Message

From: Whitty, Chris [Chris.Whitty@dhsc.gov.uk]
Sent: 29/01/2020 20:33:05
To: Ferguson, Neil M [redacted]; john.edmunds [redacted]
CC: Patrick Vallance [P.Vallance1@go-science.gov.uk]; [redacted]@phe.gov.uk]; Van Tam, Jonathan [Jonathan.VanTam@dhsc.gov.uk]
Subject: Re: delay

Thanks both very much.

I will need to think this through. All very useful points; the ones in school closure probably have the greatest practical impact.

Chris

From: John Edmunds <[redacted]>
Sent: Wednesday, January 29, 2020 7:34 pm
To: neil.ferguson [redacted]; Whitty, Chris
Cc: Patrick Vallance; [redacted]; Van Tam, Jonathan
Subject: Re: delay

Chris,

I think that Neil has summarised this very nicely. I have nothing much to add. My comments are:

1. Given the apparent speed of spread, it seems unlikely that contact tracing and isolation is going to be effective at buying us much time. Our experience of pandemic flu also suggested that this was rather ineffective and very resource intensive for PHE. We are looking at this issue more formally, however, and I will try and get something to you as soon as possible.
2. With regards more general measures to slow transmission in the community, the only one with any good evidence of effectiveness is school closure. As Neil rightly points out, if there is a lack of immunity across all ages (which is in contrast to the 2009 pandemic when adults had evidence of protection), then we would expect school closure to be less effective in this epidemic than in the pandemic. At present we have virtually no information on the age distribution of cases. This means that we have no way of inferring the role that children might play in spreading the disease. Until we know something about this (ideally along age-serological data on infections), we will have no idea of the potential impact of school closure. It is something that we can start to do quite quickly, however, if we get such data.

One other, unrelated issue:

I notice that returning individuals will be asked to quarantine themselves for 14 days. This may be a bit over the top. There is a nice paper by Jacco Wallinga's group that suggests that the mean incubation period is about 5 days. The upper CI on the mean is 7 days, with an upper limit of the range of of estimates being 11 days. This is now on Medrxiv (https://www.medrxiv.org/content/10.1101/2020.01.27.20018986v1) and has been submitted to peer review. I also enclose a copy of it here. I anticipate that this will be formally published very soon.

I have unfortunately missed both SAGE and NERVTAG this week (long-standing commitment) and so you may have discussed these data at those meetings. If you have, then ignore the above. I am bringing it to your attention, in case it has not been covered.

Best wishes,

John

From: Neil Ferguson <I&S>
Date: Wednesday, 29 January 2020 at 11:12
To: "Whitty, Chris" <Chris.Whitty@dhsc.gov.uk>, John Edmunds <I&S>
Cc: Patrick Vallance <P.Vallance1@go-science.gov.uk>, NR <NR @phe.gov.uk>, "Van Tam, Jonathan" <Jonathan.VanTam@dhsc.gov.uk>
Subject: Re: delay

So delaying arrival requires either stopping travel from China or very intensive screening and follow-up of travellers. We can provide some crude estimates of delays achievable but I think John has being doing more on this. Predictions will depend on the frequency of mild cases which might still transmit.

If you are more referring to delaying the peak if the epidemic via public health interventions, it is harder to produce predictions. There are two broad classes of such interventions: 1. case based such as isolation of cases and contact tracing; and 2) community level interventions - principally school closure.

Case based interventions are not easily scaleable beyond a certain point, obviously - the challenge China is facing now, and which West Africa faced in the Ebola epidemic. Community interventions are more scaleable but generally have high socioeconomic impacts.

Given how little we know about transmission, the best we can do is scenario analysis - looking at a range of feasible possibilities for who transmits and when, and asking what the effectiveness of different measures might be. For instance, a SARS like scenario (most transmission from severe symptomatic cases) would show a high effectiveness of case based interventions, but limited or no impact of school closure. A flu like scenario (mild cases transmit as well as severe) would show limited impact of case based interventions (assuming surveillance would likely only pick up severe cases) but some level of impact of school closure (making quite a few assumptions). Though almost certainly a much lower impact than seen in 2009, when school holidays pushed R to <1.

While we are gearing up to be able to generate such scenarios (and to eventually be able to fit models to UK data and make actual predictions), I worry about how scenarios generated now might be misinterpreted in guiding policy. In essence I think we will be adding pretty graphs and numbers to what I've said above. Saying policy X might delay the peak by 6 weeks in scenario Y doesn't tell us anything about the likelihood we are in that scenario.

Given all that, let me know what value/priority you would give to such work, within what timescales, and we will see what we can do!

Best,

Neil

From: Whitty, Chris <Chris.Whitty@dhsc.gov.uk>
Sent: Wednesday, January 29, 2020 10:21:03 AM
To: Ferguson, Neil M <I&S>; john.edmunds <I&S>
Cc: Patrick Vallance <P.Vallance1@go-science.gov.uk>; NR <NR @phe.gov.uk>; Van Tam, Jonathan <Jonathan.VanTam@dhsc.gov.uk>
Subject: delay

Dear Neil and John