LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

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Personal Data

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Re. Module 2 of the UK Covid-19 Public Inquiry
Request for Evidence under Rule 9 of the Inquiry Rules 2006
Reference for Request - M2/SAGE/01/EF

23 September, 2022

Dear Tim Suter,

Please find below my responses to the Module 2 Request for Evidence questionnaire dated September 2, 2022 and in the attached documents to which I refer. I address each question in turn.

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

Please find attached my CV.

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.

Contributor to SPI-M-O:
I contributed to documents considered by SPI-M-O from May 2020 onwards. I formally signed a contributor agreement in November 2020 and attended SPI-M-O meetings until March 2022. Dates of meetings attended are on the attached spreadsheet.

In November and December 2020 I attended SAGE 68 and SAGE 71.

As part of these roles, I additionally took part in discussion with, or gave informal advice and comments to ONS, NHS Test and Trace, Department for Culture Media and Sport, and the Department for Transport on topics related to testing and contact tracing for COVID-19 in the UK.

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

a. When and how you came to be a participant

With academic colleagues, who included SPI-M members, I began working on epidemiological modelling of testing and contact tracing strategies for control of COVID-19 in the UK in the Spring of 2020, contributing to documents considered at SPI-M-O over Summer 2020.

In June 2020 I applied as Principal Investigator for a UKRI/NIHR COVID-19 Rapid Response Rolling call research project grant entitled *An analytical framework for Test, Trace and Isolate in the UK: investigating and targeting deployment alongside other measures*. This grant was awarded and ran from

01 September 2020 – 31 August 2021 (https://gtr.ukri.org/projects?ref=MR%2FV028618%2F1). The aim of this grant was to undertake research to inform the design and deployment of testing and contact tracing strategies for control of COVID-19 in the UK, and to provide evidence to rapidly inform decision-making. With Co-Investigators from a range of disciplines, and attending SPI-M and SPI-B, we proposed to provide evidence to inform test, trace and isolate (TTI) strategies via government scientific advisory channels. We began sending papers and analyses addressing key questions about TTI at the time in October 2020 and in November 2020 I signed a contributor agreement.

I attended SAGE 68 and 71 to present modelling analyses on the request of the SAGE and SPI-M secretariats in November and December 2020.

I continued to attend SPI-M meetings and to contribute to advice relating to TTI until early 2022.

b. The number of meetings you attended, and your contributions to those meetings;

I attended 46 SPI-M-O meetings and 2 SAGE meetings, as well as ad hoc meetings relating to test, trace and isolate strategies. Please see the attached spreadsheet detailing meetings I attended and/or associated documents that I contributed to. These documents include those which were either sent to SPI-M (presented or included as Any Other Business) or were sent to or via the SPI-M secretariat or Chairs in response to a specific question posed by them, or were presented to SAGE or were published by SAGE which I contributed to drafting. I have striven to compile this list as accurately as possible.

c. Your role in providing research, information and advice.

As stated above, I led a UKRI funded project to investigate TTI strategies, so I conducted research and responded to requests for advice in this area. Some of our work arose via specific requests from the SPI-M secretariat and some work was initiated via our project's consideration of questions we considered to be important and informative.

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.

Please see attached spreadsheet. I have provided links where these are public; papers presented to SPI-M-O meetings that are not publicly available are available via the DHSC Exchange site.

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.

Academic articles include some that have gone through the peer-review process and some which are under review at journals but available on preprint servers:

Kretzschmar ME, Ashby B, Fearon E, Overton CE, Panovska-Griffiths J, Pellis L, Quaife M, Rozhnova G, Scarabel F, Stage HB, Swallow B, Thompson RN, Tildesley MJ, Villela D. Challenges for modelling interventions for future pandemics. Epidemics 2022; 38. https://doi.org/10.1016/j.epidem.2022.100546

Fearon E*, Fyles M*, Overton C, University of Manchester COVID-19 Modelling Group, Wingfield, T, Medley GF, Hall I, Pellis L, House T. Using a household-structured branching process to analyse contact tracing in the SARS-CoV-2 pandemic. Philosophical transactions of the Royal Society of London. Series B, Biological sciences, 2021; 376(1829). https://doi.org/10.1098/rstb.2020.0267
*contribution considered equal

Pellis L, Scarabel F, Stage HB, Overton CE, Chappell LHK, Fearon E, Bennett E, Lythgoe KA, House TA, Hall I, University of Manchester COVID-19 Modelling Group. Challenges in control of COVID-19: short doubling time and long delay to effect of interventions. Philosophical Transactions of the Royal Society of London. Series B, Biological sciences 2021; 376(1829). https://doi.org/10.1098/rstb.2020.0264

Overton CE, Stage HB, Ahmad S, Curran-Sebastian J, Dark P, Das R, Fearon E, Felton T, Fyles M, Gent N, Hall I, House T, Lewkowicz H, Pang X, Pellis L, Sawko R, Ustianowski A, Vekaria B, Webb L. Using statistics and mathematical modelling to understand infectious disease outbreaks: COVID-19 as an example. Infectious Disease Modeling 2020; 5: 409-441. https://doi.org/10.1016/j.idm.2020.06.008

Fearon E, Buchan IE, Das R, Davis EL, Fyles M, Hall I, Hollingsworth TD, House T, Jay C, Medley GF, Pellis L, Quilty BJ, Silva MEP, Stage HB, Wingfield T. SARS-CoV-2 antigen testing: weighing the false positives against the costs of failing to control transmission. The Lancet Respiratory Medicine 2021; 9(7): 685-687. https://doi.org/10.1016/S2213-2600(21)00234-4

Silva MEP, Fyles M, Pi L, Panovska-Griffiths J, Jay C, House T, Fearon E. The role of regular asymptomatic testing in reducing the impact of a COVID-19 wave. https://arxiv.org/abs/2207.08495

Marshall GC, Skeva R, Jay C, Silva MEP, Fyles M, House T, Davis EL, Pi L, Medley GF, Quilty BJ, Dyson L, Yardley L, Fearon E. Public perceptions and interactions with UK COVID-19 Test, Trace and Isolate policies, and implications for pandemic infectious disease modelling. https://www.medrxiv.org/content/10.1101/2022.01.31.22269871v1

Fyles M, Vihta KD, Sudre C, Long H, Das R, Jay C, Wingfield T, Cumming F, Green W, Hadjipantelis P, Kirk J, Steves CJ, Ourselin S, Medley GF, House T*, Fearon E*. Diversity of symptom phenotypes in SARS-CoV-2 infections observed in multiple large datasets. https://arxiv.org/abs/2111.05728
*contribution considered equal

Other publicly available documents (some also detailed on attached spreadsheet):

SAGE. Considerations for potential impact of Plan B measures. October 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1027586/S1393_SPI-B_SPI-M_EMG_Considerations_for_potential_impact_of_Plan_B_measures_13_October_2021.pdf

Fyles M, Gledson A, Crowther P, Fearon E. Household Branching Process Testing Contact Model. https://zenodo.org/record/5139630#.YijKIN-nzz8 (Software). July 2021.

Fearon E et al. A response to 'Covid-19: Controversial rapid test policy divides doctors and scientists'. BMJ 2021; 372 doi: https://www.bmj.com/content/372/bmj.n81/rr (Rapid Response letter)

Fearon E, Fyles M and TTI modelling group. Comparison of quarantine and testing strategies to prevent onwards infection from infected travellers returning to the UK from abroad. SAGE. December 2020. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/950772/s0943-tti-modelling-group-quarantine-testing-strategies.pdf

Fearon E, Fyles M and TTI Modelling group. On the use of LFA tests in contact tracing: preliminary findings. SAGE. November 2020. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/950771/s0897-testing-of-traced-contacts.pdf

Recommendations for Augmenting Contact Tracing in the UK: Learning from Other Diseases. June 2020. Isaac Newton Institute for Mathematical Sciences, University of Cambridge. https://www.newton.ac.uk/files/preprints/ni20001.pdf

Conference abstracts, invited talks and seminars:

Fearon E. Lessons from research to support Test, Trace and Isolate policies in the UK. Isaac Newton Institute, University of Cambridge. Workshop on Asymptomatic testing and COVID-19. Jun 2022.

Fearon E. Use of data provided via the ONS Secure Research Service for advice about Test, Trace and Isolate (TTI) strategies for control of the COVID-19 epidemic in the UK 2020-2021. ONS Research Accreditation Panel meeting. Dec 2021.

Fearon E, Fyles M, Overton C, Pellis L, Hall I, Medley Graham F, et al. Considering household structure to improve the effectiveness of testing, tracing and isolation (TTI) interventions in the control of SARS-CoV-2 epidemics. Epidemics 8 conference. Nov 2021.

Fearon E. Test, trace and isolate strategies for the control of SARS-Co-V-2 in the UK. Department for Global Health and Development COVID-19 seminar series, LSHTM. Apr 2021.

Fearon E. Test, trace and isolate strategies for the control of SARS-Co-V-2 in the UK. British Mathematical Colloquium (BMC-BAMC). Apr 2021.

Fearon E and Fyles M. A household structured model of contact tracing. Isaac Newton Institute, University of Cambridge, Infectious Dynamics of Pandemics Workshop. Jul 2020.

Media:

We collaborated with PLUS magazine, which aims to demonstrate how maths is applied to real-world problems: https://plus.maths.org/content/going-flow-are-lateral-flow-tests-useful

I spoke to a journalist from the Financial Times about lateral flow testing prior to their writing this article (I had no part in drafting or approving it): https://www.ft.com/content/cbd0fb0a-8c41-4b9b-aa4c-0afa10619383

Workshop and event reports:

I was a speaker at the Virtual Forum in Knowledge Exchange in the Mathematical Sciences virtual study group on COVID-19 Safety in Large Events:
https://gateway.newton.ac.uk/event/tgm101

I organised a workshop for academic and civil service partners to discuss TTI methods in Dec 2021 alongside the Internal Centre for Mathematical Sciences and the JUNIPER research consortium.
https://www.icms.org.uk/events/2021/test-trace-and-isolate-epidemic-control-lessons-learnt-covid-19-uk-and-preparing-future

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:
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;
f. The extent to which applicable structures and policies were utilised and/or complied with and their effectiveness.

I primarily contributed via one sub-committee, SPI-M-O, and do not feel that I have a broad enough perspective on the whole process to answer this question.

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.

As above, I primarily contributed via one sub-committee, SPI-M-O, and do not feel that I have a broad enough perspective on the whole process to answer this question.

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.

The documents that I am currently aware of that are available to me include:

- Electronic copies of all the documents listed in my response to Q5 above or on the attached spreadsheet.
- I have code used to run models (model code also available at link above and linked to published papers).
- I have conference presentation powerpoints listed above.
- I have emails sent to and from my LSHTM email account.
- I have physical notebooks including ad hoc notes to myself made during this time period.

Yours sincerely,

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