

UK COVID-19 Inquiry: Module 2B - Rule 9 Request to Professor Richard Stanton- Reference: M2B/RS/01

1. Overview of qualifications, career history, expertise, and publications.

I am a Professor of Virology within the School of Medicine at Cardiff University. I obtained my PhD from the University of Wales College of Medicine in 2003, working on the cell biology of herpesvirus infections. I worked as a post-doctoral researcher from 2003-2010, developing Adenovirus vectors as a vaccine platform, and investigating the molecular biology and cloning of human cytomegalovirus (HCMV) genomes, including developing the worlds first international diagnostic standard for HCMV. In 2010 I was appointed as a lecturer to lead my own research team, and was promoted to Senior Lecturer (2014), Reader (2018), and then Professor (2020). I began using my virology expertise to understand how Natural Killer cells control virus infections, and why this arm of the immune system fails to prevent disease in the case of HCMV. This work developed into the discovery of a novel class of antibody that enable NK cells to efficiently control HCMV spread, through both vaccination and immunotherapies. This work is currently being commercialised.

During the COVID-19 pandemic I took over the management of the BSL3 laboratory within Cardiff University, established all of the approvals to work with SARS-CoV-2, and managed all of the SARS-CoV-2 research within this lab. This included working with companies to test antiviral and disinfectant products, diagnosing patients, working with NHS colleagues to assess infectious virus levels in patients to support SOPs around patient cohorting, and carrying out research into NK and antibody-mediated control of SARS-CoV-2 infection. I was recruited into the UK International Coronavirus Consortium, the UK VITT Consortium, and Wales Wastewater Monitoring Consortium.

I have published 81 papers in virology and viral immunology, including in leading international journals such as Cell, Science, Cell Host & Microbe, eLife, J Clin invest, Nature Communications, PNAS, and PLoS Pathogens. Full publication list, including citation data, can be found here: <https://scholar.google.co.uk/citations?user=yeXJcPsAAAAJ>. My grant income to date is £22 million, including from MRC, BBSRC, NIHR, and Wellcome Trust.

2. A list of the groups in which I participated

I participated in three TAG groups: International Intelligence, Environmental (TAG-E), and Virus Testing (VT-TAG). I have never been a member of SAGE.

3. An overview of my involvement in these groups

Timelines and meeting frequencies are approximate, and based on my memories now, several years after the event. I joined the International Intelligence group in September 2020, on the recommendation of my colleague within Cardiff University, Ian Humphreys. I joined the other two groups slightly later, probably Jan 2021, I think I was recommended by my colleague in PHW, Catherine Moore. Meetings frequency varied. International Intelligence met weekly through the beginning of 2021, decreasing to every other week, then monthly by 2022. VT-TAG I'm afraid I don't remember how frequent it was, certainly at times it was every week, but overall the meetings were less frequent than the international group. I think TAG-E was roughly monthly.

In each case my role was to provide virological and immunological insight into issues raised within the groups, to raise virological/immunological issues myself if I thought they were important for the group to know, and to write papers on issues relating to the group expertise. These papers could either be volunteered by the group, or commissioned by Welsh Government.

4. A Summary of any documents I contributed to.

The below are examples of documents produced by each of the groups. I contributed to some documents more than others - for some I played a very active role in writing and editing, for others I just discussed the document orally, and for some I was not involved. I'm afraid I don't remember which fall into which category.

For International Intelligence:

- The emerging Brazilian variant
- Worst case COVID scenarios
- Vaccine genomic testing
- Impact of European Measures to Ease Lockdown
- Seasonal effects on COVID19 in South America
- Various other contributions via email and editing other documents submitted to TAG.

TAG-E:

- Advice for night clubs & adult entertainment venues
- Air cleaning devices
- Consensus Statement on face masks for the public
- Consensus Statement: the use of face coverings in childcare and educational settings for under 18s
- COVID-19 evidence associated with transmission and potential risks associated with religious activities and places of worship
- Current evidence relating to weddings
- Evidence review of ozone generators including appropriateness as mitigation within classrooms
- Face coverings to reduce transmission of SARS-CoV-2 (CEC)
- Reducing COVID-19 transmission in schools and colleges: the role of air cleaning devices amongst other mitigations
- Review: advice on communal singing and chanting, including blowing of wind instruments and pipe organs
- Review: effectiveness and appropriateness of plastic screens in taxis and private hire vehicles (PHVs) for reducing transmission of COVID-19
- SARS-CoV-2 infection risks at indoor exercise facilities
- SARS-CoV-2 transmission risk in public toilets
- Swimming pools, hot tubs, saunas and steam rooms and risk from Covid-19
- The efficacy, effectiveness and safety of SARS-CoV-2 disinfection methods (including ozone machines) in educational settings for children and young people (CEC)
- The use of face coverings in childcare and educational settings for under 18s
- Statement on face coverings in non-healthcare settings.
- Aerosolisation of the Omicron variant and impact on PPE
- Shared accommodation on educational trips, April 2021
- Numbers attending indoor and outdoor events, April 2021
- Water fountains, March 2021

VT-TAG

- Winter 2022-23 planning

- Winter Challenges
- Variants
- Discharge to Care Homes

5. A summary of articles/interviews/evidence I have contributed regarding the work of TAG

I have not provided any articles, interviews, or evidence, specifically regarding the work of TAG. I gave multiple media interviews to multiple organisations (e.g. BBC, ITV, Radio 5 amongst others) on the pandemic in general. In some of these I may have discussed the Welsh Government response in brief, although I don't have any records of specifics.

6. My views as to whether the TAG subgroups I was involved in succeeded.

Overall the different groups had a good mix of expertise. E.g. the international group included virologists, immunologists, public health, behavioural science, social science, and data scientists. VT-TAG included appropriate clinical and basic scientists as well as numerous people from public health. TAG-E had environmental experts, virologists, public health, and modellers. However, given the nature of the way these teams were assembled, the teams came together in an ad hoc way, with people added in on the fly, rather than being planned in a co-ordinated way from the outset. As a result the mix was sometimes biased in certain ways (e.g. VT-TAG was very public health heavy), sometimes disciplines were missed out (e.g. social sciences were not included in some), and sometimes expertise was introduced late (e.g. I was the only virologist on some panels, and was not added until the groups had been running for a while).

The different groups were commissioned to carry out work in different ways. TAG-E received explicit commissions from Welsh Government, and tended to focus very heavily on these, producing multiple written reports. International Intelligence received fewer explicit commissions, with meetings often focussed on discussing current data and issues, ensuring that the data dashboards being developed by Welsh Government were accurate and informative, and providing expertise and understanding for Welsh Government employees, who then took that information back to Welsh Government themselves. VT-TAG had the fewest explicit commissions of all, with most time being spent on discussion of current issues, which was then fed back to Government via staff members, although there were a few papers produced.

Resources and support for all of the groups were good. For TAG-E and VT-TAG, little resources were needed. For International TAG, the main resource was international data, which was expertly assembled and curated by Adam Wadding ready for each meeting. In all cases, support was mainly provided by the chair of the committee, along with someone to take minutes. Chairs (Robert Hoyle, Simon Rolfe, and Jamie Kaijaks) and admin support were always excellent.

All groups worked effectively as a team within themselves, although we had no knowledge of any other groups, what those other groups were doing, or who was on them – each subgroup was entirely self-contained. This may have led to duplication of effort, or to groups working independently when they could have worked together.

One criticism is that it was rarely obvious what happened in response to the advice we gave – from our perspective, things simply disappeared into a black hole. I'm not for a minute saying that's what happened, just that we never saw any explicit outcome, which felt a little frustrating. Different groups also operated in very different ways – I've highlighted some differences in whether they focussed on writing papers in response to specific commissioned requests, or were more discussion orientated, with the info being taken & relayed more informally by Welsh Gov employees. There

were also differences in the remit, with some groups specifically being told 'the role is to provide advice, policy is decided by Government' while other groups focussed more explicitly on policy – that may have been because the people involved in some groups were themselves dictating policy (e.g. within PHW), and that policy was directly related to what Government were trying to do. Nevertheless, in future it would help to have more common and explicit rules around boundaries, remit, and function.

Despite my above comments, overall I am confident that the TAG subgroups I was involved in played a critical and important role in ensuring scientific understanding within Welsh Government. The Welsh Government employees on the groups were always keen to hear from us, to understand the issues, to use our expertise fully, clearly valued our input, and fed that input back to Government. The criticisms I've made are simply a reflection of the fact that groups were put together at speed and on-the-fly, in response to a situation that hadn't been planned for or anticipated in advance.

7. Lessons learnt

As described above, my main suggestions are that there is work done in advance to agree the makeup, structure, and remit of scientific advisory groups for government, and the way they are intended to operate. Maintaining some sort of list, or key points of contact, for individuals with the appropriate scientific skillsets and who could be mobilised at speed next time would be useful. It would also be helpful to those involved in the groups if they could see more clearly how their advice was being used, if there was more knowledge of the different groups in operation, and the groups were a bit more connected.

8. Documentation

I may have some copies of the reports that I commented on, but these may not be final versions.