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Rt Hon. Yvette Cooper MP
Chair, Home Affairs Committee
House of Commons
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Dear Chair,

Thank you for your letter of 11 May. I was also pleased to have the opportunity to speak to you directly on 13 May as part of the Science and Technology Select Committee evidence session.

You asked for a swift reply to your letter. However, as I was encouraged to hear that SAGE was going to be publishing a large amount of material, which has recently occurred, I felt it would be more appropriate and useful to reply to your letter once this had happened.

I believe that almost all the answers to your questions can be found directly in the material published by SAGE. Science advice around the border has been prominent in discussions from the start of SAGE meetings and I'd particularly like to draw your attention to the minutes of the meetings of 3 February and 4 February, where you will see that measures around the border and international travel were prominent in the meetings. Indeed, your questions around the limited amounts of delay that would have been potentially possible if strict measures had been imposed are addressed in those minutes.

The paper from 23 March on the border has also been published, showing that we were considering cases from high prevalence countries directly to understand the risks posed. To be completely clear, individual prevalence estimates on a per country basis were used to make the assessment that the effect of closing borders would have a negligible effect on spread of COVID-19, based on the fact that numbers of cases arriving from other countries were estimated to be insignificant in comparison with domestic cases, comprising approximately 0.5% of total domestic cases.



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I would like to make clear that in addition to frequent discussion of questions around the border at SAGE, science advice was also given in relation to the recent announcements around the changes in regulations at the border, including on the scientific evidence around potential exemptions.

You asked specific questions around two papers which were used in SAGE. The paper discussed on 13 February was informed by a paper that has now been published in the journal Science. It is available at <https://science.sciencemag.org/content/368/6489/395> if the Committee would like to read its contents. The second paper from 23 March has now been published by SAGE, as previously mentioned.

There has been significant interest in the scientific advice given in regarding the recent announcements on health measures at the border. Following the Home Secretary's statement to the House of Commons on Wednesday, I think it would be useful for me to reflect in this letter the range of questions from MPs on the scientific advice I provided as part of the decision-making process. Therefore, as an addendum to this letter I attach a summary of the science advice that I have given about border measures, which I hope you find of use. I should be clear that this is purely my science advice and does not take into account any operational or other considerations.

Finally, I would like to state that the Home Secretary, Ministers and Officials in the Home Office have constantly asked for scientific advice when making decisions around COVID-19. When giving such advice, I have made it clear what we both do and do not know about the virus and the science more generally, and indeed where the evidence has improved as we have learnt more. However, as is stated in the SAGE minutes, the level of risk tolerable at the border, given all the other aspects that also need to be considered, is not a purely scientific question.

Yours sincerely,

Professor John Aston



Summary of Scientific Evidence Base on Border Health Measures

- 1. The scientific advice was very clear** that additional border restrictions would have had negligible impact on the spread of the epidemic within the UK while there was significant community transmission within the country. This is because at that point, imported cases contributed a tiny proportion of the number new infections.
- 2. Imported cases matter most when the UK has a low level of infection.** As the UK moves to a situation where local incidence and prevalence is lower relative to some international incidence and prevalence, imported cases could become a higher proportion of the overall number of infections. We have been successful in getting the reproduction number, R , below 1 in the UK. We are now seeing the state of the epidemic vary in different parts of the world, with some places seeing increases in infections and others, like the UK, seeing decreases. In countries where the prevalence rate is higher than the UK, it would be expected that arrivals would increase the prevalence rate in the UK. There is no scientific 'tipping point', but we are moving towards a situation where it could be more important to manage the risk of infections being introduced from elsewhere. The level of tolerable risk from infections being brought in from overseas is not a scientific question.
- 3. If we wish to implement border health measures, currently a mandatory self-isolation approach is best way to achieve this.** Other border measures – including the sole use of temperature screening, health validation forms and medical certificates – have been proposed and discounted at this stage on the basis that these cannot be justified on public health grounds because they are not, at present, effective or reliable in identifying or screening for COVID-19. For example, temperature screening would not detect disease in people who have not yet developed symptoms or for who raised temperature is not a symptom - or people who have the disease but are asymptomatic. If the asymptomatic rate is as high as 50% then temperature checks would miss at least 1 out of every 2 cases. If mandatory self-isolation is used, then the natural length of time would be 14 days to coincide with the public health advice around self isolation.
- 4. While we would only want to impose mandatory self-isolation measures on people arriving from countries that have higher prevalence,** we should be clear that the data available to determine international prevalence is uncertain, as there are effects of under-reporting in all countries (including the UK) due to not everyone who is infected having a confirmed positive test. The level of uncertainty is not uniform across all countries, and it is clear that some countries have very low prevalence.