Witness Name: Dr Robert Hoyle

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Exhibits: 18

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UK COVID-19 INQUIRY

WITNESS STATEMENT OF Dr Robert Hoyle, M2B/TAG/RH/01

I, Dr Robert Hoyle, will say as follows: -

Introduction

1. Before Covid-19, I had no experience of dealing with a public health response to communicable diseases. However, as part of the Science Division (as it was then) under Chief Scientific Adviser for Wales Professor Julie Williams, I was responsible for monitoring the Ebola outbreak in western Africa in 2015 to 2016. This was a fascinating exercise (from an objective point of view rather than a humanitarian point of view for which it was a tragedy) conducted from afar which gave significant insights into communicable diseases. Prior to Covid-19, I was not really aware of coronaviruses other than the SARS outbreak in 2003 to 2004. SARS was worrying at the time, but I was not convinced that it would be anything more than a relatively local problem in Asia, based largely on a rational assessment of its rate of spread (which was quite low).

2. I graduated in 1985 with a B.Sc. degree in Geophysics from University College Cardiff, what is now Cardiff University. I worked for four years in the marine seismic oil exploration industry before returning to Cardiff University (as it is now) to undertake an M.Sc. degree in Systems Engineering. Following that, I was employed on a Teaching Company Scheme between Cardiff University and South Wales Transformers, the work from which I was able to complete as a Ph.D. degree (from Cardiff University). Following

that, I worked in manufacturing industry in South Wales, principally in electrical machines and electrical heating products and equipment. Following several years of this, I joined and managed the Manufacturing Advisory Service in Wales before joining Cardiff University to run its micro-nano project Microbridge. When this came to an end (funding finished), I joined Welsh Government (in 2010) to manage the Engineering Centre for Manufacturing and Materials ECM^2 (an incubator facility for research, innovation, materials and engineering start-up and expanding companies and organisations). When this was demolished in 2012 to make way for a new road scheme around Port Talbot, I transferred to the Welsh Government's Science Division to support the Chief Scientific Adviser for Wales, Professor John Harries. Since joining this group (now called Welsh Government Office for Science), I have been promoted to (substantive) Head of Science (May 2019). I have served all four officially appointed Chief Scientific Advisers for Wales.

3. I have a varied and broad science background and am reasonably strong in the fundamentals of 'energy'. I have a strong preference for science and evidence-based subjects which are testable by observation, measurement, or experiment. However, I do recognise that evidence can be very limited and ambiguous and that having some feel for the extent to which evidence can be interpreted is essential, i.e., having an idea of uncertainty and doubt. I have not written any academic journal papers relevant to this request for information.

4. I have been a member of the following:

- **Technical Advisory Group TAG** from 13 April 2020 to the present (first international briefing was given on 15 April 2020 – exhibit **RH/1-INQ000338265** refers). TAG was comprised of internal (civil servants) and external (non-civil servants) scientific and technical experts who provided independent science advice and guidance to the Welsh Government in response to COVID-19.
- **Technical Advisory Cell TAC** from the middle of April 2020 to its current morphed form (SEA). TAC was a temporary structure comprising the core team of Welsh Government civil servants, providing a secretariat, coordination and leadership function for TAG and its associated subgroups. TAC was the original 'science coordination function' created at the start of the pandemic. As the group grew and developed, the TAG group was defined and developed alongside it.
- **SHIELD** (SHIELD is a forum where work related points could be discussed/collaborated, evidence of interest shared and commented on. It is effectively a 'work based' group chat for the members of TAC and now for SEA). This was an informal chat set up initially by Rob Orford around the time the pandemic was

winding down as a means for people to ask questions of the group or check details. The majority of the chat content included forthcoming agendas and timetables. The covid related content moved quickly to non-covid items, such as winter preparedness and flu.

- **SEA** Science and Evidence Analytics group which replaced TAC but with many of the same functions, albeit at a slightly reduced scale and level of activity.
- **International Group** (informal) from April 2020 to September 2020, a Welsh Government Office for Science organized precursor to the TAG11 group (immediately below).
- **International Intelligence Subgroup TAG,** 'IntTel Subgroup TAG' (TAG11) from September 2020 to end of 2022. This group, chaired by me, was set up to formalize the collection of data and intelligence from around the world and discuss its implications and provide summaries as appropriate to TAG and TAC (more detail is provided below).

5. I have not been a member of SAGE although I did engage with the UK Government's Foreign, Commonwealth and Development Office (FCDO), the International Comparators Joint Unit (ICJU from about September 2020) and SAGE International Roundup Group on a regular basis when they were operational.

6. As Head of Science within the Welsh Government Office for Science (WGOS), my main duties are related to science, research, development and innovation policy and strategy, collecting, sifting, analysing and providing scientific advice for government, assessing the science RD&I policy landscape within Wales and the UK, assessing and providing input into legal structures and legislation in relation to science and Research, Development and Innovation (RD&I) and any other relevant issues.

7. My main role in relation to the pandemic has been to set up and chair the International Intelligence Subgroup of TAG (hereafter known as TAG11), the remit of which was to provide information and intelligence on the progression of the pandemic around the world and on the measures used to control or mitigate its effects.

International Intelligence Subgroup TAG11

8. I volunteered for the role of creating an international information and intelligence gathering function as part of the WGOS contribution to TAG/TAC. From April 2020 to September 2020, this function was an informal arrangement using a limited amount of

resource from within my WGOS group with the help of Public Health Wales and the Welsh Government's International Offices, from which I was able to get local in-country situation reports for example, exhibit **RH/2-INQ000337298** refers. In September 2020, I formalised this activity into the International Intelligence Subgroup TAG (IntTel Subgroup TAG, hereafter known as TAG11, the first meeting was 15 September 2020) at about the time when TAG was creating a number of different subgroups. I recruited new members to TAG11 and expanding its membership through the autumn of 2020 although the original participants and information sources were retained. When TAG 11 was first convened formally in September 2020, minutes exhibited at **RH/3-INQ000313837**, I offered the Chair to anyone who would like to undertake this role. There were no takers, and it was suggested that I should act as the Chair until such time as it was agreed that the Chair should change. By general agreement, this never happened, and I continued as Chair until the TAG11 came to an end in early 2023 (the last meeting being 22 November 2022).

9. My role as Chair was to seek and set agenda items, present requests, and commissions from TAG, provide feedback from TAG and chair the meetings. My expertise is set out above and I was Head of Science within the Welsh Government Office for Science, I volunteered to set up the international intelligence group as one of the Welsh Government Office for Science's contribution to the Covid-19 pandemic. The Chief Scientific Adviser for Wales at the time, Professor Peter Halligan, was not inclined to engage meaningfully in anything related to Covid-19 and I felt very strongly that 'I was going to do my bit', so I volunteered for a role which was needed and for which I felt I was appropriate. The CSA Wales's qualifications and experience related to psychology, neuropsychology, philosophy and education and, consequently, it is my view that he was not comfortable with virology and virus pandemics. As a result, it is my belief that he recognised that the CSA Health was better placed to lead on the science evidence and advice for the Covid 19 pandemic. In my role as Head of Science within the Welsh Government Office for Science, I reported to the CSA Wales.

10. The remit of the international intelligence informal group and TAG11 was to observe the progression of the pandemic across countries, assess the impacts, effectiveness of control measures and lockdowns, observe the emergence of new variants and report back to TAG. In the early part of the pandemic, there was little data and few facts about the spread of the pandemic but quickly over time, various organisations started to publish really good data, which I used extensively, especially the European Centre for Disease Prevention and Control (ECDC), World Health Organisation (WHO), Centers for

Disease Prevention and Control (CDC), Ada Lovelace Institute, John Hopkins University, Robert Koch Institut, Our World in Data, Epiforecasts and various government websites such as Ireland, Australia, New Zealand, South Africa, India, USA, Germany. The UK Government's Foreign, Commonwealth & Development Office (FCDO), International Comparators Joint Unit (ICJU - established in April 2020 as a joint unit between the FCDO and the Cabinet Office) and SAGE International Roundup Group became very good sources of information as did the Public Health Wales's Situation Reports.

11. Initially, my international group started to produce written reports based on the information that we were able to collect and, as data became more widely available, TAG11 started to produce a weekly world dashboard (two example documents are provided and exhibited at **RH/4-INQ000337124**, and **RH/5-INQ000337928***),* collected from the above data sources and others, which was presented to TAG and TAC. This dashboard reported on the progression of the pandemic in different countries and the likely outcomes of rapidly rising cases numbers and control measures.

12. Towards the end of the pandemic, the dashboard became less frequent and was stopped eventually and the number and frequency of reports fell away. TAG11 predicted and discussed the emergence of recombinant variants, discussed the situation in South(ern) Africa where the prevalence of HIV and AIDS could (and apparently did) create the conditions for rapid evolution of the virus (Omicron likely being one outcome). These issues were discussed in the following report which was produced in response to a request to explore the risks associated with the forthcoming British Lions (rugby) Tour of South Africa in July and August 2021, exhibit **RH/6-INQ000337733** refers. I reported to TAG on 26 November 2021, exhibit **RH/7-INQ000337910** refers, about the emergence of B1.1.529 and that it could become the dominant variant very quickly (it was first reported to WHO by the South African authorities on 24 November as B1.1.529 and was named Omicron later) and that I was following its progression very carefully.

13. TAG11 did consider on a regular and repeating basis the evidence and effectiveness of control measures introduced in different countries. There was a lot of discussion in TAG11 about what good control measures were, but these differed depending on the country, i.e., it was obvious that some control measures worked better in some countries than in others and that the reasons why were down to differences in social, economic and health structures between countries. For example, in poorer parts of Latin American countries, it was obvious that the lack of, or inadequacy of a financial support mechanism, such as the furlough system in the UK and many richer countries, meant

that many poor people had to continue working despite lockdowns. This meant that poverty was a contributor to the spread of the pandemic in those parts. We produced a report on the conditions in Latin America, exhibit **RH/8-INQ000337042** refers. We discussed many other things such as social distancing, wearing of face masks, hand washing and hygiene, etc. We had long discussions about Sweden and the lack of an obvious lockdown there; part of the reason for the apparently slow development of the pandemic in Sweden was because of the relatively high percentage of single-occupancy households compared to the UK, which meant effectively that people were self-isolating despite no official lockdown.

14. The membership of TAG11 evolved over time; initially it was quite heavily dominated by virologists from Cardiff University, but I expanded the membership to include behavioral social scientists. For a considerable period, Welsh Government international colleagues were included, especially during the early to middle part of the pandemic. Towards the end, the Welsh Government international colleagues drifted away, mainly because there was such good evidence coming from other sources (as mentioned further above). Overall, TAG11 worked reasonably well because of the different perspectives but this is not to say it could not have been better: it could have been better but as it was constituted it met all the demands placed on it.

15. I tend to agree with Professor Bundy's comments that more behavioral scientists and experts could have been involved but I am not sure that this would have provided more deeper insights. Also, I believe there was a separate TAG social science sub-group which looked at behaviors (or at least a subgroup with this as part of its remit) and I wanted to avoid too much duplication.

16. Regarding 'group think', no I do not consider that this was a problem. I think the minutes of the TAG11 meetings will show that we had varied, probing and lively discussions on many different aspects and that I challenged and repeatedly challenged many of the statements and discussions, returning many times to the same topics but approached from different perspectives or starting assumptions. For example, the possibility of recombinant viruses appearing, i.e., between MERS and SARS-CoV-2 (see exhibit **RH/9-INQ000338713** the November 2021 TAG Meeting Minutes). I think the group responded well to this approach and enjoyed the meetings.

17. The central TAG and TAC provided secretariat for the meetings, and this worked well. Minutes were taken of meetings, and these were saved centrally. This worked

reasonably well, and I was grateful for the support I received. From time to time, the secretarial support changed, often at short notice but this did not impair the function of the meetings. Having better foresight of the changes in secretarial support would have improved things but this is a very minor criticism.

18. I do not think that the voluntary nature of TAG11 membership had a significant effect. Initially, reports were produced by Welsh Government officials and then later such work was presented for 'peer review' to the members of TAG11 (e.g., see exhibit RH/8- **INQ000337042** for a pre-TAG11 piece of work) and for a peer reviewed paper see exhibit **RH/10-INQ000337956**, an IntTel Subgroup TAG paper on Origin and spread of Omicron. This was done to reduce the burden on the membership. Meetings were usually held to no more than 1 hour 30 minutes and towards the end of the pandemic, this was reduced to one hour or less depending on the agenda. For each report, these was a discussion at a meeting when views were aired, and revisions agreed and accommodated. Occasionally, TAG11 members prepared reports from scratch but this was not frequent.

19. Much of the information which I received from SAGE, FCDO and ICJU was marked 'official sensitive', so this was not shared with the external members of TAG11. However, I did use this information to prompt discussion at TAG11 meetings, especially if there were unexpected or contentious issues emerging, e.g., on social distancing (because of the different social distances in different countries), or requirements for wearing of face masks. Mostly though, TAG11 sought its own information and drew its own conclusions.

20. Neither TAG11 nor I had direct contact with SAGE; I engaged through the SAGE secretariat and other information support structures with UK Government (listed further above). Over time, these sources became very comprehensive and detailed so TAG11 did not seek to replicate or duplicate this. We tended to focus on newly emerging events such as B.1.1.529 (Omicron) in South Africa.

21. I do not think that we had any difficulties within TAG11 itself and the challenges that I made as Chair, and that we made of each other, were those you would expect to prompt a deep, diverse, and open discission on the topics of the day. Open discussion was essential and covering the similar topics repeatedly as the world pandemic progressed was necessary to try to elucidate new insights. Fair challenge was an essential part of the proceedings, and all accepted this. At no point did the discussions become heated or

bad tempered; on the contrary discussions were conducted with a great deal of respect and open-mindedness for others' opinions and expertise. It worked well.

22. The main challenge was with the commissioning of work from TAG/TAC. All too often, especially in the early days, an informal request would be made seeking a 'silver bullet' solution from a country that appeared to be handling the pandemic better than the UK. Often China was sighted as a country which was controlling its pandemic really well and some members of TAG/TAC seemed to think that China had a magic solution. What they were reluctant to accept when I pointed it out (on more than one occasion) was that controlling the pandemic and controlling its population politically were one and the same thing, that is the same methods were and are used to control the spread of the pandemic as they are to control the spread of subversive political agitation and, in a country like China, the same techniques are used for both (as exhibited in Hong Kong). For some reason, this explanation was not liked by TAC because it offered no silver bullet solution without a drastic and sustained suppression of the freedoms of a democratic and liberal society, something which was unpalatable in Wales and the UK.

TAG

23. During the major part of the pandemic, I attended TAG on almost every occasion, I do not recall missing any meetings when I was available for work but did miss occasional meetings when I was on annual leave (mostly for two weeks in August). The link between TAG and TAG11 was through me as Chair of TAG11. The engagement was never really formalised and the commissioning of work was almost completely informal and haphazard. Many requests were verbal and responding to some specific point with almost a 'knee-jerk' or 'panic' flavour to them, such as that described above about China. TAG11 worked mostly in isolation from the other subgroups although I did engage with other subgroups as and when necessary. TAG11 completed a number of reports and submitted them to the TAG and TAC secretariat but I never felt that there was sufficient consideration of them and often little feedback. I was not aware whether the reports had been published or whether they had been used for internal information only and despite requesting a more formalised system, this never really materialised. To some extent, I felt that TAG11 was never taken as seriously by TAG as perhaps it should have been, partly because TAG had very much an insular to Wales perspective, this is not a criticism but a statement with much validity. Also, TAG11 was organised and run by the Welsh Government Office for Science and in my opinion there was always a mild sense of resentment or rivalry present between the Chief Scientific Adviser for Health

and the Chief Scientific Adviser for Wales because the latter was recognised by SAGE and UK Government CSA as a 'true' CSA whereas the former was only reluctantly accepted by UKG CSA, at least that is my perspective from developments (it was reported by the CSA Health that he had difficulty in engaging UKG CSA because he was not considered a CSA by UKG). The difference is that the CSA for Health is a permanent civil service post (making it effectively a Chief Scientific Officer in the same manner as the Welsh Government's Chief Medical Officer CMO, Chief Veterinary Officer CVO, Chief Digital Officer CDO, etc.) whereas the CSA for Wales is a fixed term appointment in the tradition of CSAs appointed across UK Government Departments and elsewhere. There was a lack of recognition of the CSA for Health by UK Government CSA despite the UKG-recognised CSA for Wales having virtually no input into the pandemic deliberations.

24. The transfer of advice to Welsh Ministers through CSA Health and Chief Medical Officer was not very transparent to members of TAG but that does not mean it was not effective. Overall, I thought that this routing worked reasonably well. As for the strengths and weaknesses of the approach to the transfer of advice from TAG to Ministers, I was not close enough to judge this.

25. I am not sure about whether the approach to the transfer of advice from TAG to Ministers led to delays providing evidence and advice to Ministers; I do not think it did, but I have no evidence of this.

26. There was little relationship between TAC and TAG subgroups and Ministers, all communications were through the CSA Health and Chief Medical Officer and onwards to Ministers.

27. As stated above, regular (weekly) world dashboards and several reports were produced by TAG11 and submitted to TAG. The international situation was not a standing agenda item at TAG, but it was a frequent agenda item when there were significant events happening in the world, e.g. such as new waves or new variants. There is commentary elsewhere above on contributions.

28. In my opinion TAG did not take enough behavioral science and evidence into account. In this respect, all the TAG members remained in employment throughout the pandemic, all (or nearly all) had the facilities to work extensively from home, all were of a certain social hierarchy and standing and this influenced the way topics were discussed. For example,

there was sometimes incredulity that certain sections of society were ignoring the lockdown rules and the impression I formed was that there was limited effort made to really understand the differences in social circumstances between those not being able to work from home from those who could work from home (including most or all of TAG). This difference reflected the many varied and different workplaces (people who work on building sites, in shops, factories, etc.) and the types and levels of education between them. Although much discussion was had about those working in public-facing workplaces such as hospitality, retail, transport, etc. this was mostly from the point of view of the physical practicalities of protecting them from airborne or surface borne viral spread (social distancing, face masks, hand washing) rather than their motivations which drove them to break or stretch lockdown rules by continuing to work. I felt that TAG members were applying their own life standards and situational experiences to the deliberations, and these did not correspond to life and situational experiences of other parts of the population. Thus, a lot of the discussion was somewhat academic, idealistic, and disconnected from much of societal reality and this affected the thinking. This was borne out by the incredulity expressed when some geographical areas had persistently high numbers of infections and showed a lack of real understanding of the lives of some sections of society (e.g., the temporary hot spot in Merthyr Tydfil where there is a higher level of social deprivation). Furthermore, because of a high sensitivity around any discussion about ethnicity, race, religion and cultures of certain communities, there was a reluctance to have a rational and objective discussion about factors and behaviors which would be impacting these groups. There was almost an idealistic approach to some of these and a belief that these groups could not be behaving in manners which made them more vulnerable to a rapid spread of the disease. Consequently, there was a desire to seek alternative reasons for ethnic minorities being more affected, such as social discrimination, societal inequalities, and other 'blame' reasons. This was not overt and was very subtle, but it did inhibit proper discussions of the issues at hand. The TAG meeting notes from 20 May 2020 exhibited at **RH/11-INQ000336610**, has a section on Black, Asian, Minority Ethnic groups which states '*The other main piece of work is the socio-economic factors and structural inequalities which are likely the underlying cause of the excess deaths in BAME communities'*, despite the next sentence stating '*There has been considerable difficulty finding consensus on this'.* This appears to me to be jumping to conclusions on attributing causes of increased impact on certain communities to structural inequalities without evidence or agreement that this is the case.

29. Regarding at-risk, vulnerable groups including those with protected characteristics, there was a general assumption that these groups would have much higher levels of infection

(as a proportion compared to the rest of society) because they were at-risk, vulnerable or members of an ethnic group. There was little realisation that anyone could and would catch the virus but that the outcome, once infected, might be determined by the degree of vulnerability a person might have. This applied also to vaccinated populations – there was real surprise and concern that vaccinated people were becoming infected. To me, this showed a fundamental misunderstanding about how vaccines work. In one meeting, I made the point that vaccines do absolutely nothing for individuals if those people are not exposed and infected by the virus; the vaccine works by inducing potentially a much stronger and more immediate immune response in people so that, when they do become infected, the body responds accordingly and fights the virus quickly. The point is that you have to be infected before the potential immune response induced by the vaccine can come into action. Despite this being common scientific logic, I felt this came as a surprise to the TAC meeting.

30. As explained above, there were elements of 'group think', 'bias think', 'political correctness think' and other subtle influences because of the types of people recruited to TAG (mostly academics from universities, government, and public health officials). The lack of 'all-society' membership of TAG and TAC inevitably produced subtle biases, even if they were formed purely by omission and unconsciously. In this respect, TAG did not have sufficient 'societal behavioural experience' rather than 'academic behavioural expertise'. Overall, there was sufficient challenge but frequently there were times when there was insufficient challenge. One of the members (Huw Morris, Director of Skills, Higher Education and Lifelong Learning SHELL at Welsh Government) did go out of his way at times to challenge and some of this was really challenging, but the impression I got was that this was not really welcome because it questioned the 'order of things'.

31. Regarding the subgroups, there was overlap and duplication, but this was necessary in most cases so that each group had sufficient breadth in its topic area to conduct a proper consideration, analysis and discussion of the issues at hand. It was impractical at the time to have sharply delineated subgroups and it was also impractical to have close engagement between them when overlapping issues (often unknowingly) were being considered. As most members had 'day jobs' to continue performing, there were practical considerations at work which I believe limited extensive cross- or inter-subgroup engagement.

32. Professor Bundy is partially correct in her observation [INQ000183844] regarding there being little or no communication across the different advisory groups. I know that there

was communication across different groups of which she was not aware because I undertook to do that communication, but it was not routine and was usually related only to specific issues raised at the time. On other issues, such as international border control, there was strong inter-government communication, but Professor Bundy was not aware of this as it was an internal government matter. This was an internal TAG11 sub-subgroup, called '*JBC Briefing*' set up to consider the evidence being produced by UK Government on border control issues, an example of the minutes is illustrated in exhibit **RH/12-INQ000338516**. This advised the Chief Medical Officer and Minister separately.

33. Scientific advice was commissioned by TAG but none of this involved the Welsh Government Office for Science nor the Chief Scientific Adviser for Wales. The TAG11 subgroup was commissioned on occasion by TAG but this was infrequent and informal (mainly verbal and little or nothing written). This worked reasonably well but was not particularly satisfactory from a formality point of view. Likewise, feedback on reports provided to TAG from TAG11 was somewhat haphazard and fragmentary, as some of the commissions were vague and mostly reactive as I have set out below. This ultimately worked because we made this work with the information and capacity we had at the time, but it could have been better. There was little or no commissioning of scientific advice directly from Ministers to TAG11, Welsh Government Office for Science or the Chief Scientific Adviser for Wales, but then the Chief Scientific Adviser for Health would have received these requests.

34. Many of the requests for evidence or advice from TAG11 was on the basis of an urgency to be able to respond to an immediate question or current issue. For example, there were repeated requests for information on why certain countries were managing their pandemics more effectively than in the UK, such as China or the island nations (Australia, New Zealand), in the hope that some kind of 'silver bullet, or 'magic solution' might be found. In virtually all cases, the answer lay in conditions or solutions which were not relevant to the UK (e.g. geographical, cultural, political, religion and others) or completely unacceptable politically in a free and liberal democracy (the UK). It was obvious that controlling the UK's population in the manner that China was controlling its population was completely unacceptable and yet China was considered by some as an example of 'how to do it'. The difference between liberal democracies and authoritarian states was something that some members of TAG were not keen to acknowledge. It was not a case of having an appropriate 'scientific mindset', it was a case of not recognising the many different social, societal, cultural, political, religious, and other factors which

would help or hinder certain aspects of disease control at different times and different states of the pandemic in different countries. There was no acceptable 'one size fits all' solution to controlling the pandemic.

35. We were not limited in the framing of evidence and advice by commissions because the commissions were often vague, informal, or often verbal. As a consequence, the TAG11 subgroup used its own judgement on how far to take things and what avenues to explore. At other times, TAG11 pre-empted requests and generated its own reports based on likely issues that could or would emerge. For example, TAG11 considered and discussed at length the issue of immunocompromised people in South Africa, i.e., those with chronic long-term HIV and AIDS infections (see previously mentioned report). TAG11 considered that the bodies of people with such infections could encourage or harbour the emergence of new variants as, due to immunosuppression, they were unable to eliminate the virus quickly and this would allow it to evolve into immunity-avoidant variants.

36. Overall, the commissioning of evidence and advice from TAG11 was not terribly satisfactory, the formalities were insufficient, but it worked because we made it work. Also, there was insufficient feedback at times, and this was frustrating, but I would not go as far as to say this is a significant criticism, it was a minor issue.

37. As stated above, the issue around commissioning of evidence and advice and the feedback was insufficient and rather informal. On several occasions, TAG11 produced reports for which no feedback at all was provided, but this did not discourage TAG11 from continuing its work and holding meetings on a regular basis, despite not knowing whether the output would be valuable or considered.

38. I am not sure who is Dr Christopher Johnson, he was not a member of TAG 11. There was a Professor Chris Taylor who was a regular member of TAG11. However, Dr Christopher Johnson provided a response to the Inquiry that "It sometimes felt like the ability of the groups to maximise effective operation was sometimes handicapped by unequal access to information or to influence the timing of actions which had impacts in all 4 nations". Not all information received from other sources by the Chair of TAG11 was shared with the subgroup and this was because much of it was sourced from UK Government with the heading 'Official Sensitive' or similar. I used my judgement on such issues, but I do not think that this would necessarily impact the considerations of the TAG11 subgroup. Although we covered many different facets and aspects of the

pandemic including within the UK, the purpose and focus of the TAG11 international subgroup was on international issues. It was aimed at elucidating information, data, and insights from new international sources rather than regurgitating existing knowledge provided by UK Government (which was shared with TAC anyway). Regarding all four nations, this is not an appropriate view of reality as each of the four nations had its own independent decision-making powers and capabilities and each did take different actions on occasions although based on the same evidence and advice. This was the prerogative of Devolved Governments.

39. Regarding the TAG structures and its ability to produce adequate information, I find this difficult to answer because I was not aware of a lot of the functional mechanics of TAG. During the whole of the pandemic and since, I was never a full-time member of TAG because I retained my affiliation to the Welsh Government Office for Science and the demands of the Chief Scientific Adviser for Wales. Consequently, I could not, and did not want to, commit all my time to TAG. As things developed, it was not necessary for me to commit all my time to TAG and TAC and Covid-19 so my time commitment reduced.

40. Regarding information sharing and access, this was haphazard in the early part of the pandemic before the secretariat functions of TAG and TAC had bedded in, but things improved over time.

41. There was little visible coordination between different subgroups although this was handled at TAG leadership level. A subset of TAG11 did engage regularly and routinely with colleagues on international border control (*JBC Briefing Meetings* described earlier). This was a group which discussed the advice from UK Government on border control and then provided advice to the Chief Medical Officer (I believe) and Welsh Ministers on whether the advice and consequent actions were appropriate for Wales (e.g., closing airports). I think this was a weekly occurrence for a period of time if I recall correctly. Minutes were taken and the earlier exhibit **RH/13-INQ000338709** refers. This was discontinued in the latter part of the pandemic when it became clearer that controlling borders was becoming less effective.

42. I was not aware of any overt and obvious strategy or planning other than creating the subgroups of TAG and the supporting secretariat, which evolved over time. There was 'response planning' and 'predictive planning', for example preparation of 'Winter papers' (i.e., trying to predict what the forthcoming winter might look like and considering 'worst case' and 'reasonable case' scenarios) but I consider that this is 'routine planning'.

Overall, I think TAG and TAC did well on considering future events and considering routine contingencies and actions that might be taken should modelling predictions come to pass. There was consideration of compounding factors such as a rise in influenza and how this might affect the provision of health services by the NHS. As always, predicting the future is not easy at the best of times and I think TAG did a reasonably good job in the circumstances. TAG11 did look into the future and predicted such things as recombinant variants and the emergence of new variants in immunocompromised people (see previous *South Africa* report).

43. Regarding WhatsApp, I do not use this on my work phone, it is not installed so I had no communications at all with anyone by this medium. I have a personal WhatsApp, but I do not converse with anyone related to work by this medium except for only one exception, that being the Welsh Government Office for Science WhatsApp group set up by my colleague Chris Hales, which had three people listed, Chris Hale, **NR** and me. I objected strongly to the use of this medium using my personal mobile number so my use of it was non-existent.

The early stages of the pandemic

44. I was aware of the outbreak in Wuhan in December 2019. I became more aware of the threat in January 2020, and I was reporting to my son in the middle of February that this will change the world. By then it was obvious to me that the 'genie was out of the bottle' and that there would have to be a major intervention to prevent a dire outcome.

45. We started to discuss the Covid pandemic in meetings with the Chief Scientific Adviser for Wales during late February and early March (not minuted) but the CSA Wales was not prepared to consider it or do anything different from normal routine matters, despite urging. I started to look into the threat on my own in order to have some view of the threat posed. It was not until 19 March that the CSA Wales was persuaded that we needed to start doing something, which we did from that day on (the note in my hard-copy diary states '*Started work on COVID 19*'). Consequently, the Chief Scientific Adviser for Wales provided no comment or advice to anyone prior to that date of which I was aware. After that date, the CSA Wales provided very little advice or evidence other than the publication for a short period (22 March to 22 May, **eleven** newsletters) of an internal (to Welsh Government) Covid 19 newsletter. Exhibit **RH/14-INQ000338710** refers.

46. During January and February 2020 there was no liaison between the Welsh Government decision makers and the Chief Scientific Adviser for Wales on anything to do with COVID-19 of which I was aware.

47. There was no liaison with other UK Government counterparts by Welsh Government Office for Science or the CSA Wales of which I was aware. However, I did liaise with a contact within the Department for Business, Energy, and Industrial Strategy about what the UK Government was advising on travel and meetings. The advice up until 16 March 2020 was that Civil Servants should continue to work and travel as normal and only then did the advice change to a no-travel and no-physical meetings policy (noted in my hard copy diary).

48. There was no liaison with other external organisations such as WHO by Welsh Government Office for Science or the CSA Wales during January and February 2020 of which I was aware.

49. My work in relation to COVID-19 prior to March was my own personal monitoring of the general situation as it was developing, especially evident in Italy (I have no written notes of this). It was obvious from this that this was going to become a major issue and it was only a matter of time before something drastic would be necessary.

The timing of the first national lockdown

50. In my opinion a lockdown was necessary. This was an entirely new situation the like of which the UK had not experienced in living memory. The only parallels from which one could draw lessons were the influenza pandemic in **1918 to 1920** or so, the SARS outbreak in east Asia and possibly HIV and AIDS and therefore there was no real scientific evidence on the virus to inform the response. My opinion was based on what was happening in other countries, Italy being the salient example and where it became obvious (to me) from early on (January and February 2020) that COVID-19 was much more transmissible than SARS and HIV/AIDS and that the real parallel was the 1918 flu outbreak. Yes, with hindsight, the lockdown should have been applied earlier, possibly as much as two weeks earlier. However, such a move would have received a much greater pushback from society than was received when the lockdown was finally introduced. By then, the severity of the pandemic was much more obvious and the need for drastic action was becoming much clearer to most people. I believe that the delay in Wales was due to a lack of political leadership and a lack of political confidence in

making a unilateral decision for lockdown action. In my opinion, if Wales had locked down before the rest of the UK, there would have been a loud and vociferous negative reaction which Welsh Ministers were not prepared to accept. This is not a criticism of Welsh Ministers; it is a reflection of the complete uncertainty and lack of hard scientific evidence of what we were dealing with at the time and it was far better to respond to a decisive move by the Prime Minister when the UK-wide national lockdown was introduced. I do not blame Welsh Ministers for this, I would have done the same.

51. In my opinion, there was not a desire amongst Welsh Ministers to avoid a lockdown; what there was at the time was a lack of confidence by Ministers in what action should be taken given the uniqueness of the circumstances. Despite what the Prime Minister did subsequently during the COVID-19 crisis, I have to admit that, in my view, he did act decisively on behalf of the whole of the UK, even it was a bit late, and that Welsh Ministers needed that decisive UK-wide decision making and leadership.

52. As TAG had barely started to function (if indeed it had started – I am not sure which) in March 2020, I think that all the advice to introduce a lockdown came from SAGE/UK rather than TAG. Sometime after the Prime Minister made his public announcement on Monday 23 March 2020, there were questions about whether his announcement overrode devolved government competencies; if it did, then this was necessary as it set in motion a UK-wide response which was essential to get 'buy-in' from all parts of the UK's population. I did not see any evidence that Welsh Ministers were considering doing anything different than taking their lead from the Prime Minister (the legacy of which is that the Welsh Government Ministers have resisted strongly calls for Wales to have a separate Covid-19 Inquiry). They may disagree with this now, but at the time any disagreement was not obvious at all. Again, this is not a criticism of Welsh Ministers and reflected the complete uncertainty of the situation.

53. I would agree that the slow and gradualist approach to NPIs was the approach taken by Welsh Government because it was faced with a completely new situation (in living memory). It became obvious very quickly that this was wholly insufficient, and that bold action was necessary. At that stage, I was not aware of 'group think', more likely it was a 'lack of think', i.e., an inability to know and forecast the future, a lack of knowledge of what to do in such unprecedented circumstances and a lack of confidence to recommend and make such momentous decisions as a lock-down with so little to base it on. Again, I have to commend the Prime Minister for showing the leadership he did

show, taking the responsibility for the decisions that he made and the confidence with which he made them (despite being about one week late). Having said this, I do not think it was really anyone else's responsibility to make such a decision as a national lockdown, including Welsh Ministers. Again, this is not a criticism of Welsh Ministers – it is a reflection that the Prime Minister is the ultimate leadership authority within the UK on matters of such import.

54. I was not aware that Welsh Ministers made a decision to introduce a lockdown in Wales. This is news to me. I took my lead from the Prime Minister's statement on the television on 23 March as the ultimate decision maker in the UK. In my view, the lockdown was about one week too late in hindsight. At the time, I thought it should have been made sooner, maybe four or five days sooner.

55. If the lockdown had been introduced earlier, it would have slowed down the spread of the disease and reduced the initial surge in the number of deaths. However, I am not convinced that it would have reduced the overall longer-term number of deaths, at least until the point at which the population was widely and effectively vaccinated; subsequent waves would have 'harvested' those vulnerable people who were not taken in the first wave. Only by maintaining an almost absolute separation from the rest of society (self-isolation) could vulnerable people have avoided the potential for death, as many retired people were able to do by almost perpetual self-isolation (my elderly parents did this successfully and did not catch COVID-19 until late 2022 when they had been very effectively vaccinated, both survived despite quiet severe vulnerability). Those not in the position, or unwilling, to self-isolate were subsequently exposed to the ravages of the virus. An earlier lockdown would have 'smoothed' the peaks, but I am not convinced it would have saved many lives apart from those few who did survive because the NHS was not too overloaded.

56. Minister Vaughan Gething made a statement to the BBC news that if Wales had entered a national lockdown a week or two earlier in March 2020 "we'd have saved more lives". In my opinion his comments are both right and wrong. An earlier lockdown would probably have saved more lives in the short term, but I doubt that it would have saved more lives in the long-term, at least until the population was widely and effectively vaccinated. Until the vaccine was widely available and applied, subsequent waves would have harvested those that were susceptible had they survived the first wave by an earlier lockdown. The impact that the lockdown had in saving lives was the reduced impact on the NHS; although heavily stretched, the NHS was not completely

overwhelmed in the manner that was experienced for health services in other countries. By being able to maintain a functioning NHS, this did save a few lives that probably would have been lost if the lockdown had not happened. By locking down earlier, a few extra lives may have been saved through this mechanism but not so many as to make a real difference in the overall numbers of deaths.

April 2020 Onwards

57. I was not convinced that TAG and TAC had a clear idea at the start of the lockdown what it was trying to achieve other than to 'prevent harm'. In my first meeting at TAG, I asked the question about what it was that TAG was trying to achieve, i.e., to eliminate the virus from the population, to 'limp along' until a vaccine was available or to manage things in the best way known? The vague answer was to minimise harm but without any detail on how, other than to 'limp along' until a vaccine became available. This was communicated to TAG in the answer to my question, but it was never clear exactly what the strategy was other than to provide advice to Ministers for their decision-making considerations.

58. 'Behavioral fatigue' or 'lock-down fatigue' was something that was discussed on occasion by TAG but there was little real understanding of it because it was mostly anecdotal evidence clouded by a TAG membership bias, i.e. no real deliberate bias within TAG but an inbuilt, unconscious bias due to its membership (mostly Public Health sector, academic and Government people) who suffered a little from unintentional 'group think' and 'exasperation sentiments' (summed up as: 'why are people not obeying the lockdown rules, don't they know what's good for them?). In this, some of the advice on lockdowns lacked a real understanding of the motivations, intentions and imperatives for those parts of the population who were not as fortunate as TAG members in being able to self-isolate.

59. I was not involved in the decision to discharge untested, un-symptomatic patients into care homes from hospitals, although I was aware of it from TAG and the media. To me, it was an obvious high-risk strategy even before it became clear that Covid-19 was a mostly airborne-transmission virus. The issue of whether it was an airborne transmission virus or not was not considered in enough detail early on. The Welsh Government did not insist on face masks being worn in public places until sometime after the UK Government decided that this was necessary (if I remember correctly). Although the argument was made that there was not the evidence to suggest that it was an airborne transmission virus, to me it was pretty obvious that it was given its rate of spread. Over

time, there was a growing realization in TAG that face masks would make sense even if the evidence to support this conclusion was sparse. This was to have a big impact on care home patients. I was not involved in the subsequent decision to tell hospitals to test patients before discharging them, but it was an obvious thing to do.

60. I was not involved in the decision regarding 'eat out to help out' but it was a logical popularist thing to do given the economic circumstances following the lifting of the immediate lockdown. It may have contributed to the spread of the virus but then many things did that, such as allowing people to go on holiday in the summer of 2020. I am not convinced that it had any greater impact on the long-term spread of the disease than not doing it, although it may have had a minor short-term impact. TAG did consider the implications of this issue, but the decision-making authority was ultimately Ministers.

61. I was present during the TAG deliberations on the firebreak but did not contribute to the evidence or advice. I thought it was a logical thing to do at the time which seemed to have a short-term positive impact.

62. I was present during the discussions of local and regional imposition and releasing of restrictions and provided verbal evidence on what other countries were doing. It became fairly obvious that NPIs work if they are rigorously imposed but doing so is difficult in a liberal democracy. Again, there was a continued desire to emulate the Chinese 'silver bullet' approach (complete and vigorously enforced lockdown) but with little understanding of why the Chinese approach was successful and why it would not work in the UK and Wales.

63. Working from home became the mantra but this ignored the fact that many parts of society cannot work from home. I was not involved in decisions around this directly but evidence from other countries pointed to this being an effective measure (e.g., lessons from Sweden, see paragraph 65). The furlough system helped in this in that it allowed people to stay home without massive loss of income but, as stated earlier, there was little understanding of the motivations of those who needed to work or business that required people to be present (production lines, construction work, etc.).

64. There was continued discussion about social distancing. The evidence from abroad was that different countries had different social distancing rules, mainly in the distance apart. There was little scientific evidence for this other than the obvious statement that it is safer the further away you are from other people. Whether it was 1.5 meters, 2 meters,

2.5 meters or some other distance separation was not well understood other than further is better. It then became an arbitrary number of meters separation. This applied to social contacts, the fewer the better, but this just delayed rather than prevented infection as subsequent events have shown.

65. Self-isolation requirements were variable across Europe and comparisons were made with several countries, in particular, Sweden which had comparatively lax self-isolation requirements. Again, seeking 'magic bullets' was prevalent in the early stages of the pandemic but with little understanding of the specific circumstances of individual countries. For example, Sweden has a much higher percentage of single occupancy households (one person per residence) than many other European countries which meant that self-isolation was already 'built-in' in a way that it was not in other densely populated countries.

66. The closure of schools and education settings was an obvious thing to do, and I provided evidence of approaches across different countries. Advice was prepared, exhibits **RH/14-INQ000338710**, **RH/15-INQ000338711** and **RH/16-INQ000336679** refer. There was much and repeated discussion at TAG about the education sector and the impacts of home schooling on children's education. Also, later on, additional NPIs were considered such as using ozone generators in classrooms (because it was thought that ozone would kill virus particles) although this suggestion was not accepted (fortunately!) exhibit **RH/17-INQ000313244** refers.

67. The use of face masks was an obvious thing to do, and many European countries had adopted this approach. TAG11 produced a report on mask wearing based on emerging evidence, exhibited at **RH/18-INQ000221076**. The Welsh Government did not have sufficient evidence to recommend adoption of this NPI early on and Wales was one of the last regions to mandate face masks in many public enclosed spaces. This could have been adopted earlier as an obvious precautionary approach despite the evidence not being very strong.

68. A subgroup of TAG11 (*JBC Briefing*, see earlier) was created to consider the advice coming from UK Government on border controls. This subgroup included PHW and other colleagues across Welsh Government, the aim being to scrutinise in a sensible way the advice provided from UK Government and to recommend adoption, or not, of the measures being adopted by UK Government on behalf of England. This group met regularly for a period of time (weekly).

69. TAC produced a number of advice summaries in September and October 2020 about taking action to prevent significant harm arising from Covid-19 or another full lockdown. This action included the use of NPIs to bring R back below 1. At the time it was obvious to me that there was a new wave developing which was not surprising given the activities over the summer and early autumn (travel, schools coming back, etc.). I do think that the Welsh Government took the warnings seriously enough and that the appropriate decision was taken at the right time by Welsh Government Ministers. My firm belief at the time, and still is, was that the pandemic was unstoppable until a sufficiently large proportion of the population had acquired immunity, either through natural infection or through extensive roll out of a vaccine. Until this point had been reached, it was a matter of managing the pandemic in the least destructive way possible, giving consideration to and balancing the needs of both a) the health and well-being aspects and b) the public freedoms, socioeconomic aspects and economy issues. I was never convinced that it was possible, or desirable, to attempt to eliminate all possible harm from the pandemic and, consequently, it became a matter of managing and balancing the imperatives of one aspect against the imperatives of the other aspects. At the time, I believed that Welsh Ministers got this about right and I believe this still today.

70. Regarding the 'fire break' and other lockdowns, at the time, I was not convinced that they would do anything other than a temporary job, i.e., they would smooth off the excessively high peaks of infection that would have occurred in the short term but would not affect the overall outcome in the long term. Hence, their timing was about right. Again, these responses were about managing the inevitable, please see my answer to the above immediate point.

71. Yes, the firebreak was about the right duration and implemented at about the right time (it is very subjective what the word 'right' means in this context).

72. The issues about whether the firebreak should have been implemented sooner, for longer and similarly for the third lockdown are splitting hairs. They worked at the time by preventing excessively high infections numbers in the short term but in the longer term, at least until the population was well vaccinated, they did little to affect the overall count of infections. What they did do was to smooth off the peaks but the consequence of this was a longer tail. Only when the population was sufficiently well protected by natural immunity or vaccine induced immunity would this situation have changed, as indeed it

did. Some parts of the population, e.g. retired people who could self-isolate for very long periods of time managed to avoid the main pandemic peaks but at the cost of extreme isolation, but even then many have since caught the virus but due to the vaccine success have not succumbed of suffered unduly (both my parents caught the virus in late 2022 after having been well-vaccinated, both had a few days of being unwell but both survived despite being very elderly and vulnerable, thus providing anecdotal evidence about the success of managing the pandemic until bulk population vaccination protection (or natural immunity) became widespread).

Communication of Scientific Advice

73. I have no view about TAG publishing its advice. Given that TAG and its subgroups took a little time to 'get up to speed' it is not surprising that it did not publish things any sooner than it did. I had no issues about this. Regarding transparency, I have no real views one way or the other.

74. I felt strongly at the time that the phrase 'following the science' was a vehicle by which decision makers (Ministers at UK, Scottish and Welsh Governments and Northern Ireland Executive) used to get them 'off the hook' of difficult questions. It was a phrase that was used extensively to divert attention elsewhere without being too specific about where that was. I felt it was an abuse of the veracity, reputation, and stature of science. This occurred on many occasions when it was clear that Ministers were not following the scientific advice and it was used frequently when they were, but it was not easy for the public to tell which. I do not think it was used to blur the line between scientific advice and policy decisions; simply its use relied on the perception of the integrity of science to cloak, justify or divert attention from the decisions that were being made and the reasons for them, which were often opaque and unintelligible but not without due consideration of many other competing factors (economic, socioeconomic, educational, environmental, societal, political, etc.).

Lessons Learned

75. TAG, TAC, and the subgroups worked well at informing decision making during the heights of the pandemic (successive waves) but as things started to improve following the wide-scale vaccination programme roll-out, interest in them waned. This was a reflection of the realities of a waning problem and the need to focus on other issues,

(energy crisis, inflation, food crisis, etc.) rather than anything specific about TAG and TAC. Consequently, they became less important and remain so today – the world has moved on!

76. Whether TAG could be structured better or work more effectively in future crises will depend on the nature of those crises. Different crises will require different emphasis, expertise, structures, and responses. Perhaps work could be done to model future crises (if we can decide what the range of possibilities might be) but whether this would be helpful, or a good use of resources is anyone's guess – this is the difficulty in predicting the future. There are lessons to be learned for a highly contagious, airborne transmission virus which would be useful in similar circumstances in the future, but crises come in many forms (climate, environment, food, energy, inflationary, etc.) and no one size fits all. Being adaptable is the best form of defence.

77. I do think that Wales's science advisory mechanisms could be organised into something more coherent and effective, not just on pandemic or crises preparation but in supporting policy, strategy and deliver decision making on a whole raft of other issues. Apart from pandemic-related science, generally the value of science is not understood by policy makers and decision takers and has long been neglected and marginalised, especially so for the Welsh Government Office for Science and the Welsh Government's Chief Scientific Adviser. Science is fragmented and distributed across different portfolios in Welsh Government and there are competing and conflicting personalities and agendas working behind the scenes because of a 'science void' at the heart of Welsh Government. In days gone by, the Welsh Government had a 'Science Minister'; today the word 'science' does not appear anywhere in the current Welsh Government's *Programme for Government*. Within Welsh Government there is a dire need for a re-evaluation of the way science advice operates across government and how it provides advice to government, and this should start with a recognition and action by Ministers of the importance of science to all aspects of an advanced industrial nation.

78. Different components of society need to be engaged in future scientific advice mechanisms. I have described some of the unconscious biases and 'group think' due to a lack of 'all-society membership' of TAG (paragraph 30) and this needs to be addressed in the future. Regarding public trust in Governments' decision making, there needs to be more openness about the factors that have been taken into account when making decisions – i.e., openness that it is not always about 'following the science' but that other

factors are equally relevant, such as socio-economic, economic, political, environmental, educational, etc.

79. Issues around equality and diversity, race, ethnicity, minority groups and LGBTQ+ made open discussions on related subjects much more difficult and limited the objective scientific consideration of many related issues. It was nearly impossible to consider traditional, cultural, religious, lifestyle and other behavioral drivers amongst certain minority and social groups for fear of potential adverse accusations and xenophobia and in my view, this limited discussions, conclusions, and science advice in subtle ways. Also, there was a tendency to assume that disadvantaged groups were more susceptible to catching the disease than more affluent groups simply because they were socially or economically disadvantaged, as if this made them more biologically susceptible. In my opinion, TAG failed to recognise adequately that anyone can catch the virus (from a biological infection susceptibility point of view) but that when caught, the disease outcome might be different depending on the health of the individual (which itself might be poverty or social deprivation related) and this greater susceptibility became a mantra which distorted scientific issues, especially in the early part of the pandemic. The TAG meeting notes mentioned in Paragraph 29 illustrates, what I personally felt was a tendency or desire to attribute virus infection susceptibility as well as disease outcomes to structural inequalities or socioeconomic factors. This was a very subtle effect, but TAG struggled to recognise that the chances of anyone catching the virus was dependent on their personal behaviors, actions and circumstances and that the more deprived parts of the population had factors that made them more likely to be exposed to the virus (e.g. jobs that could not be done at home, etc.) Paragraph 58 on 'lock-down fatigue' is relevant to this consideration. Consequently, in my opinion, I felt there was a tendency to attribute the much higher rates of infections amongst the more socially deprived to socio-political factors (i.e., outcomes of political policies and strategies and hence unconsciously and inherently politicising some of the discussion) in lieu of behavioral, scientific, or biological factors. This reflected partly the membership-bias of TAG (all public health and government officials or academics) and this needs more consideration and work for future pandemics and crises.

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,

Personal Data

Dr Robert Hoyle

Head of Science

Welsh Government Office for Science