

**UK COVID-19 Inquiry: Module 2 - Rule 9 Request to Dr Sebastian Funk - Reference: M2/SAGE/01/SXF**

**Answers are interspersed with the questions below.**

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

- Diploma (MSc equivalent) in Physics
- PhD in Biology
- >15 years of research experience in mathematical modelling and biostatistics
- Major publications: see <https://scholar.google.com/citations?user=yOo8u2gAAAAJ>

2. *A list of the groups (i.e. SAGE and/or any of its sub-groups) in which you have been a participant, and the relevant time periods.*

- SPI-M-O 23 March 2020 - February 2022 (NB: I was on parental leave in February/March 2020); included chairing a subgroup on short-term forecasts, and being a member of subgroups on local transmission and nowcasting/projections.
- SAGE/NERVTAG only occasionally as co-opted member on specific topics

3. *An overview of your involvement with those groups between January 2020 and February 2022, including:*

- *When and how you came to be a participant:*

In late March 2020 specifically as an expert on evaluating and combining short-term forecasts; then remained a member until SPI-M-O was disbanded in 2022.

- *The number of meetings you attended, and your contributions to those meetings;*

85 SPI-M-O meetings attended as well as numerous SPI-M-O subgroup meetings and a few SAGE/NERVTAG meetings. Overall >80 contributions via reports submitted to the SPI-M secretariat.

- *Your role in providing research, information and advice.*

My role was largely defined through participation in SPI-M-O, with contributions both following observations or analyses we considered of relevance and in response to specific commissions, as well as participation in general discussions.

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

These are too many to list here (>80) and they are not available in public but I do hold copies.

5. *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 UK's response to the Covid-19 pandemic. Please include links to those documents where possible.*

I have not produced any evidence specifically regarding the work of these groups, except a Podcast (in German) where I commented on benefits and drawbacks of having a committee like SPI-M-O vs. the lack of a similar set up in Germany.

<https://podcasts.apple.com/nl/podcast/was-taugen-die-corona-modelle-prof-sebastian-fu-nk-london/id314115782?i=1000520469557>

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

- *The composition of the groups and/or their diversity of expertise;*

In my opinion SPI-M-O contained a huge amount of expertise including a large proportion of the UK modelling community. Those involved had worked on the dynamic of infections for decades including in collaboration with those in other fields of science, even if these other fields were not directly represented in SPI-M-O. The committee reflected a broad diversity within the modelling community, and work contributed was not only modelling in the strictest sense as many contributions were e.g. of statistical nature. That said, the remit of and expertise represented within SPI-M-O was on infectious disease dynamics as its core topic.

- *The way in which the groups were commissioned to work on the relevant issues;*

This was usually done via direct commissions/requests sent via e-mail by SPI-M and work in response, often requiring turnaround on very short timescales including the weekend. This resulted in an enormous amount of essentially unpaid and unrewarded work that ultimately yielded no tangible benefit to the individual (often junior) scientists doing the work and thus was ultimately at the expense of their scientific productivity. On the positive side the commissioning structure helped separate the decision making from the scientific work even if it was not always perceived as such in the public. That said, it was never clear to at least myself as a committee member what the broad aim of government strategy

was or if there even was such a thing as a strategy, which increased the risk of misinterpretation of commissions. The modelling expertise in the SPI-M-O secretariat and enormous amount of work they put into translating between decision making and scientific output helped mitigate some of this risk.

- *The resources and support that were available;*

In my opinion there was nowhere near enough resources or support. The data available was very patchy initially, although this improved later on, facilitated by some very competent staff at PHE (later UKHSA) responsible for making data available to modellers. There also were little additional financial or other resources made available to support the (often junior) researchers working towards SPI-M-O commissions. There were some attempts to e.g. support teams with computational expertise but in my experience this did not work well in practice as the lack of domain-specific expertise in epidemiology was difficult to overcome.

- *The advice given and/or recommendations that were made;*

In my view the scientific evidence presented was largely sound, and the synthesising of contributions in the consensus statements done very well. I never saw advice or recommendations as a core function of SPI-M-O as opposed to the provision of scientific evidence. I was not part of SPI-M-O in February/March 2020 which has, at times, been of particular interest.

- *The extent to which the groups worked effectively together;*

Whilst discussions in SPI-M-O were generally constructive there was little working together in the closer sense - groups continued to work independently as they would have done outside the pandemic. I think to some degree closer collaboration was hindered by ongoing pressures on contributing scientists to publish their findings in scientific journals and ultimately apply for competitive funding in order to retain their jobs. In addition, I think that the inclusion of government bodies without specific domain expertise in the committee was sometimes problematic as these were subject to different constraints and incentives that were not necessarily aligned with those of the modelling contributors.

- *The extent to which applicable structures and policies were utilised and/or complied with and their effectiveness.*

I am not sure what is meant by this.

7. *Your views as to any lessons that can be learned from the UK'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.*

My main recommendations would be:

- Solve the conflict between the academic reward system and policy work, e.g. by providing a forum for open peer review and publication of any evidence presented at SPI-M and requiring a memorandum on seeking scientific publication in other way by committee members. Use this to build a platform for transparent sharing of work done within the committee.
- Have a set up for data sharing ready. We can see now with the ongoing monkeypox outbreak (another pandemic) that all the barriers for data sharing have gone straight in the same way as things were before Covid. In this particular sense no lesson seems to have been learned.
- Focus on not losing the expertise built up during the pandemic, e.g. in early-career researchers by offering them roles within structures focusing on pandemic preparedness.
- Focus on a set up for generation of evidence, e.g. through household studies. Any intervention put in place should be accompanied by a plan for evaluation of its effectiveness, which was woefully lacking during the pandemic.

8. *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.*

Emails including materials submitted to SPI-M-O.