Witness Name: Ann John
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Dated: 2 October 2023
Ref: M2/M2B/TAG/AJ/02

COVID-19 INQUIRY – MODULE 2 & MODULE 2B

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Witness Statement of Professor Ann John

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I, PROFESSOR ANN JOHN, of Swansea University, Singleton Park, Swansea, Wales SA2 8PP, will say as follows:

## 1. Introduction

1.1 I make this statement pursuant to the COVID-19 Inquiry's Module 2 & 2B Rule 9 request of 2 June 2023 (the **Rule 9**).

1.2 I make this statement in a strictly personal capacity and not on behalf of the Strategic Advisory Group for Emergencies (**SAGE**) or any other related group or sub-group. Groups and sub-groups are comprised of a diverse range of experts across numerous fields and therefore I am unable to speak for any of those collective groups.

1.3 I previously submitted a response to the Inquiry's Module 1 Rule 9 Questionnaire of 2 September 2022 (the **Rule 9 Questionnaire Response**).

1.4 The matters set out in this statement are within my own knowledge save for where I state otherwise. Where I refer to facts not within my own knowledge, I will provide the source for those facts. The contents of this statement are true to the best of my knowledge and belief.

## 2. Professional Background and Expertise

2.1 I am a clinical academic with a background in primary care and public health. My research focuses on the following areas: suicide and self-harm prevention; wider determinants and inequalities (including underserved groups); mental health (with a focus on children and young people). I also have expertise in data science, epidemiology and evidence appraisal and synthesis.

2.2 Prior to the pandemic I had extensive experience of the translation of research into policy and practice and held Welsh Government Advisory roles including chairing the National Advisory Group to Welsh Government on Suicide and Self-Harm Prevention since 2014.

2.3 I was National Lead for Suicide Prevention and was lead advisor on the development of the Suicide and Self Harm Prevention Strategy and Action Plan. I also advised the Children and young People's Education Committee on mental health in those under 24 years of age.

### *Qualifications and Career History*

2.4 My qualifications are as follows: Medical Doctorate, Swansea University, 2011; Member of the Faculty of Public Health, UK, by examination, 2006; Masters in Public Health, Cardiff University, 2002; Member of the Royal College of General Practitioners UK by examination, 1999; MB, BS (Lon), Charing Cross and Westminster Medical School, 1993; BSc (Hons) in Sociology, London, 1990.

2.5 My current primary positions are clinical Professor of Public Health and Psychiatry at Swansea University and Hon. Consultant in Public Health Medicine, Strategic lead Mental Health Research and National lead Suicide Prevention at Public Health Wales. I also undertake several concurrent roles. I am a Trustee of Samaritans (2020-present) and MQ Mental Health Research (2023-present). I am also a member of the UK Trauma Council (2020-present). I am a Fellow of the Learned Society of Wales and recipient of the Hoggan Medal (2019-present) and Fellow of the Faculty of Public Health (2011-present). I co-chair the Cross-Government Group for Suicide Prevention (2022-present). I am a Co-Director of the Cochrane satellite of Suicide and Self-harm prevention and the Co-Director for DATAMIND, HDR UK Informatics Hub for Mental

Health. I also sit on the Neurosciences and Mental Health Board of the Medical Research Council as well as its Longitudinal Population Studies Advisory Panel.

2.6 My career history is as follows:

| Date | Position |
|---|---|
| 2017 – present | Clinical Professor Public Health and Psychiatry, Swansea University |
| 2017 – 2021 | Deputy Head, Swansea University Medical School |
| 2014-2017 | Associate Professor in Public Mental Health/ Hon. Consultant Public Health Medicine, Swansea University |
| 2010-2014 | Senior Lecturer in Public Mental Health/ Hon. Consultant Public Health Medicine |
| 2004-2010 | Hon. Lecturer in Public Health and Psychiatric Epidemiology, Swansea University |
| 2000-2010 | Specialist Registrar in Public Health, Public Health Wales |
| 1999-2002 | General Practice Locum, Clinical assistant Elderly Mentally Ill |
| 1999-2000 | Grade 6 Medical Advisor to DVLA/ Psychiatry Clinical Assistant |
| 1994-1999 | General Practice Vocational Trainee (ENT, A&E, O&G, Psychiatry; GP Registrar part time 24 months) |
| 1993-1994 | Pre-registration House Officer (Medicine, Surgery) |

***Publications***

2.7 I have been asked to provide a brief overview of my major publications. I have 165 publications with over 15,000 citations and an H-index of 47. Below is a list of some of my major publications both pre-pandemic and those with a focus on the pandemic:

2.8

2.8.1 Drury J, Mao G, John A et al., Behavioural responses to Covid-19 health certification: A rapid review, BMC Public Health (2021) 21:1205 https://doi.org/10.1186/s12889-021-11166-0 **[AJ/01 - INQ000273501]**.

2.8.2 John A, Lee SC, Solomon S, Crepaz-Keay D, McDaid S, Morton A, Davidson G, Van Bortel T, Kousoulis AA (2021). Loneliness, coping, suicidal thoughts

and self-harm during the COVID-19 pandemic: a repeat cross-sectional UK population survey. *BMJ Open* DOI:10.1136/bmjopen-2020-048123 **[AJ/02 - INQ000273502]**.

2.8.3 John A, Friedmann Y, Del Pozo Baños M, Frizzati A, Ford TJ, Thapar (2021). Association of school absence and exclusion with recorded neurodevelopmental disorders, mental disorders, or self-harm: a nationwide, retrospective, electronic cohort study of children and young people in Wales, UK. The Lancet Psychiatry DOI:10.1016/S2215-0366(21)00367-9 **[AJ/03 - INQ000273503]**.

2.8.4 Knipe D, John A, Padmanathan P, Eyles E, Dekel D, Higgins JPT, Bantjes J, Dandona R, Macleod-Hall C, McGuinness LA, Schmidt L, Webb RT, David Gunnell D (2021). Suicide and self-harm in low- and middle- income countries during the COVID-19 pandemic: A systematic review DOI:10.1101/2021.09.03.21263083 **[AJ/04 - INQ000273504]**.

2.8.5 Nafilyan V, Islam N, Ayoubkhani D, Gilles C, Katikireddi S V, Mathur R, Summerfield A, Tingay K, Asaria M, John A, Goldblatt P, Banerjee A, Glickman M, Khunti K. (2021). Ethnicity, household composition and COVID19 mortality: a national linked data study. Journal of the Royal Society of Medicine DOI:10.1177/0141076821999973 **[AJ/05 -INQ000273505]**.

2.8.6 Ford T, John A, Gunnell D. (2021) Mental health of children and young people during pandemic. BMJ (online) 372: n614 DOI:10.1136/bmj. n614 **[AJ/06 INQ000273506].**

2.8.7 Pierce M, McManus S, Hope H, et al, (2021). Different Mental Health Responses to the COVID-19 Pandemic: Latent Class Trajectory Analysis Using Longitudinal UK Data SSRN Electronic Journal DOI: 10.2139/ssrn.3784647 **[AJ/07 -INQ000273507]**.

2.8.8 Pirkis J, John A, Shin S,et al., (2021). Suicide trends in the early months of the COVID-19 pandemic: Interrupted time series analysis of preliminary data from 21 countries. The Lancet Psychiatry DOI: 10.1016/S22150366(21)00091-2 **[AJ/08 - INQ000273508]**.

2.8.9 John A, Eyles E, Webb RT et al. The impact of the COVID-19 pandemic on self-harm and suicidal behaviour: update of living systematic review [version 2; peer review: 1 approved, 2 approved with reservations]. F1000Research 2021, 9:1097 (https://doi.org/10.12688/f1000research.25522.2) **[AJ/09 - INQ000273509]**.

2.8.10 John A, Pirkis J, Gunnell D, Appleby L, Morrissey J. (2020). Trends in suicide during the covid-19 pandemic. BMJ, m4352 https://doi.org/10.1136/bmj.m4352 **[AJ/10 - INQ000273510]**.

2.8.11 Lyons J, Akbari A, Torabi F, et al (2020). Understanding and responding to COVID-19 in Wales: protocol for a privacy-protecting data platform for enhanced epidemiology and evaluation of interventions BMJ Open DOI: 10.1136/bmjopen-2020-043010 **[AJ/11 - INQ000273511]**.

2.8.12 Knipe D, Evans H, Sinyor M, Niederkrotenthaler T, Gunnell D, John A (2020). Tracking online searches for emotional wellbeing concerns and coping strategies in the UK during the COVID-19 pandemic: a Google Trends analysis. Wellcome Open Research https://wellcomeopenresearch.org/articles/5-220/v1 **[AJ/12- INQ000273512]**.

2.8.13 Okolie C, Wood S, Hawton K, Kandalama U, Glendenning A, Dennis M, Price S, Lloyd K, John A. (2020). Means restriction for the prevention of suicide by jumping. Cochrane Database of Systematic Reviews, https://doi.org/10.1002/14651858.CD013543 **[AJ/13 - INQ000273513]**.

2.8.14 Hawton K, Hill N, Gould M, John A, Lascalles K, Robinson J (2020). Clustering of suicides in children and adolescents. The Lancet. Child & adolescent health, ISSN: 2352-4650, Vol: 0, Issue: 0 doi: 10.1016/S23524642(19)30335-9 **[AJ/14 - INQ000273514]**.

2.8.15 Gunnell D, Caul S, Appleby L, John A, Hawton K (2020). The incidence of suicide in university students in England and Wales 2000/2001–2016/2017: Record linkage study. Journal of Affective

Disorders 261 113 120 doi: 10.1016/j.jad.2019.09.079 **[AJ/15-INQ000273515]**.

2.8.16 John A, McGregor J, Jones I, Lee SC, Walters JTR, Owen MJ, O'Donovan M, Del Pozo-Banos M, Berridge D, Lloyd K (2018). Premature mortality among people with severe mental illness — New evidence from linked primary care data. Schizophrenia Research, Volume: 199, Pages: 154 – 162 doi:10.1016 / j.schres.2018.04.009 **[AJ/16 - INQ000273516]**.

2.8.17 John A, Glendenning AC, Marchant A, Montgomery P, Stewart A, Wood S, Lloyd K, Hawton K (2018). Self-Harm, Suicidal Behaviours, and Cyberbullying in Children and Young People: Systematic Review. Journal of Medical Internet Research, Volume: 20, Issue: 4, Start page: e129 doi:10.2196/jmir.9044 **[AJ/17 - INQ000273500]**.

2.8.18 John A, Marchant A, Fone D, McGregor J, Dennis M, Tan J, & Lloyd, K (2016). Recent trends in primary-care antidepressant prescribing to children and young people: an e-cohort study. Psychological Medicine, Pages: 1 – 13. doi:10.1017/S0033291716002099 **[AJ/18 - INQ000273517]**.

***Communicable diseases and Coronaviruses***

2.9 In relation to experience of communicable diseases, I was a part-time Public Health Registrar on the All-Wales Public Health Training Programme between 2000 and 2010 and as such participated in the on-call rota for South Wales responding to communicable diseases, giving advice and contact tracing, which is the process of identifying, assessing, and managing people who have been exposed to a disease to prevent onward transmission. During this time, I did a six-month placement in communicable disease working directly with the local Communicable Disease Consultant and the National Public Health Service for Wales (now known as Public Health Wales).

2.10 During my time as a Public Health Registrar between 2000 and 2010, I was also involved with various aspects, including attendance at meetings and public health activities, in relation to Meningococcal Disease contact tracing, a Legionnaires outbreak, uptake of MMR vaccination and subsequent outbreaks of Mumps, which included attendance at

public meetings and undertaking analysis. I was also involved very peripherally in the 2003 Severe Acute Respiratory Syndrome (**SARS**) outbreak.

Prior to 2020, I had no experience of working with coronavirus.

## 3. Membership of Groups and Sub-Groups during the COVID-19 pandemic

3.1 Technical Advisory Group (**TAG**). TAG is the Welsh equivalent of SAGE and I attended from 17 June 2020 to the present day. The role of TAG is to ensure that scientific and technical information and advice, including advice coming from SAGE for COVID-19, is developed and interpreted to: ensure Welsh Government and the Welsh public sector have timely access to the most up-to-date scientific and technical information related to the COVID-19 outbreak.

3.2 As a member of TAG, I participated in 48 meetings between 17 June 2020 and 13 January 2023.

3.3 **Children and Education** (a sub-group of TAG) - provides detailed and strategic consideration to the scientific and technical evidence on COVID-19 as it relates to children and school settings. I attended from 07 July 2020 to 10 December 2021.

3.4 **Risk Communication and Behavioural Insights** (**RCBI**) (a sub-group of TAG) - is the Welsh Government equivalent sub-group of SPI-B. RCBI's role is to give detailed and strategic consideration to the scientific and technical evidence on COVID-19 as it relates to risk communication and behavioural insights. It provides advice to TAG on this area, and specific advice to policy makers as appropriate. This required consideration of how best to minimise harm to public health across Wales, to include a rapid assessment of existing studies, for interpretation into a Welsh context and making recommendations to TAG and Welsh Government more widely as needed.

RCBI reports to TAG, which also provides the secretariat support.

3.5 On 2 June 2020, I was approached by Fliss Benee, Co-Chair of TAG at the time, to chair RCBI. In early June 2020, I subsequently sent out invites as Chair, to potential participants and my first meeting as Chair was held on 22 July 2020. Ashley Gould of Public Health Wales joined me as Co-Chair of RCBI in June 2021 following my appointment as Co-Chair of SPI-B.

3.5 TAG Sub-Group Chairs. From 20 July 2020 I also attended monthly TAG Sub-Group Chairs meetings. The role of the group was to facilitate cross-sub-group working.

3.6 **Independent Scientific Pandemic Insights Group on Behaviours** (**SPI-B**) - provided independent, academic and expert advice to assist policy decisions relating to the COVID-19 epidemic. I attended my first meeting as a participant of the SPI-B Coordinating Group on 30 September 2020. I became a participant in SPI-B as an independent academic and as a result of being the Chair of RCBI.

3.7 On 20 June 2021, I was invited to become SPI-B Co-Chair **[AJ/19 - INQ000273518]**, together with Professor Brooke Rogers (**Professor Rogers**), when Professor James Rubin and Professor Lucy Yardley (former Co-chairs) stepped down from the role. I understand SPI-B was stood down in early 2022, approximately March / April 2022.

3.8 In my role as Co-Chair of SPI-B I attended meetings of SAGE from 7 July 2021 to 10 February 2022. I attended 12 SAGE meetings in total, meeting numbers 93 to 105 except meeting 104.

***UK Government and Welsh Government Comparisons***

3.9 The Inquiry has asked me to make a number of comparisons between the UK Government and Welsh Government in relation to their respective approaches to various aspects of the pandemic response. I confine my responses, including providing opinions where requested, to those matters which are within my areas of expertise only.

3.10 Further, it should be borne in mind from the outset that comparisons between the two are very difficult to make given the numerous differences involved, including the differences in geographical and population size between Wales and the UK as a whole, the styles of government and the size of the respective advisory groups, the smaller of which tends to lend to a closeness of communications between teams and individuals.

## 4. Behavioural Science and the COVID-19 pandemic response

4.1 The Inquiry has asked me to comment on various aspects of behavioural science and how it was used to support decision making and the pandemic response by both the UK and Welsh Governments. I would like to take the opportunity to re-iterate that I trained in public health and my research background and focus is on mental health and suicide prevention. As mentioned above, my expertise is in data science, epidemiology and evidence appraisal and synthesis.

4.2 I believe I was asked to join the various groups and sub-groups which were informing the response to the pandemic, given my particular areas of expertise as well as my experience of chairing government groups and translation of evidence into policy and practice.

4.3 I am not a behavioural scientist, and therefore caveat that my responses to the Inquiry's questions are limited to the extent to which my expertise was required to facilitate discussions amongst experts, and to inform understanding of the related data science and quality of evidence.

***Principles and Limitations***

4.4 Behavioural science draws from various disciplines such as psychology, sociology, public health, anthropology, law and economics, to understand the factors that influence human behaviours. For example, behaviours such as motivations, social, psychological or cognitive behaviours and economic and environmental behaviours.

4.5 Understanding the effect various factors have upon human behaviours was used to inform government decision making. By understanding these factors, we are provided with insight to both the barriers preventing people from adopting certain behaviours and facilitators for those behaviours and for various decisions we make. This is of particular use in a pandemic context, in order to examine and understand decisions and behaviours which can intensify or lengthen outbreaks.

4.6 Ideally, we should engage in co-design, which uses creative and participatory methods to engage citizens, stakeholders and officials in a series of steps which are repeated, tweaked and improved with each cycle, to respond to shared problems. We then measure the impact of policies and communications on the basis of barriers and facilitators underpinned by transparency and ethical requirements.

4.7 One of the risks of behavioural science activities in whole populations is unintended consequences or differing responses for groups within populations, for example groups such as young people, those with mental illness and ethnic minorities. However, during the pandemic response I was party to many discussions related to underserved groups and we were able to provide tailored communications.

4.8 Of particular use was examining decisions and behaviours related to protective behaviours in line with government advised restrictions such as physical distancing. It was useful to examine decisions and behaviours in relation to vaccination uptake in the population as a whole as well as in relation to certain groups, for example and as above, young people, people with severe mental illness and people from ethnic minority groups. This was important because high levels of uptake of vaccination are required to ensure a large part of a population is immune to a particular disease due to vaccination (as well as through previously contracting the virus). This indirectly also helps ensure the protection of the remaining population and offers a higher chance of combating and reducing transmission.

4.9 The use of behavioural science allows for such protective behaviours and vaccination uptake, in particular, to be addressed where appropriate, through non-pharmaceutical interventions (**NPIs**). By way of examples, I refer to and exhibit to my statement, two papers on which I led, titled SPI:B: COVID-19 vaccination uptake in those with severe mental illness, 11 March 2021 **[AJ/20 - INQ000273519]** and Technical Advisory Group: behavioural insights for contact tracing systems and young people, 1 October 2020 **[AJ/21 - INQ000273520].**

4.10 We found that because people with severe mental illness are at high risk for SARSCov-2 infection and COVID-19 related morbidity and mortality, vaccination is an important preventative intervention. Given extensive evidence of pre-pandemic inequalities across many areas of healthcare for those with severe mental illness, access to vaccination should be assumed to be reduced and therefore needs to be proactively enabled.

4.11 With respect to young people, we found not all drivers of behaviours will be related to COVID-19 risk, and this needed to be properly understood. Designing effective communication and interventions with young people will require an appreciation of young peoples' own understanding of the situation and their losses. Outputs need to

be age appropriate and there is a need for simple behavioural instructions framed in a contextually relevant way.

4.12 Until a vaccination was developed, NPIs were the only real mitigators to COVID-19 and therefore knowledge and understanding through the system of valuing behavioural insights and interventions was important. However, there was some work required to increase knowledge and understanding through this system which is why from 10 February 2021, RCBI started to hold a series of webinars for colleagues both within and external to Welsh Government. The webinars hosted experts in the field, including members of RCBI and SPI-B as a way of raising awareness of risk communication and behavioural science.

4.13 In my view, the main scientific method applied to understand, predict and influence human behaviour was evidence appraisal. The evidence base was evolving throughout the pandemic and advice and assessments were therefore often based on existing evidence available prior to the pandemic as well as representative panel surveys, focus groups and observational data. These methodologies were used since they could be rapidly deployed to generate information on which advice could be based, all within a timely manner.

4.14 It was also important to maintain awareness of the level of evidence and weaknesses of methods involved. I refer to the article titled 'Says who? The significance of sampling in mental health surveys during COVID-19' **[AJ/22 - INQ000273521]** which highlighted the need for timely, high quality population data and cautioned against relying on online surveys using non-probability and convenience samples to drive policy and resource.

4.15 RCBI relied almost entirely on self-reported polling data, leading a single project (around mass-events) to gather empirical evidence. By way of contrast, the Netherlands' National Institute for Public Health and the Environment (**RIVM**), were able to test and demonstrate the impact of behavioural science in the design and delivery of interventions.

***Models and Theories***

4.16 There are a number of models and approaches underpinning behavioural science including the Behaviour Change Wheel and PRIME Theory of Motivation.

**Behaviour Change Wheel**

4.17 The Behaviour Change Wheel is a framework designed to create a change in behaviour, such as encouraging individuals to be healthier or more sustainable. The wheel is made up of 19 different behaviour change frameworks and provides a step by step guide on how to support changes in behaviours. Behaviour change is achieved by first, understanding the behaviour, defining the problem in behavioural terms, selecting and specifying the target behaviour and identifying what needs to be changed. Second, identifying intervention options and third, identifying content and implementation options i.e., behaviour change techniques and modes of delivery.

**PRIME Theory of Motivation**

4.18 PRIME theory proposes that our responses at every moment are governed by potentially competing impulses and inhibitions. Impulses and inhibitions arise from: a) stimuli acting on unlearned (instinctive) and learned (habitual) stimulus-impulse associations, and b) 'motives' (also known as 'desires').

**APEASE Criteria**

4.19 Once possible intervention types and policy options have been identified, it then needs to consider how appropriate each one is likely to be for the applicable setting. The APEASE criteria are a checklist for evaluating an intervention idea or part of an intervention idea.

4.20 The APEASE criteria (Acceptability, Practicability, Effectiveness, Affordability, Sideeffects/ unintended consequences, and Equity) formed the basis of all discussions although the criteria were not always explicitly referred to. For example, when considering interventions to improve vaccination uptake in those with severe mental illness we advised that carers should be able to attend. Further, that mental health care professionals should have access to information related to vaccinations in order to be able to communicate the benefits and any risks to their patients. In turn, this helps to

improve acceptability of vaccinations to this particular group (thought I note previous evidence suggested this was not always an issue) and that appointment times should be considered together with access to the vaccination location. These interventions to improve uptake in this group, who experience huge inequalities in health, would meet APEASE criteria.

**COM-B Model of Behaviour**

4.21 In my opinion, the COM-B model illustrates behavioural science well. The COM-B Model proposes that there are three components to any behaviour (B): Capability (C), Opportunity (O) and Motivation (M). Individuals or groups must feel they are both psychologically and physically able to do so (C), have the social, environmental and physical opportunity for the behaviour (O), and want or need to carry out the behaviour more than other competing behaviours (M). The complexity of interaction between these components results in nuanced behaviours i.e., what might seem a sensible easy to adopt behaviour to one person may not be to another person. In order to enable behaviours such as vaccination uptake, Government decision making needed to be informed of each of these different components where relevant. It is worth noting however that factors such as trust and being able to manage uncertainty have a huge impact on behaviours.

***Facilitative approach***

4.22 In my opinion, both the sub-groups of SPI-B and RCBI preferred a facilitative and / or enabling approach (e.g., understanding barriers to behaviours, working with the people to understand and develop enablers and effective communications) rather than a directive approach (e.g., the use of enforcement, fines and COVID-19 passes). I found consensus was reached across the experts involved in both sub-groups. Levels of confidence in the evidence base of recommendations was categorised as high, medium or low and the categorisations were provided to both TAG and SAGE and therefore in turn to both the UK and Welsh Governments. The categorisations were always applied.

***Interventions and Key Determinants***

4.23 If behaviours are thought of as stemming from individual or collective actions, influenced by their structural and socio-economic context, then there are a number of concepts that

would underpin and inform interventions. These include: helping people to develop accurate knowledge about the health consequences of their behaviours; their personal relevance; enhancing people's belief that change is achievable; descriptive norms i.e., promoting the visibility of positive behaviours in groups they feel are similar or they aspire to; subjective norms i.e., social approval for positive behaviours; moral norms; intention formation and helping people to form plans about what they will do in certain situations, set goals over time and in specific circumstances; and share plans and goals with others.

4.24 Interventions can then be divided in four categories:

4.24.1 policy such as legislation or voluntary agreements e.g., COVID passes;
4.24.2 education and/or communication e.g., one to one advice, group teaching and media campaigns;
4.24.3 technologies e.g., masks, seat belts, childproof containers for medication; and
4.24.4 resources e.g., welfare support to assist with isolating, free condoms or free nicotine patches.

4.25 Interventions can be delivered at an individual, family, community or population setting. It is important to consider the universal impact of interventions to change behaviour. Different groups (e.g., categorised by age, gender, ethnicity, socio-economic position) may react differently to incentives and messaging. Effective interventions are codesigned and tailored to meet the needs of specific groups. This avoids widening of inequalities and is more achievable if we work with communities over time.

4.26 Some of the key determinants of effective behavioural response are as follows:

4.26.1 a shared sense of identity or purpose so people act for the common good;
4.26.2 trusted community leaders to share public health messages;
4.26.3 modelling of behaviours by leaders and group members who are central and visible in social networks;
4.26.4 consistency of messaging;
4.26.5 support for measures communicated by leaders and the media where it exists;
4.26.6 minimising inappropriate polarisation of opinion and evidence;
4.26.7 trust in advice and advisors;

4.26.8 targeted and tailored support and messaging for underserved communities such as ethnic minorities;

4.26.9 public health messaging (e.g., social approval, protecting self and others);

4.26.10 clear communication of evidence, how it is evolving and uncertainties; and

4.26.11 skills in the population to assess evidence presented and trusted sources to counter misinformation.

4.27 It is far better to communicate uncertainty, such as the evolving evidence bases and understanding of decision making and create environmental enablers of behaviours. For example, providing accessible vaccination delivery for those without access to transport as outlined in the RCBI originating TAG paper titled 'Statement on priority considerations relating to personal protective behaviours to inform decisions on easing of restrictions', referenced at **[AJ/23 - INQ000273522]** and the paper on using behavioural science to inform policy and practice **[AJ/24 - INQ000273523]**.

4.28 Enforcement is another key determinant of an effective behavioural response and also impacts trust in Government at a community level. Enforcement is often implemented and delivered in a non-equitable way towards those from more deprived communities, young people and those from ethnic minorities, for example Stop and Search policies which are inequitably enforced across communities.

4.29 Public trust also plays a very important role in behavioural science. Public trust in Government and scientific advice was paramount in the adoption of recommendations and / or statutory responses during the pandemic and will be paramount in any future pandemic response. In my view, trust in the Welsh Government's response was maintained throughout the pandemic. The role modelling of behaviours by leaders is an important driver of behaviours by the public and in my opinion did have an impact on adherence.

4.30 Trust in the UK Government's response was somewhat more complicated in light of media coverage relating to various issues including the alleged and reported behaviour of some high-profile individuals within Government, personal protective equipment, the discharge of hospital patients to care homes and contact tracing. Modelling behaviour from those in senior positions is key to initiating and sustaining behaviours in the public and others.

4.31 From a social science perspective, as well as the groups and sub-groups of which I was a member, there were various additional social and behavioural science teams embedded in government departments that would have contributed in different ways including the following:

4.31.1 Cabinet Office Behavioural Science and Analysis Team, which included the International Joint Comparators Unit, which had observers at SPI-B;

4.31.2 PHE/UKHSA Behavioural Science and Insights, which had observers and participants at SPI-B;

4.31.3 Government Social Research (**GSR**), which had observers at SPI-B, including representatives from devolved administrations including Wales);

4.31.4 Behavioural Insights Team, external consultancy which worked closely with many government departments (including, but not limited to, the Department for Health and Social Care (**DHSC**), NHS Track and Trace and Cabinet Office) to provide behavioural insights advice and data for the COVID-19 response. My understanding is they provided services primarily focused on testing different communication messaging and policy options through self-reported surveys and trials, as well as conducting broader surveys using largely selfreported data on public attitudes, awareness and adherence levels to different measures.

4.32 In addition, there were also multiple communications teams which commissioned their own polling, focus groups and so on, including teams at DHSC, the Cabinet Office and Welsh Government, although I am not aware of the details of the commissions and outputs themselves.

## 5. Independent Scientific Pandemic Insights Group on Behaviours (SPI-B)

### *Role and Composition*

5.1 SPI-B provided independent, academic and expert advice to assist policy decisions relating to the COVID-19 epidemic. I refer to and exhibit to my statement the SPI-B

Terms of Reference which details the role and purpose of the group **[AJ/25 - INQ000273524].**

5.2 SPI-B's mission was to help achieve epidemiological goals (e.g., to reduce infections, COVID-19 related mortality/morbidity and risk to underserved groups) by offering principles for design of behavioural and social interventions. The principles for design included explaining the rationale for any measures, engaging all sectors of society (i.e., inequalities and community champions), providing support to enable behaviours and positive strategies for sustaining behaviours.

5.3 SPI-B participants were experts in a number of areas including psychology (Professor Rogers, Professor James Rubin, Professor Lucy Yardley and Professor Clifford Stott), anthropology (Professor Laura Bear), public health (myself), sociology (Professor Melinda Mills and Professor Patricia Kingori), ethics (Professor Mike Parker), social policy (Professor Chris Bonnell), social marketing (Professor Gerard Hastings) as well as other social science disciplines.

5.4 I have extensive experience of chairing cross-sectoral and multi-disciplinary groups and reaching consensus. Within my role as Co-Chair of SPI-B I was involved in chairing meetings and ensuring all voices round the table were heard. I also co-ordinated (including inviting appropriate leads) and co-wrote papers in response to commissions communicated to us through the Government Office for Science (**GO-Science**) at SPIB meetings or which arose at SAGE meetings. The remit and scientific underpinnings of commissions was discussed and refined at SPI-B meetings. I led discussions at meetings of SPI-B in relation to draft papers and related edits and presentation of them at SAGE together with Co-Chair Professor Rogers.

5.5 As Co-Chairs, Professor Rogers and I also worked with the ONS Coronavirus infection survey team to discuss key questions and had discussions across other sub-groups as required, including discussions with, for example, SPI-M.

5.6 In my role as a SPI-B participant, I actively contributed in discussions of papers at SPIB meetings. Through my relevant research, practice and policy expertise, I was able to contribute to the behavioural science discussion in a number of ways for example, by looking at the facilitators and enablers of behaviour within distinct and marginalised groups in the population. My relevant research, practice and policy expertise related to

public health, inequalities and underserved groups, mental health and evidence appraisal. I also contributed by way of my strengths and skills in synthesising evidence and disparate views.

5.7 I do think , which can be seen from just some of its participants listed above, SPI-B was composed of sufficiently diverse disciplines and was appropriate in size in order to facilitate discussion, consensus and delivery of advice. SPI-B was also able to gain international perspectives through its participation in SAGE, through participants expertise and via academic collaborators.

***Commissioning of Scientific Advice***

5.8 In terms of how the work of SPI-B was sought, commissions were communicated GOScience. GO-Science is not a ministerial department, it is a government organisation which reports to and advises the Prime Minister and Cabinet to ensure that government policies and decisions are informed by the best scientific evidence. Upon a commission being received, appropriate academics from the SPI-B wider list (not just the coordinating group) were contacted by Professor Rogers and I based on their relevant expertise.

5.9 Commissions were communicated to us through GO Science at SPI-B meetings and as I mentioned above, the remit and scientific underpinnings of commissions were discussed and refined at SPI-B meetings. Generally speaking, the process of commissioning was relatively informal and it was unlikely we would have been told of the specific origin of a commissioning question(s) unless it had come from the Cabinet Office. We were able to raise in discussion any questions we had regarding the commission, for example the evidence base and it was a two-way conversational process. In my opinion, there were no issues of concern around the commissioning process.

5.10 We did have an opportunity to question with GO-Science the wording of commissions and their relevance at SPI-B meetings and in Chair discussions. For example, on occasion we were able to refer back to previous papers such as a SPI-B paper titled 'Insights on celebrations and observances during COVID-19' **[AJ/26 - INQ000273525]** which was published in October 2020, but the advice presented was still relevant in relation to celebrations in 2021 so a new commission was not required.

5.11 As in house behavioural expertise strengthened and we entered a new phase of the response in early 2022 and at which time SAGE meetings reduced, it was natural for SPI-B commissions to also reduce.

5.12 SPI-B submitted over 90 papers to SAGE in the course of 105 SAGE meetings. In my view, the questions posed and / or commissioned were appropriate and this is demonstrated by the breadth of themes covered by SPI-B papers. Themes covered included (but are not limited to): Potential effects of non-pharmaceutical interventions on COVID-19 infection rates; Social and behavioural considerations of self-isolation and household isolation; Social and behavioural science evidence to inform options for increasing adherence to social distancing measures; Behavioural evidence on effective communications to improve protective behaviours; Behavioural considerations in the role of children in transmission; Evidence on behaviour of crowds for policing and security considerations in the context of COVID-19; Behavioural considerations for implementing mass testing schemes and Evidence on use of Community Champions schemes to increase engagement of vulnerable communities.

***Feedback***

5.13 SPI-B papers were presented and often discussed at SAGE and this was one of the ways we received feedback on content. In addition, GO-Science would often feedback to SPI-B on how a piece of work was received by policy makers. While it is always helpful and insightful to get further feedback on impact and implementation of the scientific advice provided, my understanding is that during times of the pandemic response this would not have been a government priority unless an issue needed clarification.

***Groupthink***

5.14 Discussions within SPI-B itself were certainly robust and challenging. I come from a very different background than most of the SPI-B participants and as such I would express differing professional opinions where relevant. In light of its composition and the openness of discussion, I do not think there was 'groupthink' within SPI-B. Groupthink is the practice of thinking or making decisions as a group, resulting typically in unchallenged and / or poor quality decision-making. In particular, I do not think I would have been asked to Co-Chair SPI-B if its existing Chairs were simply looking for consensus and or 'groupthink' without challenge.

***Input on Communications***

5.17 One focus of SPI-B's advice was around communications. SPI-B stressed repeatedly that many factors unrelated to communication affect human behaviour, for example, personal financial circumstances, social norms and if an intervention is seen as legitimate. SPI-B produced a large number of reports which touched on communications which in my view was inevitable given that communications are a key driver of behaviour during a public health crisis, though not the only one. By way of example, I refer to the SPI-B paper 'Consensus on BAME communication' **[AJ/27 - INQ000273526]** and 'Increasing adherence to COVID-19 preventative behaviours among young people' **[AJ/28 - INQ000273527].**

5.18 SPI-B's inputs on communications which appear in more than 100 documents from SPIB / SAGE were mainly based on principles. The main principles were identified early on and sent to the Cabinet Office communications team in a paper on 3 April 2020 titled "Harnessing behavioural science to maintain social distancing", and then published in the Journal of Epidemiology and Community Health **[AJ/29 - INQ000273528]**. SPI-B did not see or sign-off on messaging to the public.

5.19 The core principles included: use of clear and specific guidance; use positive messages (e.g., "protect each other" and "stand together") and co-design messaging. The core principles also included: avoid messages based on fear/disgust and focus on support available to enable behaviours, not on punishments for breaching guidance and also to consider communicating uncertainty and empower people to take action. Subsequent SPI-B work focused on how to enable vulnerable groups to adopt behaviours that they themselves wanted to adopt by removing barriers to adherence, e.g., financial barriers.

***Functionality of SPI-B***

5.20 Unsurprisingly some but not all of SPI-B advice was followed. For example, in the paper 'Increasing adherence to COVID-19 preventative behaviours among young people' **[AJ/28 - INQ000273527]** we recommended that young people who had been asked to isolate or stay at home should be provided with good financial and other support e.g., free mobile phone data, streaming and gaming. We also suggested communications

should avoid giving visibility to non-adherence. I am not aware that either of these suggestions were completely followed.

5.21 However, with regards to the quote from Professor Robert West that by September 2021 SPI-B was "no longer functioning" **[AJ/30 - INQ000273529],** I saw no evidence of this. In fact, we published a joint paper on the 9 September 2021 on 'Transmission in Hotels and Managed Quarantine Facilities **[AJ/31 - INQ000273530];** we published a further joint paper on 14 October 2021, Behavioural considerations for maintaining or reintroducing behavioural interventions and introducing new measures in Autumn 2021 **[AJ/32 - INQ000273531]**. We also contributed to a joint SPI-M/SPI-B/EMG note on Plan B, 13 October 2021 **[AJ/33 - INQ000273532]**; and contributed to the paper, Social and behavioural impacts of lifting remaining restrictions 10 February 2022 **[AJ/34 - INQ000273533].** I am not aware of the exact commissioning group or individuals in respect of these particular papers.

5.22 In addition to SPI-B, there were also other key social and behavioural teams which were always contributing to the pandemic response, some of which I refer to at paragraph 4.31 above, which include; Cabinet Office Behavioural Science and Analysis Team; the International Joint Comparators Unit (which had observers at SPI-B); PHE/UKHSA Behavioural Science and Insights (which had observers and participants at SPI-B) and GSR (which had observers at SPI-B, including representatives from devolved administrations) and the Behavioural Insights Team.

***Supporting SPI-B***

5.23 In terms of providing SPI-B with support, the GO-Science Secretariat were invaluable. The GO-Science Secretariat provided support to organise meetings, take minutes and communicate commissions. We met frequently with GO-Science to address issues and discuss questions, so SPI-B was well resourced.

5.24 While scientists were working on a voluntary basis, they were in my view, willing to do so. As with TAG and RCBI this did not affect our ability to respond to the pandemic. However, contributing to the pandemic response, in particular given the pace of the pandemic and the speed of response it therefore necessitated, naturally had an effect upon participants other responsibilities such as academic responsibilities to university

roles including research, supervision and management. These roles and responsibilities could not be a priority in the same way as they had been pre-pandemic.

5.25 As a result, work on grants and papers not related to the pandemic were often delayed and supervision of students and staff members not directly working on the pandemic response were also sometimes impacted, both in terms of the time I had available to devote to them and the perceived reduced emphasis on their work. This took place at the very time many of those individuals had additional needs because of the pandemic restrictions in place.

***Challenges***

5.26 Relationship management both within and out-with SPI-B was a challenge faced by SPIB itself and myself as Chair. There was a large amount of scientific discourse online and in the media and there was a balance to be struck between providing scientific advice and advocating for a particular scientific position. In the event that policy makers choose a different path, it could sometimes become difficult for the scientific voice to be heard going forward which can impact trust in the government.

5.27 We also found that there was a lot of discourse online in which information provided by SPI-B was being repeated out of context and as a group that did lead to us being questioned about messaging, for example in relation to fear messaging. The science base was evolving rapidly and as in normal times, the body of evidence available would sway in favour of one position or another. Where there were competing positions being put forward with high degrees of certainty on each side, we saw that it could become confusing for public messaging. However, it is to be noted that in ordinary times, that sort of scientific debate is very healthy and encouraged and therefore we always tried to strike a balance.

5.28 I do think there is some reflection to be made by scientists on the roles of government advice, science communication, polarised debate and certainty expressed in scientific evidence as it is evolving. Potentially the difference between scientific advice, policymaking and advocacy should be discussed by the scientific community. By which I mean the understanding that policy makers have wider considerations (resources, balancing impacts, operational barriers) than only evidence from behavioural science.

An example of this would be balancing the need to deliver vaccinations at scale efficiently in large centres with people's access to those centres.

## 6. Technical Advisory Group (TAG) & Risk Communication and Behavioural Insights (RCBI)

***Relationship between TAG and RCBI***

6.1 As I have mentioned previously, TAG is the Welsh Government's equivalent of SAGE and the sub-group of RCBI is the Welsh Government's equivalent of SPI-B.

6.2 TAG is part of the Welsh Government's emergency response to COVID-19 and is a time limited group, to be stood down at the end of the state of emergency. TAG comprises scientific and technical experts from across Welsh Government, NHS Wales and academia who provide advice and guidance. The overarching priority of TAG is to provide the best possible scientific and technical advice to support the response to the pandemic in Wales.

6.3 The Technical Advisory Cell (**TAC**) comprises the core team of Welsh Government civil servants and provides a secretariat function for TAG and its associated sub-groups.

6.4 TAC provides co-ordination of scientific and technical advice to support Welsh Government decision makers during emergencies. TAC provides a significant amount of support by way of its secretariat function, including: regular weekly updates to senior Welsh Government officials about emerging SAGE outputs, Welsh modelling forecasts and up to date situation reports, modelling forecasts for NHS Wales, Local Resilience Forums and Strategic Coordination Groups, technical briefings to external stakeholders to inform discussion and advice about SAGE outputs for policy officials. It also provides coordination for the wider TAG and its associated subgroups, in addition to publication of TAG consensus statements to support planning and decision making.

6.5 The role of TAG includes ensuring advice coming from SAGE for COVID-19 is developed and interpreted in order to ensure the Welsh Government and public sector have timely access to the most up to date scientific and technical information. The role also includes interpreting SAGE outputs and their implications for a Welsh context; commissioning and interpreting data models, research outputs and measurements specific to Wales's

needs that help understand the nature, scope and spread of the pandemic in Wales. The advice and guidance is brought together to form TAG Consensus Statements that sit alongside the weekly TAC summary of advice situation reports.

6.6 As members of SAGE, TAG is to relay scientific questions from Welsh Government and contribute relevant scientific papers, advice or data. TAG's role is also to support a collegiate approach to science and technology advice and research in all areas of COVID-19 working with colleagues across all the four nations and provide advice and data to inform Welsh Government, NHS, Social Care and wider public sector policy and planning.

6.7 As a scientific advisory group TAG's role is not to decide policy but to summarise and distil available research to help guide Ministers in their decision making.

6.8 RCBI provides behavioural and risk communication insights to inform the work of TAG and the interpretation, implementation and impact of the ongoing response to tackling coronavirus. The sub-group assesses the existing and potential risks, impacts and harms associated with the behaviours of people across Wales in relation to COVID-19 which includes informing people and understanding behaviours supporting decision making of stakeholders and policy makers and engaging wider society. The Chair of RCBI and some members are contributing members of SPI-B.

6.9 The roles, governance and relationships between TAG and RCBI were clearly defined through the Terms of Reference **[AJ/35 - INQ000273534]**. RCBI directly reported to TAG and Chairs were members of TAG.

6.10 As Chair of RCBI, I set agendas and ensured all voices were heard during our discussions. As a member of TAG, I also led and co-ordinated delivery of RCBI papers, discussed the remit of commissions at TAG with civil servants and relayed discussions on SPI-B and SAGE.

6.11 In my opinion, RCBI worked well with other sub-groups of TAG, for example the Modelling and Children and Education sub-groups and this was assisted by cross membership within the groups.

6.12 In total, RCBI met 53 times up to the end of May 2022. Meetings took place on a weekly basis until September 2021 at which time they moved to a fortnightly frequency in recognition of the increasing pressure upon members' time required to attend to their routine academic and clinical work commitments.

***Composition***

6.13 Membership of TAG is drawn from Welsh Government, NHS Wales and academia. A range of experts from different disciplines are included covering public health, health protection, medicine, epidemiology, modelling, technology, data science, statistics, environment, microbiology, molecular biology, immunology, genomics, behavioural insights, risk communication, physical sciences and research. Participants of TAG provide expert input and this includes some Welsh Government officials who attend but not all officials attend in this capacity. Membership of TAG is kept under review as the need for expert advice is identified.

6.14 The original membership of RCBI included: Ashley Gould, Public Health Wales (CoChair from June 2021); Professor John Parkinson, Bangor University; Professor Nick Pidgeon, Cardiff University; Dr Jane Waters, University of Wales, Trinity St David and Jonathan West, Public Health Wales. There were only two members who stood down due to other work commitments (Dr Jane Waters in January 2021 and Jonathan West in November 2021). The following members joined RCBI to provide additional expertise: Professor Adrian Edwards (Cardiff University) in May 2021; and Professor Tony Manstead (Cardiff University) and Dr Kimberley Dienes (Swansea University) in September 2021. Membership of RCBI remained stable throughout the period.

6.15 In my view, the general composition of both RCBI and TAG in terms of size and diversity of expertise was appropriate. In terms of gender composition across RCBI and TAG, whilst not necessarily perfectly equally balanced, it was not noticeably imbalanced.

6.16 In my opinion, there was however a lack of representation from ethnic minorities which in my view, likely represents issues more widely experienced in universities in terms of career progression than a failure of RCBI or TAG of their membership choices per se.

6.17 International perspectives were also provided in RCBI by both the expertise of members themselves as well from their international collaborations. Within TAG there were

discussions of international infection rates, mortality and public health mitigations and this was also a TAG standing agenda item.

6.18 In terms of future pandemic response, there may be room for improvement through more direct communication between equivalent sub-groups internationally. However, I appreciate the capacity to do this may be the limiting factor in its implementation.

6.19 The Chairs group (consisting of chairs of sub-groups of TAG e.g., Children and Education and Modelling) also facilitated deeper discussion. I attended these on a monthly basis from 20 July 2020.

***Commissioning Scientific Advice***

6.20 The way in which scientific advice was commissioned in RCBI was by way of requests received via NR who led on secretariat support for RCBI, to the Chairs from TAC or from TAG. The requests were then placed on the agenda for each meeting. If a quicker turnaround for advice was required, requests were made directly via email to RCBI as a group.

6.21 It is worth noting we rarely received formal commissions as such on RCBI, commissions for papers often arose during discussions raised at TAG where academic membership was high.

6.22 Commissioning on TAG also generally evolved out of discussions and the commission for the TAG paper on moral injury in health care workers during the COVID-19 pandemic **[AJ/36 - INQ000273535]**, on which I led, was raised in TAG. This particular paper is also a good example of where we were able to provide advice on important issues for consideration to decision makers, where advice has not specifically been sought.

6.23 I consider the questions posed and / or commissioned by TAG and TAC to have been the correct ones. They usually reflected either issues relevant at the time (e.g., COVID passes, post-firebreak and sustaining behaviours) or in anticipation of issues likely to arise (e.g., 5 harms arising from COVID-19 **[AJ/37 - INQ000273536].** The 5 harms were; harm directly arising from SARS-CoV2 infections; indirect COVID-19 harms due to surge pressures on the health and social care system and changes to healthcare activity; harms arising from population based health protection measures; economic

harms and harms arising from the way COVID-19 has exacerbated existing, or introduced new, inequalities in our society.

6.24 We were able to shape the questions asked through discussions with NR and at discussions in TAG. I am unaware if we received direct commissions from the First Minister but I would assume these would have been relayed to us through TAG or TAC in any event.

6.25 We were not limited in advice by the framing of questions and, from memory, did not make any major revisions to Consensus statements from TAG that were developed by RCBI following discussion at TAG.

***Communication, Meetings and Decision Making***

6.26 Given the speed at which decisions were required to be taken in order to provide timely pandemic responses, RCBI needed to have a direct interface with those who would be the key users of the advice. Communication also needed to be on a real-time basis. In order to accomplish this a small number of key Welsh Government staff were also invited onto RCBI.

6.27 In the first instance, colleagues from the Welsh Government communications and vaccine policy teams attended and did so consistently throughout the period in question, while NR led on secretariat support for RCBI. We also invited a representative from the police force and Welsh Government Police Liaison Unit given the potential for public disorder. Several external academics were also invited to attend RCBI meetings to present and discuss emerging findings from their research e.g., Dr Simon Williams, Swansea University, a sociologist who conducted a number of surveys and qualitative studies on public attitudes during the pandemic.

6.28 The size and regularity of meetings of RCBI allowed for active discussion. In my opinion, there was an appropriate mix of expertise across disciplines and sectors on RCBI and TAG and as highlighted, additional members were invited as and when required.

6.29 Meeting agendas focused on priority issues raised by RCBI members and / or policy colleagues, with relevant policy colleagues attending meetings in order to engage in those particular discussions. For example, at the meeting held on 13 October 2021 a

vaccine policy colleague attended, seeking advice on misinformation and disinformation around the COVID-19 vaccines, including the targeting of schools with anti-vaccine messaging.

6.30 In addition to the regular meetings, RCBI also arranged five well attended webinars in 2021 chaired by myself or Ashley Gould. The meetings involved RCBI members and invited speakers, many of whom had also contributed to SPI-B. The themes covered by the webinars were as follows: using behavioural science to inform policy and practice; public disorder; risk communication; behavioural science frameworks and community development and mutual aid. While each webinar had a specific theme, the overall aim was to promote the principles of behavioural science to a broader audience in Welsh Government and beyond. Speakers included Professor Steve Reicher, Professor Cliff Stott, Professor Rogers, Professor Robert West and Professor John Drury.

6.31 A further important function of RCBI was to provide behavioural science advice to Welsh Ministers and officials at strategic points in the pandemic through key contributions to TAG papers. A few examples are summarised below to illustrate this work.

6.32 First, advice was published on 29 October 2020 on behavioural insights to support a post firebreak Wales **[AJ/38 - INQ000273537].** The advice set out how behavioural models and tools could be used to better understand individual and group behaviour and develop communications and policy interventions, co-producing and testing these with different user groups. The advice also emphasised the importance of a collective approach, harnessing a sense of civic duty, setting out a series of principles that could allow people to balance risk while living with COVID-19.

6.33 Second, advice was provided (published 13 August 2021) on sustaining COVID-safe behaviours, informing the transition back to alert level 0 in Wales **[AJ/39 - INQ000273538].** This advice, organised around six themes, including moving to a sustainable new normal, addressing inequalities and sustaining change, set out the COVID-Code which highlighted those behaviours that would need to be carried forward into winter 2021 and beyond.

6.34 Third, to inform the revised Coronavirus control plan being developed for spring 2022, accompanying the gradual removal of protective measures, advice was provided (published 25 March 2022) on living safely with COVID-19 **[AJ/40 - INQ000273539].** Building on previously published advice, the report included a series of

recommendations, underpinned by three key aims: support and actions necessary as regulations were removed; addressing inequalities created or exacerbated by the pandemic; and longer-term approaches to optimising behaviours in the event of future challenges.

6.35 I am not aware of the extent RCBI members were informed of the work of behavioural scientists on other sub-groups as I do not know the behavioural scientists on other groups. I am aware that via TAG and other avenues, there was a lot of cross group discussion which took place.

6.36 I have been asked to comment on the following quote from Professor Christine Bundy, "*I am not convinced the different advisory groups talked to each other sufficiently*" and "*there was no communication across the groups with other professionals who I might have considered sufficiently similar to me*." I am not aware of the context of Professor Bundy's quote. In any event and as referenced above, in my opinion there were close working relationships across advisory groups including SAGE, TAG, and their subgroups with cross membership between groups and a Wales sub-group Chairs meeting).

6.37 I have also been asked to comment on the following quote provided by Dr Christopher Johnson, "*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*". I have not had sight of Dr Johnson's full response to the Inquiry, and therefore cannot be certain of the context in which his comments were made. It may be the case that Dr Johnson was referring to the point(s) in time when there were different rules and / or guidance in place in different parts of the country. If that is the context for his comment, in my view, it may have been appropriate as different geographical areas had different rates of infection, which I do not think was always communicated as clearly as it could have been.

6.38 Notwithstanding the above, I do think co-ordination and consensus across UK Government and the devolved nations could have been improved in respect to various issues, for example, the timing of lifting restriction levels could have been co-ordinated / better co-ordinated. Instead, there was a centralised approach which potentially was quite confusing to the public. For example, at one point I believe you needed to wear your mask on a train from South Wales as far as Bristol and could remove your mask. I

do think this may have quite naturally raised questions about the scientific underpinnings of actions and behaviours being requested of the general public and which could have caused sustainable behaviours to be undermined.

6.39 Similarly, the scientific discourse online was often very polarised (rather than communicating evolving evidence and uncertainty) which in my view may not have been particularly helpful either. These discussions related to for example, masks, vaccination of children (where the evidence was fast evolving) and easing of restrictions. Certain lines of discourse would gain momentum in the public consciousness and contribute to an undermining of government guidance.

***Input from and challenge by SPI-B***

6.40 Within RCBI we fully considered and applied the conclusions of SPI-B but within the context of Wales, and specifically in terms of population demographics such as age, physical ill-health, deprivation, rurality as well as trust and identity. It is worth noting, I was initially invited to participate in SPI-B not because of my role as Chair of RCBI but because of my professional expertise. However, the benefits outlined above meant we were able to draw on experts from around the UK to facilitate knowledge exchange which was clearly beneficial.

6.41 In addition, there were standing agenda items in RCBI where I provided updates from the most recent SPI-B meeting and available population level behavioural data for Wales. RCBI members were also provided with copies of relevant papers, including those from SPI-B, shared securely via an electronic storage environment used by Welsh Government.

6.42 Where members of TAG wanted to seek further clarification from SPI-B, I acted as the channel of communication. I initially undertook this role and in the latter part of 2021 Professor Rogers joined TAG and also undertook such communications.

6.43 It was important to have devolved nation expert representation on SPI-B. It meant I was able to fully participate in discussions and development of SPI-B papers and was also subsequently able to present and discuss them in my role as Chair of RCBI. This included being able to provide details of nuances, rationales and issues where consensus had to be reached.

6.44 I believe RCBI was subject to sufficient challenge by TAG but this was mostly related to lack of knowledge in the system regarding behavioural science which we aimed to address with our webinars.

***TAG and advice to Welsh Government***

6.45 TAG provided advice to Welsh government on the basis of consensus among its attendees and this was then communicated through the Chief Scientific Advisor for Health (**CSA/H**) and the Chief Medical Officer for Wales (**CMO/W**). I do not feel this led to delays in communicating advice to Welsh Ministers and particularly given the CSA/H was a co-chair of TAG and present for almost all discussions at TAG.

6.46 I have been asked to comment on whether the aims of the Welsh Government in managing the spread of COVID-19 were clear to members of TAG and TAC following the first national lockdown on 23 March 2020. As I was not a member of TAG in March or April 2020, I cannot comment.

6.47 I do think the work of RCBI was consistently applied through TAG as outlined above. Cross working of sub-groups was facilitated by meetings of the TAG sub-group chairs for which invitations were extended to various members for particular topics. I also sat on the Children and Education sub-group of TAG which facilitated cross working. In my view, the closer working of sub-groups early on in the development of models could potentially be improved by holding joint discussions prior to deciding on model assumptions but as it was, these discussions were had at TAG when early modelling assumptions were presented and without the input of potentially relevant sub-groups.

6.48 RCBI also contributed behavioural considerations to various TAG papers, including vaccine certification **[AJ/41 - INQ000273540]**, moral injury in healthcare workers **[AJ/36 - INQ000273535]**, contact tracing **[AJ/21 - INQ000273520]**, the safe conduct of Senedd and Police and Crime Commissioner elections **[AJ/42 - INQ000273541]**, and the use of face masks **[AJ/43 - INQ000273542].**

6.49 TAG and RCBI through their respective Chairs and membership also fostered challenge and open discussion of evidence especially in relation to masks and childhood vaccination. I think this was a feature which worked really well and enabled consensus to be reached.

***At Risk and Vulnerable Groups***

6.50 In relation to at risk and vulnerable groups, I make the following comments. I believe the at risk and vulnerable groups were well considered in Wales and the impacts and unintended consequences upon these groups were often discussed, for example in relation to COVID-19 passes and enforcement. Those discussions took place at TAG, RCBI and other sub-groups, including Vaccination, Inequalities and Ethnic Minorities sub-groups. However, I am unaware of formal impact assessments being carried out in relation to these particular areas of research, although there was data on uptake of vaccination and shielding.

6.51 Lack of representation from ethnic minorities in studies was often commented upon in TAG and RCBI. The potential impacts of the lack of representation were discussed and the poor recording in routinely collected data was highlighted within Wales and more broadly as a barrier to understanding differential impacts.

6.52 A number of initiatives have sought to address this and improve recording going forward. The RCBI suggested adding a fifth harm to the paper on harms arising from the pandemic inequalities and this was subsequently incorporated. I refer to and exhibit to my statement a paper titled 'Technical Advisory Group: 5 harms arising from COVID-19 **[AJ/37 - INQ000273536]** in which RCBI suggested adding harms arising from the way COVID-19 has exacerbated existing, or introduced new inequalities in our society.

***Voluntary Membership and Secretariat Support***

6.53 I note the Inquiry implies that because membership of RCBI was on a voluntary basis, there was an impact on its ability to respond to commissions and provide timely and high quality advice. In my opinion, RCBI always responded in a timely manner with advice and while, as Chair, I co-ordinated and edited papers, I did not lead on them all so we dispersed workload. RCBI was also well supported by the Secretariat from Welsh Government.

6.54 I therefore do not think advice provided by RCBI members was impacted because it was given priority. However, I do think the day to day commitments of members, in relation to university or clinical roles and research probably were impacted given the commitment

to RCBI. However, I am sure all members, including myself, were grateful to be able to contribute to the pandemic response.

***Feedback on RCBI***

6.55 While RCBI received little direct feedback on the advice it provided (although NR NR and the chair of TAG often relayed to us it was well received), we often saw it included in briefings to TAC and the public and/or being implemented in practice. For example, in relation to public health messaging and materials specifically for young people. I would hope RCBI members felt we, as Chairs and / or members, communicated as much detail to them as we were aware of ourselves.

6.56 NR and I and later Ashley Gould, also fed back to RCBI from TAG and SPI-B meetings as a standing agenda item. We did also provide feedback in relation to the communication of uncertainties in order to address the issues of 'U-turns', however, this is a complex issue to communicate in a one to one scenario given that individuals themselves may find it challenging to sit with uncertainty.

6.57 As I previously mentioned in relation to SPI-B, while it is always helpful and insightful to receive feedback, we understood it would not have been a government priority unless an issue required clarification.

***Groupthink***

6.58 I have been asked to comment on 'groupthink' within RCBI. I saw no evidence of group think on RCBI. My chairing style is inclusive and my experience in chairing across sectors means I am always mindful that all voices should be heard. In fact, given my experience and chairing style, inviting me to chair RCBI was potentially a measure to address any potential occurrences of groupthink. In addition, RCBI was fairly balanced across both male and female participants.

6.59 The lack of groupthink is evidenced by discussions which took place around enforcement and the tensions of balancing enforcement action against behavioural insights and concepts. For example, trust, over reliance and belief in 'rational' rule following public behavioural responses and the limitations in capability and resources to allow certain groups to adhere to restrictions. This was well illustrated by the phrase circulating during

the pandemic 'we are all in the same storm but not in the same boat'. In this particular discussion, a representative from the police force and Welsh Government Police Liaison Unit was invited to contribute given the requirement to balance behavioural insights against enforcement and the potential for public disorder. Further to the discussion, consensus was reached by RCBI together with the representative.

6.60 In addition, I saw no evidence of groupthink on TAG. As set out above, group think was addressed through the diversity of membership, by fostering open discussion and the inclusion of individuals with different views. In my roles on both TAG and RCBI, I saw a number of open challenges in discussions before a consensus was ultimately reached.

***Challenges and Positive Outcomes***

6.61 RCBI was a highly functioning sub-group. Aside from the fast paced timelinesnecessitated by the pandemic, there were few challenges. We addressed issues around knowledge and awareness for those more widely involved in the pandemic response through the webinar series we established.

6.62 There were many features of TAG and RCBI which worked well in my opinion. The size of TAG and RCBI worked well to facilitate discussions. In terms of RCBI in particular, the collegiate, collaborative and enthusiastic engagement of all group members, at a time when there were no face to face meetings and only on-line meetings, was exemplar.

6.63 The coordination of RCBI and TAC support was critical and ensured effective communication with no burden of administration on scientific members. Occasional significant short-term demands were made but in my view members never felt overburdened. The effective organisation and recording of meetings and in addition the 'translation' of rich discussions at those meetings into succinct and actionable 'products,' both by TAC support and co-chairs was critical to maximising RCBI's wider input and impact. Meeting frequency was regularly reviewed taking into account the phase of the pandemic and members' competing demands.

6.64 While the group was established in summer 2020, it could be stood up immediately in the future should an emergency situation arise.

6.65 Increased awareness and understanding of the contribution behavioural science can make in responding to emergencies and public-policy more broadly (including evidenceinformed processes of selecting the intervention most likely to elicit the target

behaviour in the target group(s) can have an impact on a wider number of areas than just communication. Other groups have identified the importance of behavioural sciences advice. For example, the way in which behaviours were central to understanding the pandemic dynamics and control measures, including vaccination behaviours. As time progressed our interactions with other groups improved and this could be built on in future responses.

6.66 Over time, the connections we established with external partners resulted in RCBI becoming a hub for differing networks and the harvesting of evidence and considerations made by others. For example, the emerging debate on 'pandemic fatigue' in March 2020 which was picked up via academic networks and brought into RCBI, with constructive output around 'alert fatigue' as opposed to a perceived fatigue in complying with personal protective behaviours. This acted as a useful distinction and some offsetting of a narrative that might have otherwise falsely normalised 'non-compliance'.

6.67 The membership of RCBI also reflected the multidisciplinary nature of behavioural science. Although there is always scope to broaden membership, it should be balanced with retaining a group size that members find productive (i.e., a group which is not too large). Having key Welsh Government [stakeholders in the group meant advice could be quickly fed in, in real-time and this also proved to be a useful positive feedback loop.

6.68 Following a review, new members were invited to participate in autumn 2021, providing additional health psychology expertise. RCBI members also referred to reciprocity in their involvement. Suggesting for example, they had gained valuable insights into the interface of evidence and policy in government and how their own research could be applied (for example in relation to risk perception and public behaviour during the pandemic), as well as making new contacts.

6.69 In the future, wider representation in groups and sub-groups could include those from civil society, Welsh Local Government Association, the public sector workforce and wider specialist expertise potentially from specific topic areas and disciplines (e.g., epidemiology of risk, criminology, or sociology), but with a clear focus remaining on applying methodology and evidence to topic of particular concern in that emergency situation. However, I reiterate this should be balanced with the size of the group / subgroup so that it remains effective.

6.70 Positive connections were made between TAG sub-groups but there is scope to extend these connections to further inform scientific advice from a behavioural perspective. For example, by sharing members with TAG-Environment sub-group. This could also be

extended to colleagues in a similar position elsewhere in the UK and beyond, being mindful of the potential burden on individuals given their other commitments, group size and group dynamics. The link with SPI-B and other groups (e.g., Cabinet Office comparators group) and access to discussions and evidence was critical to inform and further the work of sub-groups, as was the ability to discuss work with UK governmental and public health agency colleagues involved in the pandemic response.

6.71 Running a series of webinars for colleagues within and external to Welsh Government with experts in the field, including members of RCBI and SPI-B, was an effective way of raising awareness of risk communication and behavioural science as well as the work of RCBI. More importantly, it was an effective way of raising awareness of the utility and potential application of behavioural science in other specialist areas. With greater capacity, there would have been scope to run more sessions given they were welcomed by colleagues.

6.72 Transparency was also important (particularly in relation to trust), with outputs from the group being placed in the public domain in a prompt manner, where possible coinciding with major policy announcements.

6.73 Behavioural science in its entirety is much more than a *communication enhancement* function. Building understanding of behavioural influences in different population segments and deploying the most effective mechanisms of changes, in terms of actions or change, are more likely to deliver policy aspirations than reliance on 'rational' public behavioural responses. For example, challenging the assumption of high risk individualistic action, when altruistic behaviour was the reality in the pandemic. It would be positive to engage RCBI earlier in policy and intervention development in order to optimise impact and explore how to best use behavioural science to improve the policy making process in general.

6.74 In light of my comments above regarding how communication across sub-groups occurred, I do believe there was sufficient challenge to the work of TAG and RCBI. In particular, external experts were invited to contribute on an ad hoc basis, as and when required which helped to challenge the thinking of both groups. However, it is to be noted that there is always room for improvement in consultation.

***Representation***

6.75 Across all the groups I participated in during the pandemic response, I do think there was a lack of representation from ethnic minorities and those from more deprived backgrounds. This meant those providing advice to policy makers may have had little direct understanding of experiences which may underpin behaviours and also of their direct impacts. That is to say, they are more likely to trust the police, have no experience of the deployment of enforcement, are not living in cramped conditions, can easily order food online, do not understand mistrust of vaccinations or not wearing masks.

6.76 Including participants from diverse backgrounds within groups and sub-groups would broaden discussions when synthesising evidence, similar to the gender argument. The lack of representation often comes with narrow views of evidence and its generalisability to the whole population. However, this lack of representation of people from deprived backgrounds and ethnic minorities reflects issues in society at large and differentials in people's professional trajectories, as mentioned previously.

6.77 The pandemic highlighted one of the underpinnings of public health that is often overlooked. In usual times, these groups are underserved and vulnerable but largely hidden and unlikely to impact the health of others. However, during a pandemic the effectiveness of population based interventions such as vaccination uptake often relies on issues such as social cohesion, trust, belonging and equality which can be much lower in such groups.

6.78 The pandemic also highlighted issues surrounding the poor recording of data in relation to ethnicity. In order to identify and understand all of the different sub-groups and provide accurate advice, we require more and better underpinning data. Better data feeds into being able to build trust in these particular communities which is a factor that has a considerable impact given trust is a key driver of behaviours and many of these communities do not trust Government. In my opinion, working on the capture and production of the underlying data for these communities before the next emergency would very much improve the subsequent responses Government is able to provide.

6.79 I am also of the view that increasing representation, both in terms of policy makers and scientific advisors, will help to improve adherence as well as ensuring we work within these communities. Producing materials which are co-designed with communities in order to respond to shared problems (e.g., messaging) and where creating and fostering a relationship with community leaders will also assist with increasing adherence.

## 7 UK and Welsh Government Strategies and Communication

7.1 I refer to paragraphs 3.9 and 3.10 of my witness statement and respond to the Inquiry's questions noting again that direct comparisons between the UK and Welsh Governments are difficult to make for a number of reasons including geographical and population sizes as well as styles of governing and communication, infrastructure, and the translation of data.

***Communications to the Public***

7.2 I refer to and exhibit to my statement the paper titled 'Staying COVID-safe: Proposals for embedding behaviours that protect against COVID-19 transmission in the UK' **[AJ/44 - INQ000273543].** I absolutely support the statement referenced in the paper, "*there is more likely to be a positive response to interventions if the reasons behind changes are fully explained and understood.*" Changes were often required to be implemented in light of emerging evidence. Providing explanations which were fully explained and understood, would have avoided changes in response being viewed as 'U-turns' and thereby possibly reducing adherence. I think the Welsh Government were an exemplar in this regard. In addition, the aims of the Welsh Government were clearly communicated to the public through TAG and through the CSA/H.

7.3 Advice was consistently provided from RCBI to communicate the uncertainties in the scientific evidence to the public although it was not always implemented. I think that was understandable since living with uncertainty is uncomfortable and politicians also wanted people to feel like they were in a safe pair of hands.

7.4 There is work that needs to be done in relation to scientific literacy in the population across both Welsh and UK Governments, particularly in terms of understanding how evidence is developed. Ordinarily, studies will be undertaken, the outputs of which will have differing focus and as the body of work in that field develops, a line of insight is formed.

7.5 In a pandemic, work is undertaken at a far more rapid pace, necessitated by the need for a rapid response. While it is better to communicate uncertainty in the evolving scientific

position, because it avoids later claims of engaging in 'U-turns,' I can understand why politicians may want to communicate certainties in order to make people feel safe. Therefore, developing population understanding of scientific literacy would be useful in order to provide context. This could also be assisted by modelling leadership, having good communicators who are able to explain the scientific position, its nuances, and uncertainties without straying into their own particular beliefs or values.

7.6 I do think the there was a disproportionate impact of COVID-19 on certain groups in society and in my opinion, this was well discussed at all levels and was consistently included in advice given by SPI-B, TAC and RCBI who also took adequate account of COVID-19's disproportionate effect on certain groups. However, this did not always translate into policy and in my view, this was sometimes the result of costs and practicalities. I think the disproportionate risk to these groups was communicated in the media.

7.7 I personally felt there was a clear line between scientific advice and policy decisions which include a number of other factors such as economics and enforcement. With particular reference to the phrase, "*following the science*", I do think it blurred the boundary between scientific advice and policy decisions for the public and raised issues of accountability. This boundary was more clearly communicated in Wales.

7.8 I felt communications and policy were more informed by behavioural science during the pandemic in Wales. This was partly due to the size of the country and its advisory groups, the style of government and closeness of communications team in seeking advice directly from RCBI.

7.9 I have been asked by the Inquiry to comment on a statement from Professor Susan Michie that, "*we need to fully integrate behavioural science in the UK's public health response.*" I do agree with Professor Michie's statement. However, this is based on the fact that behavioural science is a multidisciplinary field incorporating but not limited to psychology, sociology, public health, anthropology, law and economics. I consider this to have been done in the Welsh Government's public health response through RCBI, its members and representation on TAG from myself and then later both myself and Ashley Gould as well as through additional Welsh Government participants in the group. The papers developed by RCBI were discussed at TAG as were SPI-B papers and we had input into papers produced by TAG following RCBI's inception.

***Participation in What's App groups***

7.10 I am not aware of and did not participate in any What's App / messaging groups with Welsh Ministers, senior advisors, or senior civil servants.

***Behavioural Fatigue***

7.11 I have been asked to comment on the role 'behavioural fatigue' played in the Welsh Government's decision to impose, extend or ease NPI's. I am unable to say what part 'behavioural fatigue' played in either the UK or Welsh Government decisions. I am able to say that SPI-B advice (SAGE 15, 13 March 2020) was that: "*difficulty maintaining behaviours should not be treated as a reason for not communicating with the public about the efficacy of the behaviours and should not be taken as a reason to delay implementation where that is indicated epidemiologically*."

***Fear based messaging and Communicating Uncertainties***

7.12 In January 2021, a complaint was submitted to the Ethics Committee of the British Psychological Society that SPI-B had advised Government to use "fear-based" messages to promote compliance with lockdown. This complaint was dismissed by the Ethics Committee and the Chair noted that "*the contributions of psychologists in responding to the pandemic were entirely consistent with the BPS Code of Ethics and Conduct, demonstrating social responsibility and the competent and responsible employment of psychological expertise*."

7.13 The basis of this complaint and subsequent allegations against SPI-B are often linked to a section of a SPI-B paper reviewed by SAGE on 23 March 2020 ("Options for increasing adherence to social distancing") which I refer to and exhibit to my statement at **[AJ/45 - INQ000273544]:** *"Perceived threat: A substantial number of people still do not feel sufficiently personally threatened; it could be that they are reassured by the low death rate in their demographic group, although levels of concern may be rising. Having a good understanding of the risk has been found to be positively associated with adoption of COVID-19 social distancing measures in Hong Kong. The perceived level of personal threat needs to be increased among those who are complacent, using hardhitting*

*emotional messaging. To be effective this must also empower people by making clear the actions they can take to reduce the threat."*

7.14 This is just one option of 11 set out in the paper. This option, that a higher perceived likelihood or severity of a risk tends to be associated with greater motivation to take action, does have an evidence base. It is worth noting SPI-B was asked to lay out all evidence-based options (11 in total) that were available for Ministers to improve adherence to the voluntary protective measures in place at that time of unprecedented crisis.

7.15 The paper also warns about the possible negative effects of this particular option, including equity i.e. disproportionate impacts of this type of messaging and unequal distribution of risk of COVID-19 in the population. The passage is clear that the option applies to "*those who are complacent*" and that what is required is "*a good understanding of the risk*."

7.16 SPI-B warned the UK Government multiple times about the risk of using fear as a mechanism for changing behaviour. The very first bullet point of our paper to the Cabinet Office on messaging on 3 April 2020 stated that fear would not work **[AJ/29 – INQ000273528].** The launch of supposedly fear-inducing campaigns such as "Anyone can get it, anyone can spread it" (March 2020) and "Look them in the eyes" (January 2021) had no discernible impact on population worry or perceived risk.

7.17 YouGov data from the time showed levels of COVID-related fear in the UK compared to 27 other countries. In this data the UK was consistently among the least fearful populations in the dataset. Public fear in the face of a global pandemic and a novel, mutating infectious disease with the power to kill millions of people was natural, particularly before the development of a vaccination. The fear did not need to be manufactured.

7.18 I addressed concerns regarding fear based messaging in my evidence to the UK Science and Technology Committee on 18 November 2022. Concerns regarding this approach were also implied in the following two RCBI originating TAG papers, 'Living safely with COVID-19 in Wales: risk communication and behavioural science perspectives' **[AJ/40**

– **INQ000273539]** and 'Behavioural insights to support a post fire break Wales' **[AJ/38 – INQ000273537]**. I also refer to a letter published in April 2022 in Private Eye **[AJ/46 - INQ000273545]** which addresses the misconceptions regarding SPI-B's advice.

7.19 I refer to and exhibit to my statement an article from Unherd dated 13 January 2022 referred to by the Inquiry **[AJ/47 - INQ000273546]** and to the quote referenced by the Inquiry, "*the most egregious and far reaching mistake made in responding to the pandemic has been the level of fear willingly conveyed on the public*." RCBI similarly advised the Welsh Government that fear was not an effective strategy for changing behaviour and I did not really see it used by Welsh Government in its approach to the pandemic.

7.20 I have been asked to comment on the following quote from Professor Christine Bundy, "*I saw that if we let the messages slip and confused people with optional adherence strategies as happened, we would risk losing compliance in most people, and generate health anxiety in people not yet vaccinated and among our vulnerable populations*." These were complicated issues since restrictions did need to be eased at some point but consistency of messaging was important to enhance protective behaviours. In my opinion, Professor Bundy's statement is too definitive a statement. As I have mentioned previously, building understanding of behavioural influences (in different population segments such as the vulnerable) and deploying the most effective mechanisms-ofaction of change, are more likely to deliver policy aspirations than reliance on public behavioural responses being 'rational', for example challenging the assumption of high risk individualistic action, when altruistic behaviour was the reality in the pandemic.

***Nudge Theory***

7.21 The Inquiry has asked me to explain 'Nudge theory' and I preface my response by referring to paragraphs 4.1 to 4.3 of my statement. In the psychological based 'Nudge theory' a nudge makes it more likely that an individual will make a particular choice, or behave in a particular way, by altering the environment so that automatic cognitive processes are triggered to favour the desired outcome. For example, people choose an option because it is the default one or look at the behaviour of others to guide their own or where placement encourages purchase (e.g., by a shopping till). In the public health

domain nudges, even if they work and the evidence is mixed, are not considered to enable people to make long term behaviour change.

7.22 Nudge theory has a difficult reputation and is often viewed as being more concerned with manipulation of behaviour rather than enabling people to make healthy choices. The ethical issues around 'nudging' are to do with informed choice and autonomy. Nudging contrasts with other ways to achieve adherence such as education, legislation, and enforcement. I tend to lean towards legislation such as not smoking in public places, the wearing of seatbelts and education and awareness. I am less keen on enforcement because of how it is disproportionately deployed.

7.23 However, there is an interesting issue around inequalities here in relation to COVID-19, alcohol, or a number of other public health issues which those from deprived communities experience the most harm and who also have the worst access to services. Nudges or prompts that enable healthier choices may have a greater impact on the health of these populations. That said, I think structural and system change (such as supporting families, education, housing, transport, reducing poverty, active labour market policies, transport infrastructure) allows people autonomy and informed choice.

7.24 In any event, I am not personally aware of nudge theory being discussed or suggested by either the UK or Welsh Governments. This would need to be verified by alternative sources if required. SPI-B and RCBI focussed on effective communication, understanding the barriers to behaviour change and addressing them, for example people could not isolate if they were self-employed unless their pay was covered and received immediately.

***Eat Out to Help Out***

7.25 To the best of my knowledge 'Eat Out to Help Out' was not discussed prior to its announcement at SPI-B, TAG or RCBI. It is plausible that 'Eat out to Help out' in August 2020 contributed to an increase in community based coronavirus infection and there is some evidence to support this although this study had a number of potential flaws including that it measured new infection clusters (i.e., infections that shared a common location) rather than an actual rise in infection rates **[AJ/48 - INQ000273547]**. However, I am not qualified to balance this against any economic benefits to the hospitality industry

and to health which may have been of consideration for either the UK or Welsh Governments or to comment thereon.

***Aerosol to fomite spread***

7.26 There was continuous discussion in Wales regarding aerosol to fomite spread as evidence emerged and in relation to masks and filters.

## 8 Public Confidence and adherence to the restrictions in Wales

8.1 I have been asked to comment on how the Welsh public's adherence to restrictions and movements were monitored in Wales. RCBI had a standing agenda item to review an IPSOS MORI and a Public Health Wales survey (available via phw.nhs.wales) that explored people's adherence and attitudes to guidance. Both surveys included a set of routine questions and further questions which changed depending on any particular emerging issues. The result was that RCBI and TAG relied almost entirely on selfreporting poll data in order to monitor adherence. There was also one single project in relation to mass-events which was used to gather empirical evidence.

8.2 Other countries were able to test and demonstrate the impact of behavioural science in the design and delivery of interventions. For example, the RIVM in the Netherlands were able to test and demonstrate the impact of behavioural science in the design and delivery of interventions.

8.3 Increased capacity, both within and outside of TAG structures, to generate, collate and analyse behavioural data would strengthen the overall responses in any future pandemics. This requires increased analytical capacity to synthesize evidence and intelligence, particularly on determinants of pro-social behaviours, in population segments (e.g., geographic, demographic and/or psychographic), and for testing interventions. Preparatory work on the data required to inform decision making should be undertaken with future emergencies in mind, for example the CORSAIR study, which was funded and in place to be rolled out if/when circumstances required it.

8.4 The CORSAIR study was a joint study to develop a set of questions that could be used in the event of a future pandemic. The tool would help academics and policy makers

understand how the public were responding in terms of their behaviours and the influences on those behaviours, and what impact official communications and policies were having. Preparatory work was conducted to develop the questions and then to 'hibernate' the study until a pandemic occurred at which point assistance could be provided to the Department of Health and Social Care in launching, modifying, and analysing surveys.

8.5 In my professional opinion, there are a number of ways in which the data could be improved. For example, increased capacity both within and out-with of TAC and TAG structures and SAGE in order to generate, collate and analyse behavioural data which would strengthen the overall response which could be provided and also improved recording of ethnicity in routinely collected data. Further, increased analytical capacity to synthesize evidence and intelligence which can be done on a timely basis is required. This is particularly required in relation to determinants of pro-social behaviours in population segments (geographic, demographic and/or psychographic) and for testing interventions.

8.6 Preparatory work on the data required to inform decision making should be undertaken with future emergencies in mind, for example, the CORSAIR study was funded and in place to be rolled out if and when the circumstances required it.

8.7 As stated previously, the role modelling of behaviours by leaders together with trust are important drivers of behaviours by the public and likely did affect adherence and trust when breached (allegedly or otherwise).

## 9 Lessons Learned

### *International lessons*

9.1 I refer the Inquiry to my responses at paragraphs 4.15 and 8.2 of my witness statement.

### *SPI-B, TAG and its sub-groups*

9.2 I have been asked to comment on how effective the structures of SPI-B, TAG and its sub-groups were in informing decision making. My comments are made in respect of those groups of which I was a member. I saw that connections were made between the TAG

sub-groups of RCBI which I chaired and Children and Education, of which I was a member. Connections were enabled due to the size and composition of groups which fostered collaborative working, of which RCBI was a particular example, as well as building close working relationships, the sharing of knowledge and expertise and an openness of discussion. I cannot comment on how our advice helped to improve decision making as I was not party to that process but the way in which the groups of which I was a member operated, allowed us to provide robust scientific advice to the decision makers.

9.3 I refer the Inquiry to my responses at section 6 for the effectiveness of the structures of SPI-B and TAG. I reiterate, I was not party to the decision making process.

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9.4 There is certainly more scope for cross connections to be made in this way, for example by sharing members with Environment, Modelling and Inequality sub-groups to further inform scientific advice from a behavioural perspective. This could also be extended to colleagues in a similar position elsewhere in the UK and beyond, whilst of course being mindful of the potential burden on individuals and the possible impact on group size and group dynamics.

9.5 In terms of suggestions as to how SPI-B and TAG could be better structured and/or equipped for future crises, one of the more effective methods we utilised was by running a series of webinars for colleagues within and external to Welsh Government. As mentioned previously, we invited experts in the field to attend those webinars, including members of RCBI and SPI-B and it was an effective way of raising awareness of risk communication and behavioural science. In addition, it also raised awareness of the work of the sub-group, and more importantly the utility and potential application of behavioural science in other specialist areas. With greater capacity, there would have been scope to run more sessions given they were welcomed by colleagues.

9.6 Transparency was and will be critical to informing effective decision making. The initial decision to publish all SAGE papers including SPI-B which was also done by TAG, meant the work produced by the groups and sub-groups was always in the public domain in a prompt manner and where possible, coinciding with major policy announcements. In my view, this fostered trust and allowed those who wanted to know more to follow the evidence base.

9.7 I also refer the Inquiry to my response at paragraph 8.5 and 8.6 in relation to improving data in order to be better equipped for future emergencies.

9.8 I refer to exhibit to my statement the paper tilted 'RCBI: Lesson Learnt summary for TAG Wash-up session (6 May 2022) **[AJ/49 - INQ000273548]**, as requested by the Inquiry.

***Evaluation of science-policy advisory mechanisms***

9.9 Undertaking an evaluation of science -policy advisory mechanisms would provide a useful basis for improving on existing mechanisms as well as planning for future mechanisms. While I work closely with government colleagues in my field, most of the people I worked with during the pandemic were previously unknown to me.

9.10 In my view, establishing and maintaining those relationships with existing and new colleagues and underpinning the relationships by way of investment in relevant data systems, would enable us to hit the ground running in relation to any future pandemics. In addition, maintaining an up to date list of experts is also vital in order to be aware of and have prompt access to leading experts in all relevant fields.

9.11 The pandemic demonstrated the value of evidence-based policy making and I believe the relationship between scientists and policy makers improved during the pandemic. This assisted with the effective translation of scientific advice into evidence- based policy. I believe this has continued subsequent to the pandemic. In my area of work, I am seeing more involvement of scientists in providing advice about the evidence which underlies policies together with closer working relationships with the science research elements of Government.

9.12 It is important to ensure the value of the relationships which have been built is maintained. The impact of our scientific work is recognised in the research excellence framework, which is one way in which university research is funded and is a driver to improving people working closely together. Collaborative working between scientists and policy makers requires a recognition on both sides of their respective key performance indicators and the different timelines to which people are working and there needs to be

an awareness on both sides and open discussion in order to foster that closer relationship.

***Public engagement in pandemic policy***

9.13 In my opinion, the public should certainly be more involved in the development of pandemic policy through the co-design of messaging, interventions and the coproduction of surveys and communications materials. Understanding barriers to implementation is important. This form of patient and public engagement is a standard feature in my field of research and ensures what is being communicated is understood and appropriate.

9.14 Maintaining networks of members of the public to inform policy requires investment and co-ordinators. Such networks are a time and financial cost to implementing public engagement strategies. However, sustaining networks is important so that members are trained and able to step up quickly during times of emergency response. It is also important to keep membership diverse and novel in order to better inform policy.

9.15 I have set out previously the important role which public trust in Government and scientific advice plays, in particular for the adoption of recommendations and / or statutory responses during the pandemic. In my view, holding the inquiry and having open discussions on the lessons learned is an important way to help to achieve public trust.

***Diversity and Equality***

9.16 I have been asked to provide suggestions as to how issues of diversity and equality can be addressed so that barriers within certain groups of society can be overcome. In my opinion, barriers to adherence and vaccination uptake in the ethnic minority population will only be addressed through co-design of intervention strategies and communications materials, building relationships within local communities, and working with community champions in order to build trust. I refer the Inquiry to my responses at paragraphs 6.75 to 6.79 and paragraph 4.6 on representation and co-design.

9.17 Building trust is vital and in regions where this has been achieved it has been done through culturally appropriate and language appropriate communications. Such

communications have been actively considered on the part of local public health authorities.

***Long-term sequelae from SARS-CoV-2 infection / Covid-19 and/or 'Long COVID.***

9.18 I have been asked a series of questions regarding the long-term sequelae from SARSCoV2 infection/Covid-19 and or 'Long COVID'. As set out above, my expertise and longstanding research background is in mental health (particularly children and young people) and suicide prevention. My involvement in the pandemic response focused on considering and advising on minimising infection rates, synthesis of evidence, public health approaches, inequalities, and our evolving understanding of the potential impacts on both of these in relation to infection and measures, including NPIs, taken to curb it's spread rather than the physical symptoms of Covid-19 or Long COVID. For that reason, my response to these questions below is necessarily limited to these areas 9.23.

9.19 I am not able to assist the Inquiry with a detailed chronology of the evolving understanding of long-term sequelae from SARS-CoV-2 infection/Covid-19 and/or 'Long COVID', except that I recall we were regularly updated on Long COVID symptom prevalence in the general population in both SAGE and TAG (please see paragraph 9.23 below).

9.20 I am next asked two questions concerning the extent to which my advice to key decision-makers was both impacted and informed by the risk of long-term sequelae and the available data on long-term sequelae. From the outset of my involvement in the pandemic response, I was mindful of emerging evidence in relation to mental health and suicide risks in any advice given and this would have included any such risks arising from those suffering with Long COVID. However, I cannot recall any specific instances where I was asked to advise on the mental health impacts of Long COVID.

9.21 The nature of the advice that I was asked to provide meant that it was largely informed by data gathered on the mental health impacts and suicide risks of the pandemic in more general terms. I was the senior last author on a systematic review outlining the impact of infection on suicidal behaviours **[AJ/50 - INQ000273820].** This review identified some evidence that infection with SARS-CoV-2 and/or COVID-19 disease may be associated with increased risks for suicidal and self-harm thoughts and behaviours but a causal link could not be inferred and longer term research was required. I was actively involved in the emerging evidence base in relation to mental health and suicide prevention and co-authored a number of publications. I co-led two studies the Living Systematic Review

**[AJ/09 - INQ000273509]** and the Global Suicide Study **[AJ/08 - INQ000273508]** which were pivotal to the evolution of our understanding of the impact of the pandemic on suicide rates during 2020. These addressed concerns, widely repeated, that rates had increased dramatically

as a direct result of stay at home orders at a time when we did not have timely suicide data to answer this. We summarised current knowledge in an editorial **[AJ/10 - INQ000273510]** and a number of other publications and advice to policy makers. Suicide rates did not increase during the pandemic, mainly driven by a reduction in rates in men. Whilst outside the scope of the question(s), and therefore without going into detail, it is, for example, possible that this was due to a sense of community cohesion but also as a result of economic safety nets. Presentations with self-harm also reduced potentially as a result of stay at home orders, fear of infection and 'protect the NHS' messaging but not by as much as other conditions. There is evidence of an increase in self-harm in older adolescent females from the middle of 2021, but this was an underlying trend before the pandemic. We also found a widening mortality gap between individuals who self-harmed and the general population over the COVID-19 pandemic between April 2020 and March 2021 in the United Kingdom **[AJ/51 - INQ000273821].**

9.22 I was also involved in developing our understanding of the impacts on mental health. I was part of the team that developed the WHO Bulletin **[AJ/52 - INQ000273822]** leading the suicidal behaviours section. I was also part of the team that published one of the first probability sampled pieces of research. The main issue here was the disproportionate impact on the mental health of those who were young, from deprived areas, and from ethnic minority backgrounds. This understanding of the evidence base underpinned the advice I gave in relation to disproportionate impacts and inequalities. The impact of infection on mental health and suicidal behaviours is still evolving **[AJ/50 - INQ000273820].**

9.23 In terms of Long COVID specifically, I am aware that the Office for National Statistics published its estimates of Long COVID symptom prevalence in the general population, using data from respondents to the UK Coronavirus Infection Survey (CIS) testing positive for COVID-19 **[AJ/53 - INQ000273823]** [e.g.]. I recall that we were regularly updated on this in both SAGE and TAG, and I recall that most discussion centred on minimising infection to prevent these effects.

9.24 In fact, in a RCBI led paper published in Spring 2022 we summarised our thoughts **[AJ/40 - INQ000273539]** in Aim 3 concerning future thinking/ planning, which related more to behavioural considerations than strictly reducing transmission, we discussed Long COVID as follows:

*'There is a need to support those experiencing "Long COVID" and to acknowledge the longer-term impacts of COVID-19. These are complex and include psychological impacts such as the mental health impact following ventilation on ICU, high levels of bereavement as well as impacts on health and wellbeing'.*

Furthermore, in section 6.23 I outline the 5 harms we identified in relation to the pandemic **[AJ/37 – INQ000273536],** which included Long COVID.

9.25 I am asked to describe the extent to which I was involved in any assessment of how emergency response measures, including NPIs, would impact on those likely to suffer from long-term sequelae. I am also asked to set out the nature of advice and briefings provided to inform core decision-making on how emergency response measures, including NPIs, would impact upon those likely to suffer from long-term sequelae. I have nothing further to add on this issue to what I have said at paragraphs 9.18 to 9.24 above.

9.26 I am asked to set out the lessons learned in responding to long-term sequelae and/or chronic illness during a pandemic and to outline the extent to which those lessons subsequently impacted advice and briefings to key decision-makers during the pandemic. I can of course only speak to my reflections on responding to mental health impact and suicide risk during a pandemic, although, in my view, the same is likely to be true for those suffering from long-term sequelae. I think it is important to highlight the importance of looking at underserved groups (for example, young people, ethnic minorities, those from deprived communities) since impacts on them can be hidden when looking at impacts in the overall population and they often experience disproportionate harms based on a number of factors. In relation to long term sequelae some groups who had higher levels of infection would experience long term sequelae disproportionately.

**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.

**Name:** Professor Ann John

**Signed:** Personal Data

**Dated:** 2 October 2023