Rupert Beale – response to Covid-19 Public Inquiry

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

I am an academic physician on the specialist register for renal medicine.
My laboratory works on responses to viral infection, especially SARS-CoV-2 and influenza.

Qualifications:

2019	Fellow of the Royal College of Physicians
2009	Specialty Certificate in Nephrology
2004	MB BChir, University of Cambridge (MB/PhD programme)
2001-2004	PhD in molecular immunology, MRC Laboratory of Molecular Biology
1996-2000	BA Natural Sciences, Class I, University of Cambridge

Recent Employment:

Current:	Clinician Scientist Group Leader, Francis Crick Institute and UCL. Honorary Consultant Nephrologist, Royal Free Hospital
2015 - 2019	MRC Clinician Scientist Fellow; Division of Virology, Department of Pathology, University of Cambridge; Honorary Consultant Nephrologist.

Relevant funding/consortium membership:
UKRI: SIREN, Co-I with Susan Hopkins as PI at PHE/UKHSA
UKRI: Genotype to Phenotype UK "G2P-UK" National Virology Consortium (Co-I with virologist colleagues from nine other UK institutions)
Kidney Research UK: "Immunogenicity of COVID-19 vaccination in patients with renal disease" (PI with E. Carr, S. McAdoo and M. Willicombe Co-Is)

Most Relevant Publications:

Where I am a senior author and/or a member of my group is a first author:

Neutralising antibodies after COVID-19 vaccination in UK haemodialysis patients. Carr et al. *The Lancet* 2021 https://dx.doi.org/10.1016/s0140-6736(21)01854-7
(Haemodialysis patients respond poorly to vaccines and are critically vulnerable to SARS-CoV-2 infection, with case fatality rates in the UK above 20% prior to vaccination. We showed mRNA vaccines were surprisingly good at inducing neutralising antibodies to SARS-CoV-2 in haemodialysis patients. In contrast, the adenoviral vector vaccine elicited poor neutralising titres, in line with other vaccination responses in this critically vulnerable patient group.)

Three-dose vaccination elicits neutralising antibodies against omicron. Wu et al., *The Lancet* 2022 https://dx.doi.org/10.1016/s0140-6736(22)00092-7
(This is from the Legacy study, involving a collaboration between many Crick groups and UCLH. We showed for the first time using sera from a large number of vaccinated individuals that three doses of vaccine provides a substantial neutralising antibody response to omicron.)

Omicron neutralising antibodies after COVID-19 vaccination in haemodialysis patients. Carr et al., *The Lancet* 2022 https://dx.doi.org/10.1016/s0140-6736(22)00104-0
(We showed that a third dose of mRNA vaccine was reasonably good at inducing neutralising antibodies to Omicron in haemodialysis patients. Described by Prof. William Hanage, Harvard T. H. Chan School of Public Health, as "Extraordinarily important work on protection offered by boosters in a very clinically vulnerable group of patients.")

Relevant collaborative publications where I am not senior author:

Atti *et al.,* Antibody correlates of protection from SARS-CoV-2 reinfection prior to vaccination: a nested case-control within the SIREN study doi: 10.1016/j.jinf.2022.09.004. Online ahead of print. *J Infect* (2022)

Fendler, A. *et al.* Immune responses following third COVID-19 vaccination are reduced in patients with hematological malignancies compared to patients with solid cancer. *Cancer Cell* **40**, 438 (2022).

Fendler, A. *et al.* Omicron neutralising antibodies after third COVID-19 vaccine dose in patients with cancer. *The Lancet* **399**, 905–907 (2022).

Tut, G. *et al.* Strong peak immunogenicity but rapid antibody waning following third vaccine dose in elderly residents of care homes. (2022) doi:10.21203/rs.3.rs-1576609/v1.

Wall, E. C. *et al.* AZD1222-induced neutralising antibody activity against SARS-CoV-2 Delta VOC. *Lancet* **398**, 207–209 (2021).

Hellewell, J. *et al.* Estimating the effectiveness of routine asymptomatic PCR testing at different frequencies for the detection of SARS-CoV-2 infections. *BMC Med* **19**, 106 (2021).

Wall, E. C. *et al.* Neutralising antibody activity against SARS-CoV-2 VOCs B.1.617.2 and B.1.351 by BNT162b2 vaccination. *The Lancet* **397**, 2331–2333 (2021).

Pairo-Castineira, E. *et al.* Genetic mechanisms of critical illness in COVID-19. *Nature* **591**, 92–98 (2020).

Houlihan, C. F. *et al.* Pandemic peak SARS-CoV-2 infection and seroconversion rates in London frontline health-care workers. *The Lancet* **396**, e6–e7 (2020).

Ng, K. W. *et al.* Preexisting and de novo humoral immunity to SARS-CoV-2 in humans. *Science* **370**, 1339–1343 (2020).

Aitken, J. *et al.* Scalable and robust SARS-CoV-2 testing in an academic center. *Nat Biotechnol* **38**, 927–931 (2020).

Reviews and Commentaries:

Altmann, D. M., Boyton, R. J. & Beale, R. Immunity to SARS-CoV-2 variants of concern. *Science* **371**, 1103–1104 (2021).

Houlihan, C. F. & Beale, R. The complexities of SARS-CoV-2 serology. *Lancet Infect Dis* **20**, 1350–1351 (2020).

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.

Chair of Universities Testing Expert Panel (reporting to Cabinet Office/DfE)
From August 2020 until March 2022

Member of PHE Serology Working Group (Subgroup of SAGE)
From April to August 2020

Member of Advisory Group for Antibody Testing (reporting to DHSC)
From August 2020 until May 2022

Member of COVID-19 nMABs Access and Policy National Expert Group (reporting to DHSC)
(Ongoing)

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

I was invited to the PHE serology working group due to the Crick's expertise in SARS-CoV-2 testing and antibody responses. I was subsequently invited to other groups due to the utility of previous advice (I presume). The advice and views I contributed were in a personal capacity.

I attended the great majority of meetings of these groups and provided advice on PCR and antigen based testing regimes, antibody testing, viral immunology, the importance of responses in vulnerable groups.

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.

The most relevant to SAGE will have been reports sent by the PHE Serology Working Group and Advisory Group for Antibody Testing. These will be available from the chairs of those groups.

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 provided some written commentary, notably at the London Review of Books. I also wrote for the Spectator, and the Guardian (I did not write the headlines). This was all in a personal capacity.
https://www.lrb.co.uk/contributors/rupert-beale
https://www.spectator.co.uk/writer/rupert-beale
https://www.theguardian.com/profile/rupert-beale

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.

In general these groups were well constituted and provided good advice. This advice was not always timely, and secrecy surrounding the group's operations hampered effective discussion that could have improved the quality and timeliness of advice.

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.

Wherever possible the membership of such groups should be made known, and summaries of their advice should be made public as soon as practicably possible. The secrecy in the early phase of the response contributed to confusion and lowered the quality of early advice. I am glad that this has been to some extent rectified.

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.

I have a number of emails and documents pertaining to some elements of the discussions within groups.