SPI-M: views on intervention timings in advance of tomorrow morning's SAGE

Steven Riley <s.riley@I&S> 12 March 2020 at 12:05
To: "Ferguson, Neil M" <neil.ferguson@I&S>

NP -

My plans for this are:

1) Circulate to the team here. I will explain that you and I have different voices in UK Gov (as do many members of the team) and that you gave very helpful comments. I know you share some of the concerns raised in the paper but that you have a different view about some assumptions. Don't feel you have to comment ! :) But feel free to. I will read any comments very carefully and reply politely.

2) Improve the note and circulate for the WHO call tomorrow. As long as I make it clear that I am making assumptions about R0 changes, I do want that group to see the dynamic regime I outline.

3/4) Look at age-specific cocooning in the same framework. Use the stochastic version to get an accurate assessment of the deaths in the elderly given a certain efficacy of cocooning. The R0 drop will be less of an issue because it will only be a per-case probability of avoiding that is important. But it will be interesting to see what the population susceptibility looks like on the other side. I also worry about everyone else being infectious enough once we have completely re-organizsed our society to protect the over 55s. Again, we could easily end up in a low R0 purgatory.

4/3) Think about submitting this as an opinion / article if the current set of interventions in the UK is stringent enough that it might be likely to land us in an R0=1 regime or close. I will offer to include members of the team here that might want to join. If I don't get enough support, I'll seek help from outside! I would still love for this to be report on our site, but I understand that may not be possible.

One last point. I know you don't make decisions, but you could be asked at SAGE directly if you think ongoing containment should be a new policy. Obviously, you are going to give your opinion! But please consider the very specific dynamic regime I outlined in the note as a mechanism of "failure" of mitigation, and our experience observing populations respond to SARS, Ebola and MERS. I do accept that behavioural science exists that there may be evidence that R0 stays high that I have not sen, but given the general lack of understanding of the threat, I am sceptical that that work has been done well enough to overcome my strong prior from SARS, Ebola and MERS.

Thanks again for handling the most difficult aspects of gov interactions.

best

Steven

On Wed, 11 Mar 2020 at 19:58, Ferguson, Neil M <neil.ferguson@I&S> wrote:

> Sorry I haven't had time to reply - snowed under. Let's try to talk tomorrow
>
> Best,
>
> Neil
>
> ---
>
> **From:** Personal Data on behalf of Steven Riley <s.riley@I&S>
> **Sent:** Wednesday, March 11, 2020 3:03:14 PM
> **To:** Ferguson, Neil M <neil.ferguson@I&S>
> **Subject:** Re: [External] SPI-M: views on intervention timings in advance of tomorrow morning's SAGE
>
> Hi Neil,
>
> I understand. But I don't believe they will have a model for the virus keeping Rt below 1. I cannot believe that is better than us doing it.
>
> I always like my work :) but I believe the implications of the note are important for exactly this point. I don't think it matters how bad proactive economic lockdown is, because reactive economic lockdown will be worse. That's very different to not caring about people who will suffer hardship.
>
> Not sure I can publish this but I do want to get the ideas out. If I took actual numbers out of table 1 and went for very good peer review (science), would you consider joining as an author (and inviting the rest of the team).
>
> Cheers
>
> Steven
>
> On Wed, Mar 11, 2020, 11:28 AM Ferguson, Neil M <neil.ferguson@I&S> wrote:
>
> > I understand your view. But just bear in mind the Treasury advice is that 6 months of intense social distancing - sufficient to achieve R<1, is predicted to drive deep recession and massive business failures and job losses. I spoke to someone on the US Fed interest committee last night. The epidemic is already going to cause a larger recession than the 2008 crash, even with massive bailouts and rescue packages. These effects will resonate for years, especially among the most disadvantaged. As I've said many times, I don't think there is a clear cut best strategy.
> >
> > Best,
> >
> > Neil
> >
> > ---
> >
> > **From:** Personal Data on behalf of Steven Riley <s.riley@I&S>
> > **Sent:** Wednesday, March 11, 2020 11:04:32 AM

To: Ferguson, Neil M <neil.ferguson@ I&S
Subject: Re: [External] SPI-M: views on intervention timings in advance of tomorrow morning's SAGE

Thanks Neil,

Very much appreciate the email.

I think it will be a valuable debate to have today. We in SPI-M have to manage with the information we have. I think the lack of stomach for more than 3 or 4 months is driven by the thought that there is an alternative.

Best

Steven

On Wed, Mar 11, 2020, 10:50 AM Ferguson, Neil M <neil.ferguson@ I&S wrote:

> Accepted.
>
> I am serious regarding what govt will listen to. They are selling the current strategy and measures being considered as being strongly based on science advice. Today I am generating multiple sensitivity analysis for the Cabinet Office looking at how impact varies with the extent of contact reduction/isolation achieved. They're also doing a bunch of behavioural research to try to judge likely compliance with a fair range of methods.
>
> If we can detail an alternative feasible strategy, we might be able to persuade them to modify current policy. In the absence of that, we will not make much progress. Just saying mitigation might fail is unlikely to make an impact. Hence my emphasis on making sure the government really do understand what the UK will look like in 8 weeks' time under the current strategy. Now is the time for them to have second thoughts. Spontaneous social distancing is possible but I think the outcome you modelled is unlikely. But agree that such distancing – if it happens - might extend the epidemic in an unpredictable manner. However, I think it's much more likely is that the govt loses its nerve and imposes additional measures. Similar outcome, but something politicians find easier to think about.
>
> I will find out tomorrow what COBR views are on the acceptability of the peak few weeks in a mitigation scenario. If they feel – with NHS advice – that they think they can see the current strategy through, it will go ahead. Though I suspect we might be asked to model interventions which might further flatten and extend the peak (beyond school closure, which we've already done).
>
> For what it's worth, I've previously modelled containment strategies for them. There was zero appetite for community measures which would last for more than 3-4 months. We will produce modelling results for the contact tracing app this week though. That might get more traction, but likely only as a supplement to the current policy.
>
> The one aspect of the current policy which isn't compatible with long term containment is social isolation of the elderly and risk groups. The other two (home isolation of cases and household quarantine) would likely need to be adopted in a containment strategy anyway.
>
> **From:** Personal Data **On Behalf Of** Steven Riley
> **Sent:** 11 March 2020 10:21
> **To:** Ferguson, Neil M <neil.ferguson@ I&S
> **Subject:** Re: [External] SPI-M: views on intervention timings in advance of tomorrow morning's SAGE
>
> Sorry Neil. You are quite right. I misread that sentence of your reply.
>
> On Wed, Mar 11, 2020, 10:04 AM Ferguson, Neil M <neil.ferguson@ I&S wrote:
>
> > Not acceptable. Esp on a public list. You were commenting on you view on our role. I merely commented that your view of our role is not what govt thinks.
> >
> > And BTW – making comments regarding policy at the end of a paper is not advising on policy. Something I would humbly submit I have done rather more of than anyone else on SPI-M. Including you.

From: Personal Data **On Behalf Of** Steven Riley
Sent: 11 March 2020 09:56
To: Ferguson, Neil M <neil.ferguson@ I&S
Cc: WOOLHOUSE Mark <mark.woolhouse@ I&S Graham Medley <Graham.Medley@ I&S Chris Jewell <c.jewell@ I&S SPI-M <SPI-M@dhsc.gov.uk>; Andre.Charlett@phe.gov.uk; Chris.robertson I&S Daniela De Angelis <daniela.deangelis@ I&S ; Edwin.VanLeeuwen@phe.gov.uk; Ian Hall <ian.hall@ I&S Ian.hall@phe.gov.uk; Jamie.LopezBernal2@phe.gov.uk; John Edmunds <John.Edmunds@ I&S jonathan.read@ I&S Julia Gog <jrg20@ I&S Baguelin, Marc J M <m.baguelin@ I&S mattjkeeling@ I&S Nick.Gent@phe.gov.uk; Allen, Paul <Paul.Allen@dhsc.gov.uk>; paul.birrell@phe.gov.uk; peter.white@phe.gov.uk; Thomas.Finnie@phe.gov.uk; NR NR @dhsc.gov.uk>
Subject: Re: [External] SPI-M: views on intervention timings in advance of tomorrow morning's SAGE

Please Neil, stop referring to my view of my role.

I am 100% happy with the comments I have made verbally and in writing. I have worked for many years on science where a policy is recommended at the end of the paper. Our entire REF impact concept is based on this. I understand that I don't make the decision. And I understand this is incredibly difficult for those who do.

Best

Steven

On Wed, Mar 11, 2020, 9:38 AM Ferguson, Neil M <neil.ferguson@ I&S > wrote:

> Regarding para 2 - you may feel it's not your job Steven, but perhaps not one shared by SAGE and govt. We're not here to determine policy, clearly, but our role is to give advice on what interventions might work, their likely effectiveness and the risk/uncertainties involved. Current UK policy has been very directly informed by SPI-M work. We will not be listened to if we now say "we think containment is preferable but can't tell you how you might achieve that".
>
> I would also note that there is now significant momentum behind the current strategy. A huge amount of effort is going into operational planning right now. Government is aware of the projected incidence, health system demand and mortality impact. Though I personally would like to be reassured that the Cabinet is aware of what that will look like in reality.
>
> The current view is that – with difficulty – this can be handled. Policy will not change unless we can demonstrate convincingly (rather than rhetorically) that the strategy will fail, and/or propose a concrete "better" alternative. There is limited appetite for intense social distancing policies – it has taken considerable work to move the government to the likely current strategy.
>
> **From:** Personal Data **On Behalf Of** Steven Riley
> **Sent:** 11 March 2020 09:12
> **To:** Ferguson, Neil M <neil.ferguson@ I&S >
>
> **[See recipients listed above]**
>
> **Subject:** Re: [External] SPI-M: views on intervention timings in advance of tomorrow morning's SAGE
>
> Thanks for the comments.
>
> Mark - I agree that these are both ways mitigation can fail, but I think you jump past a key part of the result. We have always assumed mitigation would succeed to some degree because of the momentum of the epidemic. The note illustrates that mitigation can fail and lead to a very long bad experience. As would the absence of protection.
>
> Neil - I strongly disagree that it is our job to say how containment might work. The policy might have been better stated as successful attempted containment. But there are redundancies there. If the government attempts containment, it will immediately become a substantial proportion of all government effort. It is in no way reasonable for us to know exactly what strategies those hundreds of people will choose. Nor is it reasonable for us to say it will succeed or fail. It is entirely reasonable for us to observe how many other countries

have devoted substantial proportions of government to this objective as a stated policy. The level of threat from COVID in terms of deaths is comparable with prior UK experiences where rapid innovation has been a key factor in our success.

Before the meeting, can we agree that economics have to be part of our discussion to some degree. If they were not, then containment is obviously the only choice. We will need to take a view on the cost differences between illustrative scenarios and our degree of confidence in those cost differences. We don't need to be certain to take a position, but nobody else will.

A comment about the death rates in the table on the note. I would like to highlight that very very effective age-based cocooning with an otherwise relatively fast epidemic in young ages is a form of mitigation not represented in my note. I totally accept that could work to reduce the death rate. But it's a new idea and needs a lot of careful thought and planning and resource. To the degree that we might want to pause the epidemic for three weeks and then restart with that as a careful plan. We have no empirical evidence that it can work at all. From where we are now, to expect it will work naturally, seems very risky. But even without an explicit intervention, it describes a mechanism by which a strange form of herd immunity may accumulate with far lower death rates than those stated in the table on the note. We could model it, but it shouldn't distract too much from other options right now. And if it were to become the stated policy, it needs a lot of resource quickly.

Best

Steven

On Tue, Mar 10, 2020, 8:56 PM Ferguson, Neil M <neil.ferguson@ **I&S** wrote:

> While I do not see completely eye to eye with Steven on this (or on the plausibility of the scenarios he presents), I think it merits discussion.
>
> I think the key issues right now are (a) ensuring policy makers really understand what even successful mitigation would look like (in terms of mortality and health system impact), and (b) giving a fairly hard-nosed evaluation of the feasibility of achieving containment for 12+ months without completely locking down society (with the social and economic (and likely health) impacts that would entail.
>
> I do feel strongly that we should focus on providing an evidence based assessment of what the policy choices are and their likely impacts, rather than advocate for a particular policy. At least in our role on SPI-M.
>
> That is said from a perspective that I personally don't see any easy decisions here. Whatever policy choices are made, the next few months will see profound impacts on the UK.
>
> Best,
>
> Neil
>
> ---
>
> **From:** WOOLHOUSE Mark <Mark.Woolhouse@ **I&S**
> **Sent:** Tuesday, March 10, 2020 7:42:36 PM
>
> **[See recipients listed above]**
>
> **Subject:** Re: [External] SPI-M: views on intervention timings in advance of tomorrow morning's SAGE
>
> Dear Steven,
>
> This is an interesting analysis. My interpretation is that you have identified another way in which the delay policy could fail. There are others too of course. Not least, as was mentioned at SPI-M the other day, the possibility that post-infection immunity is partial, temporary or non-existent.
>
> I agree that epidemic duration has to be factored in, both with regard to the cumulative pressure on the health system and the cumulative social and economic costs of BSIs.
>
> Kind regards,

Mark

From: Graham Medley <Graham.Medley@ I&S
Sent: 10 March 2020 08:59
To: Steven Riley <s.riley@ I&S

[See recipients listed above]

Subject: Re: [External] SPI-M: views on intervention timings in advance of tomorrow morning's SAGE

Dear Steven

Many thanks for this. I think that this is a very useful statement of an alternative view. Certainly as the gap between the S. Korea and Italian experiences grows we should continually review our position, as much in the position of being infectious disease population biologists/epidemiologists as modellers.

I would be very grateful if everybody could have a read of this and let me or others know their opinion. Essentially Steven is questioning the current approach of "mitigation" rather than going for "containment" more strongly. If there is strong feeling then we should discuss and decide what our collective view is.

Best wishes

Graham

Graham Medley
Professor of Infectious Disease Modelling
Director of CMMID
Dept of Global Health and Development
London School of Hygiene and Tropical Medicine
https://www.lshtm.ac.uk/aboutus/people/medley.graham

On 10 Mar 2020, at 08:37, Steven Riley <s.riley@ I&S wrote:

Please see attached a draft note that was originally motivated by our discussion of "most likely" epidemic under current policy. The curve for UC here represents my best guess.

May I stress this is not for circulation outside UK Gov without my prior permission.

best

Steven

On Mon, 9 Mar 2020 at 22:55, Chris Jewell <c.jewell@ I&S wrote:

I would agree with Graham as to the process. Since we are currently in a situation of wide uncertainty, I would be inclined to implement CI soon as the least disruptive countermeasure. The policy should subsequently be reviewed on a weekly basis as we learn from further case reports. Policy should, in my view, remain open to continual review and adaptation as much as is reasonably practical.

Chris

On 09/03/2020 21:44, Graham Medley wrote:
>
> *This email originated outside the University. Check before clicking
> links or attachments.*
>
> Dear SPI-M
>
> Thank you for your comments to date. Let me lay out my personal view
> in order that you have something to shoot at. I recognise that some of
> this argument is not evidence-based science, but we are not going to
> have time to craft a full argument. Everything is predicated by
> uncertainty.
>
> 1. Some kind of BSI is required quickly. If we cannot rule out the RWC
> then the situation could get very nasty quickly, and we have to do
> something to reduce doubling time
> 2. Case isolation (CI) is nested within whole household isolation
> (WHI), i.e. introducing WHI after CI is an extension, not a change
> 3. CI is less difficult to adhere to and will have a higher compliance
> than WHI, and it will have some impact in reducing transmission. We
> will not be able to measure the impact
> [We don't know what impact CI will have if introduced - so one
> important aspect would be to monitor it somehow to see what proportion
> of people stay at home as a result of the intervention]
> 4. I think that there are some serious questions about WHI, in
> particular the interaction between effectiveness and compliance. If
> compliance to WHI is reduced, then it might be in reality less
> effective than CI.
> 5. WHI for 14d will induce health harms, so we have to have to be
> quite clear that it is significantly better than CI
> 6. In a week's time we will have a better idea about the play off
> between compliance and effectiveness, about the optimum duration for
> WHI, as well as the potential absenteeism that CI and WHI are inducing
> 7. We should also give consideration to the risk/protection afforded
> to vulnerable individuals within households for the two strategies.
>
> Given these considerations, my advice would be to implement CI as soon
> as possible, and to consider WHI for next week or the week after. This
> falls under Mark W.'s "ramping up" strategy - i.e. allowing
> transmission whilst steadily reducing contacts. I do not believe that
> we understand sufficient about the optimisation of WHI to be confident
> about its impact.
>
> If SPI-B is able to convince me that compliance for WHI will be as
> good as for CI (point 5 above) then I would be more inclined to think
> that WHI should be introduced now, but compliance (I think) will have
> to be measured.
>
> Thank you for your comments,
>
> Best wishes
>
> Graham
>
>
>
> *Graham Medley*
> /Professor of Infectious Disease Modelling
> Director of CMMID/
> Dept of Global Health and Development
> London School of Hygiene and Tropical Medicine
> https://www.lshtm.ac.uk/aboutus/people/medley.graham
> <https://eur02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.lshtm.ac.uk%
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>> On 9 Mar 2020, at 19:33, SPI-M <SPI-M@dhsc.gov.uk
>> <mailto:SPI-M@dhsc.gov.uk>> wrote:
>>
>> SPI-M Members,
>> Following this morning's discussion, it looks like there is now an
>> option to explore the case isolation and whole household
>> interventions separately, rather than as a single package.
>> Patrick Vallance has asked for SPI-M views in advance of tomorrow's
>> SAGE meeting on the following:
>> *(i)**when would we trigger the first intervention (i.e. at what

>> stage of the outbreak and how close are we) and (ii) if we did case
>> isolation first and household quarantine later, what is the longest
>> gap between the two that would still maintain a reasonable effect size.*
>> As a reminder the two policies are:
>> 1. Case isolation - all individuals with respiratory symptoms
>> (including mild cases and regardless of travel history) should follow
>> current PHE guidance on how to self-isolate for 7-14 days (TBC but
>> probably 7).
>> 2. Whole household isolation – as above, but the whole household
>> isolates from/14 days from first onset of symptoms in the first
>> case./The policy is still TBC around whether the clock resets if
>> others become symptomatic during this period, or whether subsequently
>> symptomatic individuals in the household switch to case isolation if
>> their individual 7 day period falls outside the 14 day period (e.g. a
>> person who develops symptoms on day 10 would be asked to self-isolate
>> for a further 3 days once the 14 days are up).
>> So, the question relates to a scenario where we start with
>> intervention 1, and then escalate up to intervention 2 at a later date.
>> Apologies for the late notice on this, but as SAGE meets at 1030
>> tomorrow, so please share any views to the SPI-M mailbox*before 930am
>> please*. Graham will do his best to summarise views.
>> Many Thanks,
>> Paul
>> <image001.png>
>>
>> *Paul Allen*
>> Deputy Director – Global and Public Health Analysis
>> 39 Victoria Street, London, SW1H 0EU
>> Paul.Allen@dhsc.gov.uk <mailto:Paul.Allen@dhsc.gov.uk>| I&S
> I&S | I&S
>> Name Redacted
>>
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Chris Jewell
CHICAS
Furness College
Lancaster University
Lancaster
LA1 4YG
UK
Tel: I&S

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Professor of Infectious Disease Dynamics
MRC Centre for Global Infectious Disease Analyses
Department of Infectious Disease Epidemiology
School of Public Health, Imperial College London
I&S @SRileyIDD | bit.ly/SRileyIDD

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–
Professor of Infectious Disease Dynamics
MRC Centre for Global Infectious Disease Analyses
Department of Infectious Disease Epidemiology
School of Public Health, Imperial College London
I&S @SRileyIDD | bit.ly/SRileyIDD