

## School closures and working from home

Steven Riley

I&amp;S

9 March 2020 at 09:28

To: Graham Medley &lt;I&amp;S&gt;

Cc: SPI-M &lt;SPI-M@dhsc.gov.uk&gt;

Thanks Graham,

I appreciate the feedback and your point about putting it on A4 is well taken. I do not expect anyone to argue for these points over and above their self-evident value. I provide them in case they are useful. I am having some internal issues getting that paper out.

I have not seen evidence about age specific differential economic burden during the epidemic. But I suppose it must be true, because young people need health care far less than older people and their IFR is much lower.

I have to assume that the economic analysis has correctly weighed the \_absolute\_ impact of attempting mitigation (with an IFR of 5% in the absence of ICU) on young people. In emergencies, equity considerations do not come into play if the least advantaged group are not better off under the more equitable policy in absolute terms IMO.

To be honest, I have not seen any economic analysis of an  $R_t = 1.3$  epidemic with an IFR of 5% (in the absence of ICU) but it keeps being implied to me by Neil and others. I am happy to go sit in a room somewhere and review that evidence or to give an opinion on email. An awful lot of our decisions seem to rely on the idea that the above scenario has some kind of economic advantage over the alternatives.

Again, I wish no more attention to be paid to these points than is self evident in them.

Thanks for your careful chairing of the group, and I fully appreciate the very difficult task you have to field the input from members of SPI-M

Best

Steven

On Mon, Mar 9, 2020, 8:54 AM Graham Medley <I&S> wrote:

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Hi Steven

I feel your increasing levels of concern, which I understand. I am not disagreeing with you, but it's still only an idea. I cannot push it at policy level (i.e. on SAGE) without SPI-M agreement. I can't get SPI-M agreement if you can't write it down in a page of A4.

If I understand your argument it is this:

We know that dramatic SD works (China, HK, SG)

Partial SD appears to be less successful (Italy, ?)

RWC might turn out to be more R than we would like - and even 50% RWC is disastrous.

We have a choice now: Full or Partial

If we go F, then we prevent disaster but have effectively painted ourselves into a corner until a vaccine / drug. I am not sure that your argument that we discount everything after 3 weeks is accurate. However, we will have saved lives but at enormous cost (health, economic etc).

If we go P, and it works (i.e. we have a slow epidemic) then we have won. If we go P and it fails to curtail then we have a different disaster.

If we assume that P will fail, then the decision is just about the balance between the health costs of an epidemic vs. not-epidemic. There is an equity dimension in that a lot of the health costs of F will be borne by people who would not otherwise be greatly affected.

Personally, I am not convinced that P will not work (I give it 50:50), and so am balanced towards preferring P.

This is under the assumption that herd immunity will develop after one infection - there is some discussion about this. See the paper I posted on SPI-M slack about repeat infections. If we need multiple infections to develop immunity (that is partial and temporary), then we are really in trouble.

However, this is not our decision. What we can do is point out explicitly that P might not work and that we will have a big epidemic. I think that we have already done that, but if you wish to make an argument, then please just write it down and I will support it. If you feel that the argument is more economic and moral than modelling (and it might be), then please make it on another forum - but I am still happy to have it on SPI-M.

This is a deeply concerning time, but we must hold to evidence and rational argument.

Best wishes

Graham

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Dear SPI-M and Graham,

Things seem to be moving quickly. The BBC reports a PM-led Cobra meeting today that may be ahead of our meeting. Therefore, I provide here comments that may be useful.

It is my considered scientific opinion that we should implement school closures and working from home where possible and any other social distancing measure we can for the next three weeks. Starting as soon as possible.

Given our numerous models and concrete examples from other countries, business as usual will likely lead to the (at least partial) collapse of our health service within that time. This virus is not an existential threat to human society. But it's obviously an existential threat to our economy as we know it and also an existential threat to the NHS. Concrete examples from overseas strongly support these statements.

This then leads to a discussion of what do we do in three weeks. Which is an important question, but we have three weeks to answer than it. If you look back three weeks, the world was a very different place. Therefore, we need to discount heavily decisions not needed for three weeks.

There will be numerous overseas examples in 3 weeks. At that point, we can offer the British public a choice between returning to business as normal or taking up our next best suggestion at that time. It is my considered scientific opinion that the global situation will be very different in 3 weeks and that it is important to consider that likely difference now.

Also, I know of at least one plausible suggestion of a way to achieve ongoing containment supported by rapid contact tracing. I assume here that you are aware of the effort led by Christophe Fraser at Oxford based on ideas in our 04 PNAS paper. That is only one example of how things could change in 3 weeks with sufficient commitment.

More generally, we may have to consider the possibility that mitigation may "fail". There has been lots of discussion about how ongoing containment in other countries will likely fail (as it may well) but we have assumed that, under mitigation, transmission will remain reasonably high and the epidemic will end soon with high herd immunity. I am not sure this is true. I do not have a detailed paper ready for this yet, but, if possible, I would like to suggest it as a hypothesis at the meeting today and seek feedback from others.

At the very least, I need to comment that our realistic worst case curves have been mistakenly reported as likely. As per CMOs comments to parliamentary committee. If SAGE would like a long term most likely scenario for the UK under current policy, that should be requested explicitly.

Sorry to write a long email early. It is a direct response to the report that the PM will decide social distancing today.

This is an emotional time but this email represents my considered opinion as a biological scientist, having spent much of my adult life thinking about all aspects of the outbreaks and pandemics of respiratory viruses in humans. The committee is described as a modelling committee, but that does not preclude our opinions as biological scientists.

Best

Steven