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Your Ref: M2/SAGE/01/SXB

The Right Honourable Baroness Hallett DBE
Chair, UK COVID-19 Public Enquiry

Dear Lady Hallett,

Further to the letter from your Enquiry Solicitor dated 2nd September

Initial Response to Request for Information for Covid 19 Public Inquiry

1. Please see a copy of my current CV at annexe A
2. I was involved as a member of SPI-M-O since its inception in early January 2020.
3. a) During the 2009/10 influenza pandemic I was a member of FLU-CIN which was established within the Department of Health to provide near real time clinical management advice for the management of influenza. Subsequent to this I was asked to attend SPI-M-O or its forerunner in my capacity as an ex FLU-CIN member and at the time Council member of the Intensive Care Society.

   b) I attended the overwhelming majority of the SPI-M-O meetings apart from a handful when I was on clinical service or on leave; 92 meetings between 27th January 2020 until 23rd March 2023. 25th September

   c) I was the only practising clinician regularly attending SPI-M-O. I am not a modeller, although of necessity I developed significant working familiarity with modelling techniques during the course of my membership of SPI-M-0. I do have a reasonable background in some clinical epidemiology. My input tended to be to provide answers to clinical questions that arose during the meetings and clinical context for those many members of the committee without a familiarity with clinical issues. This ranged from providing context of what was happening within the hospital sector, helping to interpret the NHS Situation Report data provided by NHS organisations, and adding to conversations where a clinical perspective seemed be helpful. The only significant piece of original research that I provided was a small study looking at some idiosyncrasies of how NHS situation report data were becoming harder to interpret towards the end of the first phase of the pandemic. This was subsequently published as a short paper in the Journal of Infection (Barnacle et al attached- a working draft was tabled). In addition, I conducted original research on the impact of working in critical care during the Covid pandemic as part of my research programme on behavioural factors (Grailey et al. attached). Although this latter paper was never formally tabled, I forwarded it to the committee chairs, Professor Medley and Professor Dame Angela McLean for their information.

   4. See answer to C3

   5. I attach copies of publications with which I was involved during the pandemic, these were generated as part of my normal scientific work with colleagues and were not specifically part of my SPI-M-O role. The only documents that were made available to SPI-M-O outside of normal scientific literature where specifically Barnacle et al and Grailey et al.

   6. a) composition of the groups and diversity of expertise. I write this as someone who is not part of the modelling community. I am unaware of the precise mechanism by which the group was created originally but my impression is that the membership of the group developed as time went on. There were clearly a number of groups from different universities who had great prior expertise in the modelling of infectious diseases, and the mathematics behind the development of sophisticated models. As time went on the membership of the group did seem to enlarge with other people who had significant and useful collateral expertise, but the number of model submissions that tended to be combined in to the consensus report remained fairly constant until the process was eventually taken over by the UK Health Security Agency. The group also included people working on very specific aspects of the pandemic, such as contact patterns in the community and the study of care homes. From time-to-time others with specific expertise would be invited to participate in discussions. These were in particular virology, with Professor Wendy Barclay contributing intermittently, and also (I think) colleagues with expertise in vaccines and behaviour. The group benefitted from some members of SPI-M-O

groups. Of the groups contributing detailed pandemic modelling, to me all seemed to be using slightly different methodologies and data sources resulting in a variety of predictions of how the pandemic was developing. Considerable expertise was devoted to producing combinations of these models for the consensus output, the technical aspects of creating these ensembles is I'm afraid beyond me. I cannot comment on whether there may have been other groups within the UK that could have provided additional modelling expertise. My impression was that the co-chairs were extremely inclusive of the opinions that were brought forward, and the discussions were wide ranging, but always focussed on the primary function and outputs of this particular committee. It was always clear that SPI-M-O was not constituted to generate policy ideas, but to model the current and future status of the pandemic and to provide modelling and interpretation of potential policy options when specifically commissioned by the Cabinet Office.

b) I have no particular insight in to this.

c) My impression was that the secretariat support to SPI-M-O was extremely professional in the way that the work of the committee was facilitated and managed. I never felt that there was insufficient resource available here. In addition, the facilities of DSTL and Professor Veronica Bowman's group in producing graphical outputs and combinations of model outputs was also very important.

I have to say that it became very clear to me that many of the people generating these models were working extremely hard to very short deadlines with often little rest or respite. On occasions the group leaders contributing were clearly very tired, but I'm not sure how this could have been mitigated. Although the work of these people has been acknowledged generously, internally from the then Prime Minister, and the Chief Scientific Advisor, I'm not sure if there is any real public understanding of the role these individuals played and the true value they added.

d) The primary output of the committee were consensus reports and modelling of potential policy options, and these were regularly scheduled for presentation at SAGE. I cannot comment on how these were discussed in SAGE.

e) Apart from one initial face to face meeting in January 2020, my recollection is that all subsequent meetings took place via video conference. People rapidly evolved an etiquette to allow these meetings to function effectively, as the membership grew to occasionally be of the order of 60 or 70 participants. My overwhelming impression is that the group worked extremely well and collaboratively, and there were very few occasions during which disagreements were aired in a "heated" manner. Different perspectives were encouraged and treated respectfully by the wider group membership, and this was assisted by the chairing of the groups by Professor Medley and Professor Dame Angela and on occasions other senior members asked to step in. From a personal point of view my contributions were of necessity limited as a non-modeller, however when I felt there was important clinical context that needed to be injected, I always felt that I had adequate opportunity to get my points across; occasionally my views on specific clinical questions were sought.

f) I have no comment

7 I have limited my key learning points to three areas. **Data Handling**. From the beginning of 2020 there was a substantial drive to provide near real time data via the NHS situation report to assist in management of the pandemic response. This was a substantial "ask" of Trust Business Intelligence Units who had limited personnel to deploy on to this task and many of whom were working from home. Thus, Trusts tended to look for solutions where they could utilise existing information systems to provide the information required. This resulted in them writing "code" which generated the data that was necessary to be returned for the NHS situation report. After the initial surge in 2020, it became apparent that there were idiosyncrasies in the data appearing in the "sit rep" which did not seem to accord with clinical experience at the time. A small analysis in my own Trust which was echoed by conversations which chief information officers in other Trusts, was showed that the original code had become less fit for purpose; Trusts were now dealing with a mixture of people who were new onset Covid and others who had historic Covid but were being admitted to hospital with other problems. The label of being Covid positive seemed to be an enduring characteristic within their record, and people were being miscoded as Covid admissions when in fact they weren't. See attached paper by Barnacle et al. The NHS business intelligence team in Leeds worked extremely hard to improve the definitions of the data required and the explanations of each of the variables and the sit rep developed as a result, but still retained idiosyncrasies. For the modellers this presented a challenge because they had little intimacy with the way the data they were being asked to use were generated at first instance. Fortunately, because models were being developed using a variety of different data sources, this was mitigated in the ensemble calculations of R and epidemic growth (provided in the consensus reports). What I learnt from this was that in times of severe strain, organisations and individuals who feel responsible for the management of challenging situations have an almost unquenchable thirst for information. The system for which they feel responsible does not necessarily have the capacity to generate these data and *ad hoc* processes need to be invented to generate said data. There may be real value in developing business intelligence within the NHS and wider systems that will be capable of generating, without convulsion, data required by central organisations and management structures. This infrastructure will require further investment and would need to be exercised and stress tested. It is possible that people feel that this is already in place and that NHS digital somehow has a solution for this. Not only would this be valuable in pandemic situations, but other public health emergencies and major incidents would potentially benefit from this.

One of the strengths of the SPI-M-O process was that a variety of different **methodologies** were used to estimate key characteristics of the pandemic and response to it. Subsequently this responsibility was taken over by UK Health Security Agency. One of the things that I learnt was that having a diversity of groups and modelling approaches, was a major strength in terms of resilience to individual data streams suffering interruptions of one form or another, or groups are being unable to produce estimates. Currently most of these

to pass the modelling of epidemic behaviour in its entirety to the UK Health Security Agency, then it would seem to me important that this diversity of model development and approach should be preserved.

My final learning point is the importance of **human relationships**. Many of the members of SPI-M-O were internationally renowned scientists who had very wide networks of colleagues and collaborators across the globe who provided early "looks" at data and insights into local interpretations of data which to me seemed invaluable; there is little substitute for on the ground intelligence. Much of this beneficial circumstance was due to the leadership that the UK has within the international scientific community, and that people had previously had the opportunity to develop relationships with colleagues and collaborators across the globe. It seems very important that such a situation is not allowed to reverse, Strengthening the UK's global scientific and disease control footprint and having positive relationships around the world, learning from these and of course, where possible, assisting others seems a useful strategic priority. The work of the committee which I was privileged to see first-hand benefited enormously from the positive relationships which the members of the committee had with each other, and this positive attitude was extended to members of the committee who joined either permanently or temporarily when they had something to add. This was in significant part due to the personal characteristics and organisational effectiveness of the committee chairs and the secretariat, which were delivering a consistent professional approach throughout.

8 I hold a small number of e-mails on very specific clinical issues which I will hold; from memory, all were copied to secretariat.

Yours sincerely,

PD

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