CSA I am not in a position to explain how Ministers and officials made their decisions, other than stating that any scientific information that informed the decisions would have come from the SGCAG, the minutes of which are published online and have been provided to the Inquiry.

c) The emergence of the "Omicron" variant (first detected in South Africa in November 2021)

117. Information on the omicron variant was distributed widely in scientific platforms within days of its first detection. This variant was discussed at all meetings I attended during November 2021 and subsequently including SAGE, SGCAG and its sub-

groups, and 4 Nations meetings. Information was made available on the sequence variations among omicron and previously identified variants, and its spread across multiple countries and continents. Over time, further information became available on the severity of the variant in different sectors of the population and evidence of the effects of vaccination on the infections with omicron. This information and advice was provided at SGCAG and its Subgroups. Minutes of these meetings are available on the SG website, and from the Chairs and Secretariats, and I believe have been provided to the Inquiry.

118. The medical and scientific information included details of the sequence of the variant and its anticipated/possible effects on spread of the variant (R), and on the effect of vaccination and/or prior exposure to other variants. This evidence indicated that the existing restrictions and systems continued to be appropriate.

119. The emergence and progression of the omicron variant worldwide and in the UK resulted in three meetings of SGCAG in December 2021. The meetings considered all aspects of the data and modelling for omicron available at that time, Discussions took place about all options for mitigation, including a possible lockdown. In my view, and in the view of SGCAG members generally, a further lockdown was not required at this time. Evidence became available that, although the case numbers of COVID were high and increasing, the clinical signs associated with the omicron variant were less severe than the delta variant, and information became available on previous vaccination against COVID-19 reducing death and serious disease. I, and others on SGCAG ,were able to express our opinions openly at these meetings, including on options for mitigations. I consider that Scottish Government representatives present at these meetings were open to competing views.

120. I am not able to provide details of the scientific evidence behind the First Minister's rule changes on 10 December 2021 and this may be best addressed by the CMO and Ministers. As CSA I was not involved in how these changes were communicated to the public.

121. As CSA I am not in a position to explain how decision makers (Ministers and officials) made their decisions throughout December 2021, other than by confirming

that any scientific information that informed these decisions would have come via SGCAG and will be covered in the minutes, which are available online and have been provided to the Inquiry. I am also not able to comment on how these changes were communicated to the public.

d) The lifting of restrictions in April 2022

122. As CSA I am not in a position to explain how decision makers (Ministers and officials) made their decisions on 18 April 2022, other than by confirming that any scientific information that informed these decisions would have come via SGCAG and will be covered in the minutes, which are available online and have been provided to the Inquiry.

e) Conclusions and lessons learned

123. Data was presented at multiple meetings which I attended between June 2021 and April 2022 which showed the incidence of cases of COVID in different sectors of the population and the effect of interventions including lockdowns, vaccination and other measures. Data was presented on hospitalization figures and on mortality which indicated severity of disease. This was conducted contemporaneously, which was important in assessing the effectiveness of controls.

124. I am not aware of assessments being undertaken of how different or earlier decisions relating to the management of the pandemic in Scotland could have influenced different outcomes.

125. I am aware of multiple scientific publications on the economic, social and non-covid health related consequences of the restrictions. A Report for the Royal Society by Professor Sir Mark Walport covered evidence on the impact of non-pharmaceutical interventions.

126. I am not aware of assessments being undertaken by or on behalf of the Scottish Government regarding the impact of the first lockdown on vulnerable and at risk groups.

127. Lessons were learned by me personally, and I believe by my Scottish Government colleagues, about the variation in disease severity in vulnerable and at risk groups including the effect of interventions on non-COVID diseases, education (children and post-school) and mental health. Lessons learned by the wider Scottish Government are a matter for other colleagues to answer.

128. I am not personally aware of any measures proposed which were affected by reserved matters. However, this may be a matter that others at SG can speak to.

129. To ensure lessons were acted upon, the Standing Committee on Pandemic Preparedness has been established. It is chaired by Prof Andrew Morris, I act as Vice Chair with the Chief Scientist (Health) Dame Anna Dominiczek.

f) Conclusions and lessons learned from the use of NPIs in response to the pandemic

130. I have responded to the questions in this section as Director of the Moredun Research Institute and CEO of the Moredun Group. The Moredun Group focuses on research, development and commercialisation of solutions for infectious diseases of livestock, wildlife and zoonoses (diseases which transfer from animals to humans). I therefore have a background in biology, animal science and epidemiology. I have answered some of the questions below based on this knowledge and expertise and not from my experience as CSA

131. I consider that the following areas worked well during the pandemic:

- Lockdowns were effective in reducing transmission of the virus and in ensuring hospitals and emergency care were not overwhelmed.
- Education in schools, colleges and universities was moving mainly to online courses.
- Furlough schemes were introduced to help businesses survive.

- Communications in Scotland to the public and especially by the then First Minister and the CMO (Sir Gregor Smith specifically). Their messages were clear and consistent.
- Communications by the then UK GCSA and the UK CMO to the public which were clear and provided graphs to explain the state of the epidemic and the reasons behind decision making.

132. The following are areas where I consider there were some issues, obstacles or missed opportunities during the pandemic:

- Patients leaving hospital could have been tested for COVID, depending on availability of diagnostic tests, at an early stage in the pandemic, especially if entering care homes or other locations with vulnerable people.
- Care homes could have introduced quarantine where possible for individuals returning from hospital or from other locations where infection with the virus might have occurred.
- Communications by the then Prime Minister which were contradicted by his actions.

Care homes, social care and borders

133. The Inquiry has asked me a series of questions related to issues in connection with decisions made about care homes and social care, and about borders. These are issues that are outwith the role of the CSA, and took place before my term as CSA started in June 2021. I am therefore unable to answer or provide further information on these issues.

Decision-making between the Scottish Government and (a) the UK Government and (b) the other devolved administrations in Wales and Northern Ireland

134. There was a well-developed 4 Nations approach to information sharing and understanding of regional issues of the pandemic by the time I came into post in June 2021. I can only comment on arrangements that were in place/meetings which I attended from that point.

135. I consider that the Coronavirus Action Plan, the move from 'contain' to 'delay', NPIs, sharing and use of medical/scientific expertise and data, public health communications and legislation were well covered by the time I came into post in June 2021. Most of these examples would have taken place during meetings prior to my appointment and therefore I am not in a position to provide further comment on the extent of collaboration or co-ordination between the UK Government and Devolved Administrations on these matters, to the extent not covered elsewhere in my statement.

136. In collaborating, coordinating and communicating with my counterparts in the UK Government and the other devolved administrations between June 2021 and April 2022, I attended almost all meetings of the COVID-19 Science Coordination Group and some Go-Science 4 Nation Co-ordination Group meetings from the time I took up my post as CSA in June 2021. I felt collaboration, co-ordination and communications were strong and effective by that stage of the pandemic.

137. I have not identified any reforms which focus specifically on inter-governmental structures. The most important aspect is clear understanding by all in government about structures which differ across the 4 Nations so those can be taken into account in pandemics and other emergencies.

138. I believe SAGE was very effective in terms of bringing the data and evidence to relevant authorities, policy makers and decision makers. I consider that structures to bring Cabinet representatives together, and Health and Social Service representatives together across the 4 Nations, would facilitate joined up thinking and communications. This is particularly important as "Health" is a devolved area in the Scottish Government.

139. The UK Government did not seek to influence the devolved administrations to follow its decisions at any of the meetings I attended, and I did not witness this within the SG.

140. The Scottish Government did not seek to influence the UK Gov or other devolved administrations to follow its decisions at any of the meetings I attended, and I did not witness this within the SG.

141. I did not witness any communications between SG/UK Gov/ other Devolved Administrations where it was contemplated that different decisions might be made in relation to public health messaging at any of the meetings I attended, and I did not witness this within the SG. I am not able to comment on the outcomes of any communications.

142. I believe that Dr Jim McMenamin of Health Protection Scotland, now Public Health Scotland, attended early SAGE meetings.

143. I think increasing consideration was made in 4 Nations decision making on the impact of decisions, including NPIs, on at-risk and vulnerable groups as the pandemic progressed. Data and evidence was gathered and presented on NPIs, at risk and vulnerable groups at the meetings I attended after taking up my position in June 2021. This included data on incidence in different socio-economic groups and the impact of the pandemic on education (children and teachers). As the pandemic was caused by a novel virus, it was not possible to predict its effects and impacts during the initial stages of the pandemic.

144. I did not witness discussion regarding the extent 4 nations decision-making about the response to Covid-19 considered the impact of restrictions for people living and working across internal UK borders. Such discussions may have taken place prior to me taking up my post as CSA in June 2021.

145. Information was presented on the pandemic in multiple countries and continents at the meetings I attended. These included pan-European information which included issues of contiguous borders and different jurisdictions.

146. From the meetings I attended and discussions and advice witnessed, I believe the SG was adequately informed about decision making by the UKG.

147. I consider that intergovernmental working, co-ordinated decision-making and communications across the 4 Nations was generally good and effective. Case rates for the pandemic varied with regions including in the devolved administrations, and this led to differences in interventions in schools e.g. due to different start and end dates of terms. Scotland had particularly high rates of cases due to the omicron variant in the early winter months of 2021 which led to some differing advice on individuals isolating in Scotland compared to other nations of the UK, in the event of a positive test in households. In my view, this was appropriate use of regional data and information in decision making.

Interrelation between the Scottish Government and local government

148. As CSA I was not involved in the strategy related to the role of local government in the pandemic. There were some local authority representatives on the SGCAG subgroup meetings which I attended, due to local authority involvement in education provision.

149. Medical or scientific information or advice available to the Scottish Government was provided to local authorities to assist in their role in the pandemic via the two Subgroups of SGCAG and their published reports – those which focused on "Education and Children's Issues" and on "Universities and Colleges". Representatives on the Education and Children's Issues Subgroup included the Director of Public Health (Lothian) and a Headteacher from an Ayrshire School. The terms of reference for the Education and Children's Issues Subgroup were to provide advice to support and inform the development of iterative operational guidance for providers of learning, childcare and children's services. The terms of reference for the Universities and Colleges Subgroup were to provide expert advice, recognising the 4 Harms, to support and inform the development of guidance for universities and colleges, and as an aid to forward planning for both sectors. I consider the advice arising from these Subgroups was very useful and effective in responding to the pandemic. Outputs from the Subgroups was presented personally by the Chairs of the Subgroups and I also had the opportunity to contribute to that in my role as CSA.

150. The two Subgroups of SGCAG – those which focused on Education and Children's Issues and on Universities and Colleges are examples of areas of activity which worked well. The meetings of the Education and Children's Issues Subgroup included discussions on wide ranging issues and were captured in a series of publications available on the SG website. Subjects discussed and published during the time when I was present as CSA, from June 2021, included summarising transmission of the virus in schools and early learning locations, the impact of the virus on child health and wider harms, and work-place associated risks to staff from the virus. Other areas discussed the issues about physical education and the expressive arts and their role in transmission of the virus, and the aim to closely align mitigations that applied in school with the equivalent requirements in other parts of society, especially during the latter stages of the peak of the pandemic in late 2021/early 2022. This Subgroup published reports prior to me taking up the CSA post on the subjects of face-coverings in schools and on school transport, amongst other subjects. The meetings of the Universities and Colleges Subgroup were captured in minutes of the meetings and included discussions on a wide range of issues including transmission within educational locations and accommodation, access to testing facilities, uptake of vaccination by relevant groups, on-line teaching, student support services, incoming students from different countries, amongst other subjects. I was not involved in my role as CSA in areas including local lockdowns, the structure of operation of the 5-tiered management system and/or regional testing and local Test and Protect.

151. With respect to the interrelations between the Scottish Government and local authorities in connection with local lockdowns, the structure of operation of the 5-tiered management system and/or regional testing and local Test and Protect, this is outside the role of the CSA and so I am unable to comment.

Covid-19 public health communications

152. As CSA I am not involved in public health communications or communications strategies, nor in deciding who spoke at media briefings, nor in measuring public confidence in messaging or tracking media statements by SG advisers. Most decisions in these areas would have been taken before I came into the post in June

2021. Accordingly, I am unable to comment on these matters which took place before I took up my post or which fall outside my remit as CSA. Several questions which have been put to me in relation to public health communications may be better answered by others, including the CMO. My view was that public communications by the First Minister and the CMO were clear and effective, however, I am unable to comment in detail on the SG's communication strategy.

Public Health and coronavirus legislation and regulations

153. The Inquiry has asked me a series of questions related to issues in connection with public health and coronavirus legislation and regulations. As CSA I had no involvement in the strategy and decisions around these, much of which would have taken place before I was in post. I am therefore unable to answer or provide further information on these issues.

Key challenges and lessons learned

154. I have not given evidence to UK Parliament Select Committees or Scottish Parliament Committees.

155. I attended a meeting for SAGE participants, in Oxford on 15th Sept 2022. This was a reflection and recognition event for SAGE participants and included discussions on SAGE's role in the pandemic with reference especially to data sources and access. The event was organised by the SAGE Secretariat within UK Government Office for Science, who would hold any written record of the event.

156. Key issues in the decision-making process relating to the management of the pandemic in Scotland were the transmission of infection into and across Scotland and the evolving variants of the virus. This required rapid consideration of the state of the pandemic and whether this required changes to interventions and communications. Another key issue was the opportunity to introduce vaccinations during the pandemic. This was supported strongly by decision makers and changed, for the better, the outcomes of the pandemic by reducing deaths and severity of disease. Key issues became more apparent during the pandemic and required

increased emphasis in understanding of the 4 Harms of the pandemic and how these required to be the focus of policies.

157. Based on my experience as Director of the Moredun Research Institute, I believe that key challenges included: the emergence and rapid spread of a novel virus worldwide, resulting in no prior knowledge and information on this event; there could have been better planning for patients moving from hospitals to care homes, the reason probably being the rapid need to free up hospital beds for those COVID patients requiring hospitalization and critical care. There could have been faster recognition of a lack of PPE as was the case across the UK and worldwide. The UK had a lack of laboratory capacity for large scale PCR testing, although this was established rapidly once the extent of the pandemic was realized.

158. I do not know why members of the SGCAG were not involved in any lesson learned exercises but consider it would have been useful to include them.

159. Despite the key challenges I covered above, I understand why the actions were taken during the pandemic.

160. I am strongly in support of the Standing Committee on Pandemic Preparedness, set up by the Scottish Government in 2021. This will help in all aspects of managing a future pandemic as optimally as possible.

161. All my interactions with SG and UKG colleagues were positive and co-operative. I witnessed no issue which concerned me.

Documents

162. I have notebooks of contemporaneous notes which I can provide to the Inquiry. I do not believe I hold any other relevant documents or informal communications.

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.

Signed: PD

Dated: 02.11.2023