

Questionnaire response from Professor Graham Medley regarding M2B/TAG/GM/01

General comments

To clarify, I have used “decision-makers” to refer to those people or groups (often, but not always, senior politicians) who decide between different policy choices. I have not used “decision” to refer to a particular choice but to the process of deciding. I refer to “policy-makers” as those people or groups (mostly civil servants) who construct the policy options for decision-makers.

A critical factor in providing scientific advice was the organisation of UK in four nations in which health is a devolved responsibility. Please refer to my evidence provided for Module 2 in relation to the questionnaire responses here. I have not repeated information here as I have been told that Module 2b will have access to my response to Module 2.

Q1

A brief overview of your qualifications, career history, professional expertise and major publications.

Qualifications

BSc Biology & Computer Science, University of York, 1982

PhD Imperial College, University of London, 1989

Career History

2015-	Professor of Infectious Disease Modelling, London School of Hygiene and Tropical Medicine (LSHTM) Director of the Centre for Mathematical Modelling of Infectious Disease (CMMID) at the London School of Hygiene and Tropical Medicine (LSHTM) from 1 January 2018 for three years.
1997-2014	Lecturer, Reader, Professor, University of Warwick
1993-1997	Lecturer & Royal Society University Research Fellow, University of Warwick
1989-1993	Honorary Lecturer & Royal Society University Research Fellow, Imperial College
1983-1989	Research Assistant, Department of Biology, Imperial College, University of London

1982-1983	Research Associate, Department of Fire Safety Engineering, University of Edinburgh
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Prizes

1990	Joint award of the 1990 "Outstanding Statistical Application" from the American Statistical Association for Medley, Billard, Cox, & Anderson (1988).
1989	Royal Society University Research Fellowship, and extension until 1997 in 1993.
2020	OBE for services to COVID-19 response
2022	Royal Society Gabor Medal for leading an interdisciplinary team of biologists, clinicians, mathematicians and statisticians who provided SAGE with epidemiological modelling expertise concerning the COVID-19 pandemic.

Professional expertise

I have researched a wide variety of infections of humans and livestock using a variety of techniques and approaches. My main expertise is to use data analysis and mathematical modelling to understand the transmission dynamics of infectious disease, and to use this understanding to develop more effective and more cost-effective interventions to reduce the morbidity and mortality that infection incurs. Prior to COVID-19, I have provided policy advice to HMG on most notably HIV/AIDS and vCJD. I have over 200 peer-reviewed scientific publications (first publication 1983).

Major publications

A complete list of publications is available at: <https://orcid.org/0000-0002-0030-7278>

Perhaps most notable in the current context are:

Medley, G.F. & Vassall, A. (2017) When an emerging disease becomes endemic. *Science* 357 (6347), 156-158. <https://www.science.org/doi/10.1126/science.aam8333>

Green, L.E., Medley, G.F., 2002. Mathematical modelling of the foot and mouth disease epidemic of 2001: strengths and weaknesses. *Research in Veterinary Science*, **73** (3), 201-205. [https://doi.org/10.1016/S0034-5288\(02\)00106-6](https://doi.org/10.1016/S0034-5288(02)00106-6).

McEldowney, J., Grant, W., Medley, G.F. (2013) *The Regulation of Animal Health and Welfare: Science, Law and Policy*. (Law, Science and Society). Routledge. ISBN: 978-0-415-5474-4.

Q2

A list of the groups (i.e. TAG and/or any of its subgroups) in which you have been a participant, and the relevant time periods.

I attended TAG meetings by invitation. I did not take minutes or record attendance.

Q3

An overview of your involvement with those groups between January 2020 and May 2022, including:

- a. When and how you came to be a participant;***
- b. The number of meetings you attended, and your contributions to those meetings; and***
- c. Your role in providing research, information and advice.***

I was academic co-chair of SPI-M from October 2017, co-chair of SPI-M-O from January 2020 until the last meeting in February 2022, and have since returned to co-chair SPI-M. SPI-M-O is a sub-group of SAGE tasked with addressing the scientific evidence that comes from considering the transmission dynamics of infectious disease. I attended SAGE in order to represent the SPI-M-O consensus statements and other work. It was from this position that I was invited to attend TAG.

I first attended the Wales TAG meeting 15 September 2020 in order to hear more about the SAIL data system that allows data to be linked across different data sets. I believed that it could be very useful and wished to ensure that SPI-M-O members were aware of it. I also attended 29 September 2020 in order to understand more about the RWC for Wales and to contribute the SPI-M-O perspective. I had a standing invitation to attend TAG for the remainder of the epidemic, and did so when there was something on the agenda to which I could contribute, or which was particularly interesting and from which I thought SPI-M-O could benefit.

My over-arching role in relation to TAG was largely to help co-ordinate modelling efforts between SPI-M-O and Wales to ensure that the results were consistent, and to offer advice to TAG when requested.

Q4

A summary of any documents to which you contributed for the purpose of advising TAG and/or its related subgroups on the Covid-19 pandemic. Please include links to those documents where publicly available.

I was invited to comment on several documents relating to modelling and analysis. I have 15 files on my computer that originate from TAG staff and are in the domains given in Q3. I believe that I gave comments on the documents as listed in the table below. I did not track where the documents went after I had commented so it is possible that some appeared in public that I am not aware of.

Number	Title	Link
1	Technical Advisory Group: COVID-19 population immunity estimates in Wales	https://www.gov.wales/technical-advisory-group-covid-19-population-immunity-estimates-wales-html
2	Policy Modelling Updates (not all)	https://www.gov.wales/technical-advisory-group-modelling-updates-and-subject-specific-reports
3	Commission on evidence for use of COVID pass (23 Nov 2021)	
4	Preparing for winter 21/22	

Q5

A summary of any articles you have written, interviews and/or evidence you have given regarding the work of the above-mentioned groups and/or the Welsh Government's response to the Covid-19 pandemic. Please include links to those documents where publicly available.

I have written an invited commentary on the importance of consensus on SPI-M-O which is available in *Advances in Biological Regulation*:

<https://www.sciencedirect.com/science/article/pii/S2212492622000586>.

I appeared before the Science and Technology Select Committee at the House of Commons twice and the transcripts responses are available:

<https://committees.parliament.uk/work/91/uk-science-research-and-technology-capability->

[and-influence-in-global-disease-outbreaks/publications/oral-evidence/?SearchTerm=Graham+Medley&DateFrom=&DateTo=&SessionId=](#), And my written evidence is here: <https://committees.parliament.uk/writtenevidence/107217/html/> .

Throughout the epidemic I gave interviews to the media to explain my position and to explain the science of the epidemic and provide some interpretation of the science. I did not keep a record of these interviews or where they were printed.

To the best of my recollection none of these interviews addressed issues specific to Wales or the Welsh epidemic response.

Q6

Your views as to whether the work of the above-mentioned groups in responding to the Covid-19 pandemic (or Wales's response more generally) succeeded in its aims. This may include, but is not limited to, your views on:

- a) The composition of the groups and/or their diversity of expertise;***
- b) The way in which the groups were commissioned to work on the relevant issues;***
- c) The resources and support that were available;***
- d) The advice given and/or recommendations that were made;***
- e) The extent to which the groups worked effectively together; and***
- f) The extent to which applicable structures and policies were utilised and/or complied with and their effectiveness.***

The meetings were well attended, extremely well chaired, lively and very informative. The diversity of expertise and experience was very good. The epidemiological updates (usually given as the first agenda item) were clear and concise, and provided me with a perspective on the epidemic that I did not get from other meetings. The meetings were smaller and more informal than SAGE, and focussed on Wales. The professionalism of participants bringing information to TAG was very high standard. At no point did I think that TAG and its sub-groups were not fit for purpose. Several times I took evidence I had heard at TAG back to the SPI-M-O secretariat for consideration.

I have no experience of the resources available to those working on TAG.

Q7 Lessons learned

Your views as to any lessons that can be learned from the Welsh Government's response to the Covid-19 pandemic, in particular relating to the work of the above-mentioned groups. Please describe any changes that have already been made, and set out any recommendations for further changes that you think the Inquiry should consider making.

I cannot comment on the performance of TAG as an advisory body as I was not closely involved, nor did I fully understand the relationship between TAG and decision-makers in Wales. I live in England and do not have family living in Wales, so was not experiencing the policy decisions directly. The focus of SPI-M-O was the Cabinet Office in Westminster, and I do not have sufficient knowledge of government and decision-making in Wales to be able to pass comment. My purpose in attending TAG was twofold. First, to offer insight and expertise, and second to try and ensure that the modelling evidence from SPI-M-O and TAG was consistent.

One of my major concerns as academic co-chair of SPI-M-O was to ensure that the modelling included the whole of the UK. Initially there were significant issues in obtaining data from Northern Ireland, Scotland and Wales – see Q36-38 of my statement to Module 2. This was largely solved by the end of April 2020. All nations were represented at the SPI-M-O main meeting and sub-group meetings. I would have attended Scotland and Northern Ireland meetings if requested. Dr Mike Gravenor (University of Swansea who did much of the modelling for Wales) attended SPI-M-O from 5 August 2020 onwards as an academic member. The United Kingdom is an epidemiological unit, i.e. the borders are largely immaterial to the virus. I believe that both Scotland and Wales attempted to reduce the amount of cross-border movement in an attempt to create different epidemiological situations, but I do not know how successful this was. There was significant heterogeneity (in terms of the epidemic progression) between nations, but also within nations. For example, I recall on one TAG meeting it being noted that, epidemiologically, north Wales and north-west England were closer than north Wales was to south Wales; the epidemiological proximity being entirely driven by direct and indirect contact patterns between different populations.

Having different parts of a single epidemiological unit making different health decisions is almost always sub-optimal unless they are following the same strategy. More local tactical decisions will mean that interventions are better adapted to local circumstances, but if the strategy is different then it essentially sets up a 'game' whereby the best decisions for one place depends on what the others do and *vice versa*. Whilst I do not have any strong evidence

that this occurred within the United Kingdom, it is something worthwhile considering I believe. Note that the same situation applied internationally given that this was a pandemic.

Q8 Documentation available

A brief description of documentation relating to these matters that you hold (including soft copy material held electronically). Please retain all such material. I am not asking for you to provide us with this material at this stage, but I may request that you do so in due course.

All correspondence was by email, and I have retained all my emails. Where there is material relationship to the science-policy interface I copied in or forwarded to the relevant secretariat (SPI-M-O, SAGE or a gov.wales address).

The documents I have are drafts of the versions listed in Q4.

I have no other material.