From: Ferguson, Neil M <neil.ferguson@ **1&S** Sent: Friday, February 21, 2020 11:00:40 PM To: Whitty, Chris <Chris.Whitty@dhsc.gov.uk>; Vallance, Patrick (GO-Science) <P.Vallance1@go-science.gov.uk>; Van Tam, Jonathan < Jonathan. Van Tam@dhsc.gov.uk > **1&S** Cc: Jeremy Farrar < J. Farrar@ >; john.edmunds@ 1&S <john.edmunds@ >: Peter Horby <peter.horby@ I&S >; Van Tam, Jonathan <Jonathan.VanTam@dhsc.gov.uk>; Harries, Jenny <Jenny.Harries@dhsc.gov.uk> Subject: Re: Local spread in Europe Happy to continue at SAGE. But to clarify - I am really not suggesting we abandon containment. Just accelerate plans for what happens if it fails. Best, Neil From: Whitty, Chris < Chris. Whitty@dhsc.gov.uk> Sent: Friday, February 21, 2020 10:55:46 PM To: Ferguson, Neil M <neil.ferguson@ **1&S** ; Patrick Vallance <P.Vallance1@go-science.gov.uk>; Van Tam, Jonathan < Jonathan. Van Tam@dhsc.gov.uk > >; john.edmunds@ **1&S** <john.edmunds@ **1&S** Cc: Jeremy Farrar < J. Farrar@ **1&S** >; Van Tam, Jonathan < Jonathan. Van Tam@dhsc.gov.uk >; Harries, Jenny <peter.horby@</pre> <Jenny.Harries@dhsc.gov.uk> Subject: Re: Local spread in Europe Thanks Neil I think these debates are best done within SAGE not by email. I suggest we wait til then. The implications of the UK being the first country in the world to abandon containment on the basis of this analysis, which is the logical implication if we are certain, are non trivial. We need to be very confident before we give scientific advice that leads to that, and it should be through the SAGE mechanism. That is what it is for.

Chris

From: Ferguson, Neil M <neil.ferguson@ I&S >
Sent: Friday, February 21, 2020 9:16:12 PM
To: Whitty, Chris <Chris.Whitty@dhsc.gov.uk>; Patrick Vallance P.Vallance1@go-science.gov.uk>; Van Tam, Jonathan
<Jonathan.VanTam@dhsc.gov.uk>
Cc: Jeremy Farrar <J.Farrar@ I&S >; john.edmunds@ I&S <john.edmunds@ I&S ; Peter Horby
<pre>cpeter.horby@ I&S >; Van Tam, Jonathan <Jonathan.VanTam@dhsc.gov.uk>; Harries, Jenny
<Jenny.Harries@dhsc.gov.uk>

Subject: Re: Local spread in Europe

Thanks Chris. I will respond more fully tomorrow. I agree with 90% of what you say. But I really do feel that it is not a matter of if but when. That is not just my personal opinion, but is where all the data is pointing. I agree that is may be that China has reversed spread - but using interventions on a scale it we would be hard to implement here, and at an enormous cost. And likely only buying temporary respite.

That degree of control is also too late for the rest of the world. There are likely several hundred cases in Iran, and likely the similar numbers in Italy. And very likely in several of not most large European countries. Many more in Japan and Korea.

So I am reminded of the BSE enquiry conclusion of >30 years ago that governments should not view absence of evidence as evidence of absence. I think the epidemiological data - while patchy - suggests that we should be acting on the assumption that sustained transmission is happening now in the UK. And only de-escalate if we can demonstrate - through surveillance - that it is not.

Best,

Neil

From: Whitty, Chris < Chris. Whitty@dhsc.gov.uk> Sent: Friday, February 21, 2020 7:04:06 PM ; Patrick Vallance < P. Vallance 1@go-science.gov.uk >; Van Tam, To: Ferguson, Neil M <neil.ferguson@ I&S Jonathan < Jonathan. Van Tam@dhsc.gov.uk> **1&S** Cc: Jeremy Farrar < J. Farrar@ >; john.edmunds@ <john.edmunds@ ; Peter Horby **1&S** I&S ; Van Tam, Jonathan < <u>Jonathan.VanTam@dhsc.gov.uk</u>>; Harries, Jenny <peter.horby@</pre> **1&S** <Jenny.Harries@dhsc.gov.uk> **Subject:** RE: Local spread in Europe

Dear Neil and John

Thanks for previous emails, and this from Neil v useful on the data. Patrick and I have discussed.

An event like this in the UK could obviously happen at any point. It is not easy to predict when; it may be very soon, in weeks or (if the epidemic recedes in Asia and elsewhere) never. Failure of contact tracing is obviously one possible reason, but failure of people with minimal symptoms to identify their importance, or choosing not to come forward even if they do (eg because of risk of stigmatisation) is another. This becomes more difficult as the geographical spread makes targeting both case identification and messaging about what to do with symptoms based on geography less useful.

It is important we separate out issues of science, issues of informed opinion/speculation, and issues of policy or operations. SAGE is about science, including uncertainty. How we should respond if/when we get such an outbreak will depend on multiple factors including in particular whether we are still in a global containment phase (still the current global stance), and the scale and location of any outbreak in the UK.

There will as you imply be a tradeoff between epidemiological effectiveness of an intervention to an outbreak, and the social and economic costs of these. We are going to rely on SAGE, and modelling specifically, for the epidemiological effects of different interventions, as without understanding this it is not possible to balance these against the negative social impacts. SAGE behavioural science may help with some, but not all, of the other side of the equation (eg social costs); SAGE it is not constituted to determine economic or operational costs which are considered elsewhere. At the end the decisions on the tradeoffs between these will have to be a policy one, probably by Ministers informed by the science. The clearer the science is (including the degree of uncertainty) the easier it will be to make rational policy decisions. But I am keen to keep science and informed speculation reasonably clearly separated.

I am very much of the view we should be making clear what we know, and where we are less certain, to the public, as well as laying out our tactical aims (contain, delay, research, mitigate) which are clearly predicated on the idea that containment may not work. I have said explicitly in the media both that this could become an uncontained global epidemic (but also may not), and that even if not we could have some onward transmission in the UK. I am however not convinced that presenting speculative scenarios are always helpful in public understanding.