

Witness Name:

Professor Marian Knight

Dated: 06/10/2022

Ref: M2/SAGE/01/MK

COVID-19 INQUIRY – MODULE 2

Questionnaire Response – Professor Marian Knight

1: Overview of qualifications, career history, professional expertise and major publications:

Qualifications

1.1. The following table outlines my qualification:

Table 1 – Qualification

1989	BA (Hons), Gonville & Caius College, University of Cambridge
1992	MBChB, University of Edinburgh
1993	MA, Gonville & Caius College, University of Cambridge
1998	DPhil, Lincoln College, University of Oxford
2001	MPH with Distinction, University of Birmingham
2006	FFPH, Faculty of Public Health

Employment History

1.2. The following table outlines my employment history:

Table 2 – Employment History

Feb 2012 – Present	Professor of Maternal and Child Population Health, National Perinatal Epidemiology Unit, Nuffield Department of Population Health, University of Oxford
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10/2021 – Present	Honorary Consultant in Public Health, Office for Health Improvement and Disparities
11/2006 – 02/2002	Senior Clinical Research Fellow/ University Research Lecturer, National Perinatal Epidemiology Unit, University of Oxford
02/2004 – 10/2006	Specialist Registrar Oxford Deanery Public Health Rotation, National Perinatal Epidemiology Unit, University of Oxford
11/2001 – 01/2004	Specialist Registrar Oxford Deanery Public Health Rotation, Oxfordshire Health Authority/ Cherwell Vale and North East Oxon PCTs
01/2000 – 10/2001	Specialist Registrar Oxford Deanery Public Health Rotation, Health Services Research Unit, Institute of Health Sciences, University of Oxford
02/1999 to 01/2000	Specialist Registrar Oxford Deanery Public Health Rotation, Department of Public Health and Primary Care, Buckinghamshire Health Authority
02/1998 – 02/1999	Senior House Officer, Dept. of Obstetrics and Gynaecology, John Radcliffe Hospital, Oxford
02/1998 – 02/1999	Clinical Research Fellow, Nuffield Dept. of Obstetrics and Gynaecology, University of Oxford
08/1993 – 01/1995	Senior House Officer, Neonatology (Newcastle) and Obstetrics and Gynaecology (Edinburgh)
08/1992 – 07/1993	House Officer, Edinburgh Hospitals

Professional Expertise:

- 1.3. I am a consultant public health physician and Professor of Maternal and Child Population Health at the University of Oxford, and my research focusses on prevention and management of uncommon and severe complications of pregnancy.
- 1.4. As part of my University research role I set up and have led the UK Obstetric Surveillance System (UKOSS) national research platform to study uncommon complications in pregnancy since 2005. I have led the Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK

(MBRRACE-UK) Confidential Enquiries into Maternal Deaths since 2012. I use a range of methodologies including observational studies, clinical trials and qualitative research. I lead the National Institute for Health and Care Research (NIHR) funded UK national surveillance study of hospitalisation with covid-19 in pregnancy which was activated on March 22nd 2020, having been funded in 2012 as part of the NIHR 'pandemic influenza' portfolio of hibernated studies.

1.5. More detail of the hibernated portfolio studies is contained in the following publications:

- a) Simpson CR, Thomas BD, Challen K, De Angelis D, Fragaszy E, Goodacre S, Hayward A, Lim WS, Rubin GJ, Semple MG, Knight M; NIHR hibernated pandemic studies collaborative group. The UK hibernated pandemic influenza research portfolio: triggered for COVID-19. *Lancet Infect Dis.* 2020 Jul;20(7):767-769. doi: 10.1016/S1473-3099(20)30398-4. Epub 2020 May 15. PMID: 32422199; PMCID: PMC7228695.
- b) Knight M, Brocklehurst P, O'Brien P, Quigley MA, Kurinczuk JJ. Planning for a cohort study to investigate the impact and management of influenza in pregnancy in a future pandemic. Southampton (UK): NIHR Journals Library; 2015 Mar. PMID: 25834863.
- c) Simpson CR, Beever D, Challen K, De Angelis D, Fragaszy E, Goodacre S, Hayward A, Lim WS, Rubin GJ, Semple MG, Knight M; NIHR hibernated influenza studies collaborative group. The UK's pandemic influenza research portfolio: a model for future research on emerging infections. *Lancet Infect Dis.* 2019 Aug;19(8):e295-e300. doi: 10.1016/S1473-3099(18)30786-2. Epub 2019 Apr 18. PMID: 31006605.

Publications

1.6. A full list of my publications is available via ORCID: <https://orcid.org/0000-0002-1984-4575>

2: List of groups I participated in and the relevant time period:

2.1. I participated in a SAGE meeting on 25 March 2021.

Other Covid-19 related participation

- 2.2. I presented to a Joint Committee on Vaccination and Immunisation (JCVI) Covid-19 meeting on 2 December 2021.
- 2.3. I also contributed to the Health and Social Care Select Committee; and the Woman and Equalities Select Committee meetings at which I discussed Covid-19 in pregnancy. Finally, I also participated in Department of Health & Social Care (DHSC) round-table events.

3: Overview of involvement in groups between January 2020 and February 2022:

SAGE

- 3.1. I was invited to the SAGE meeting 84 on 25 March 2021 by Professor Calum Semple, as the hospital admission data he had been using to advise the government throughout the preceding months had shown a pattern of higher admissions of women of reproductive age.
- 3.2. I was approached to explain the phenomenon as I had been collecting and analysing UK national data on covid-19 hospitalisations in pregnancy for the previous year. I attended only that meeting and was able to explain, based on the results of this study, that this was due to higher admission rates amongst pregnant women (due to more severe disease, lower vaccination rates, admissions because of fetal concerns and also due to asymptomatic cases identified on admission testing amongst women being admitted to give birth).

JCVI

- 3.3. On 2 December 2021, I gave a presentation to the JCVI on the findings of my research on covid-19 hospitalisations in pregnancy, together with the findings of an NIHR-funded study on neonatal Covid-19 on which I collaborate, and results from the MBRRACE-UK surveillance into maternal deaths, which I lead. This was at the invitation of Professor Lucy Chappell, DHSC Chief Scientific Advisor, to whom I had been continuing to highlight that pregnant women were at a higher risk of severe complications with more recent (alpha and delta) covid variants, coupled with low vaccination rates in pregnancy.

Other Covid related activities

- 3.4. I have not detailed my Select Committee or DHSC meeting contributions as I have assumed these are outside the scope of this rule 9 request.

4: Summary of documents to which I contributed for the purposes of advising the groups above:

UKOSS/ISARIC/CO-CIN: Females in Hospital with SARS-CoV-2 infection, the association with pregnancy and pregnancy outcomes

(UKOSS/ISARIC/CO-CIN: Females in Hospital with SARS-CoV-2 infection, the association with pregnancy and pregnancy outcomes, 25 March 2021 - GOV.UK (www.gov.uk))

- 4.1. Please see paragraphs 3.1 and 3.2 and the minutes of SAGE meeting 84 on 25 March 2021 ([SAGE 84 minutes: Coronavirus \(COVID-19\) response, 25 March 2021 - GOV.UK \(\[www.gov.uk\]\(http://www.gov.uk\)\)](http://www.gov.uk/government/collections/sage-minutes))

JCVI

- 4.2. Please see paragraphs 3.3 and 3.4 above and the minutes for meeting of 2 December 2021 (<https://www.gov.uk/government/groups/joint-committee-on-vaccination-and-immunisation>)

5: Summary of articles, interviews and/or evidence:

- 5.1. I have mentioned the issues of Covid-19 and pregnancies in the following articles, none in depth. I discuss this in an opinion piece for the BMJ ([Pregnancy outcomes and covid-19: benefits of a nine year gestation - The BMJ](#)).
- 5.2. I again consider this in more detail in another opinion piece for BMJ ([Pregnancy and the “presumption of inclusion” in research | The BMJ](#)).
- 5.3. I also participated in a WHO/Gates Foundation convening on Maternal Health Research and Emergencies, at which some of the deficiencies in the responses for pregnant women was highlighted. The final report is not in the public domain at present, but I have been given permission to share it with the Inquiry should you wish to see it.

- 5.4. I was interviewed for BBC Newsnight on 19 April 2022 ([Pregnant women 'an afterthought' during vaccine rollout - BBC Newsnight - YouTube](#)).

6: Views as to whether the work of the above groups in responding to the Covid-19 pandemic succeeded in its aims.

- 6.1. My involvement in these groups was very peripheral, and this response should be interpreted in that light.
- 6.2. At all stages of the pandemic emergency and research response the needs of pregnant women were considered late or not at all. In the initial stages of the pandemic, maternity services needed to continue to run despite the need for an emergency response to Covid-19, and yet staff were often inappropriately redeployed leaving women at risk.
- 6.3. Perinatal mental health services were similarly decimated resulting in fewer services at a time when women's mental health was more at risk. Pregnant women were not able to attend hospital with partner support, with very little recognition of the impact of this. I am not aware of anyone with pregnancy expertise who contributed to SAGE regularly until Prof Lucy Chappell was appointed Chief Scientific Advisor in August 2021.
- 6.4. The research response similarly excluded pregnant women. They were excluded from all the initial vaccine trials, and even when pregnant women began to be vaccinated, data were not collected on their outcomes, resulting in a lack of safety information. I saw the very real results of this with preventable deaths of unvaccinated women and babies in autumn and winter of 2021-22. I summarised this in the opinion piece noted above in March 2022:

“Almost two years into the global pandemic we continue to see the very real consequences of the exclusion of pregnant women from covid-19 vaccine trials, resulting in confused messaging around vaccine safety in pregnancy, and the subsequent lack of initial collection of—and then delayed publication of—data on pregnant women's outcomes after they were included in routine vaccination programmes. This despite 2018 guidance from the Pregnancy Research Ethics for Vaccines, Epidemics, and New Technologies (PREVENT) Working Group recommending the “presumption of inclusion” of pregnant women in vaccine studies and programmes together with incentive mechanisms to stimulate research and development including pregnant women. Our latest study shows that

even critically ill pregnant and postpartum women are not receiving evidence-based therapies for covid-19, such as steroids, which are standard care for non-pregnant people. We have tried to maintain the “presumption of inclusion” of pregnant women in the RECOVERY trial, precisely to prevent such inequitable care, but it continues to be a battle.”

- 6.5. These lessons have still not been learned. Pregnant women continue to be excluded from clinical trials (the latest being in relation to Monkeypox).

7: Lessons that can be learned

- 7.1. Please see paragraphs 6.2 to 6.5 above.
- 7.2. Also, for the purposes of full disclosure I would like to draw the Inquiry’s attention to the fact that my father died from Covid-19 on 5 April 2020, having been resident in a care home before his death.

8: Documents that I hold

- 8.1. I hold email records detailing my invitation to the SAGE and JCVI meetings, and email records concerning the iteration of the paper and presentations which I contributed to the meetings.
- 8.2. The SAGE paper and presentation I contributed are publicly available, as noted above.
- 8.3. I hold a copy of the presentation I made to the JCVI on 2nd December, which is summarised in the meeting minutes.