To: 5.1.2e [5.1.2e@rivm.nl]
From: 5.1.2e
Sent: Thur 2/27/2020 7:00:39 PM
Subject: RE: your Shenzhen paper
Received: Thur 2/27/2020 7:00:56 PM

And FYI, 5.1.2e also thought the calculation was pretty problematic, so I am going to see if I can intercept the preprint and at least get it out of the abstract.
-5.1.2e

From: 5.1.2e
Sent: Thursday, February 27, 2020 11:38 AM
To: 5.1.2e <5.1.2e@rivm.nl>
Subject: RE: your Shenzhen paper

5.1.2e –

Sounds good. And thanks for the critical look at my R reduction calculation. I have been mulling it over and have a few ideas that might help.

All the best,
5.1.2e

From: 5.1.2e <5.1.2e@rivm.nl>
Sent: Thursday, February 27, 2020 10:46 AM
To: 5.1.2e <5.1.2e@jhu.edu>
Subject: RE: your Shenzhen paper

Hi 5.1.2e,
Thanks, I see, the observed serial interval is already shaped by the control measures, and you were comparing the situation before control with the situation after control. I agree the best approach would be to stratify observed serial intervals by time of symptom onset (before and after control) or by time to isolation.
For policy it is helpful to disentangle the impact of population-wide measures and the case-based measures. Together these have brought the transmission down, so they work.
Our student came across the public data on cases and control measures, it seemed very complete to us, and we have analyzed those data, pretty much the same stuff that you have done (incubation time, serial interval, age and sex ratio of index cases versus age and sex ratio of contact cases), we didn't have contact data and no attack rates, but we did have a slightly more pessimistic view of contact tracing. If I think of something useful for this paper, I will let you know and we could try to contact the local CDC .
Best
5.1.2e

From: 5.1.2e <5.1.2e@jhu.edu>
Sent: donderdag 27 februari 2020 14:56
To: 5.1.2e <5.1.2e@rivm.nl>
Subject: RE: your Shenzhen paper

5.1.2e -

Obviously that is the most speculative part of the analysis, and I almost did not include it. I was basing things on periods of viral shedding from SARS and early studies of SARS-CoV-2, 15 days, and making the clearly naïve assumption that infectiousness is constant over that period. I see what you are saying re: our calculated serial interval, but that is among our cases, who do get isolated, so presumably have a truncated infectious period already. Still, you bring up a really good point, things should be consistent or we should be far more explicit about why they are not, and I will try to fix that.

I guess the question is, can we be more clever in calculating the serial interval to account for isolation, so I could then use that as part of the calculation? But I can't quite think about how to do it at the moment because of the challenge of distinguishing truncation of the infectious period from missing data, etc. Maybe just a stratified analysis of observed serial intervals by time to isolation would help at least give insight?

In terms of policy, I think the really important thing is that the reduction we are seeing is among the cases actually captured by surveillance. Even if you accept our numbers which, as you say, might be a little too optimistic, we calculate that you have to capture 75% of cases through contact tracing in order to succeed. A very tall order in my view. That being said, even with over 300 introductions Shenzhen has not yet seen any evidence of sustained community transmission. While I find it hard to believe there are not silent chains of transmission out there, I also think they almost certainly slowed down the epidemic quite a bit through heightened surveillance. While before doing this analysis I might have thought that was all dumb luck, now I am inclined to think surveillance, contact tracing and isolation played an important role.

What were you guys doing with the public data? Funnily, I did not even know that existed until today! It seems like it even has one or two things we were not getting info on...though it should be noted we were doing the analysis through a very odd way (sending the R scripts, they run it, we look at results revise, repeat). Anyway, if you have a different angle and there is any way we could facilitate through getting you anything from the local CDC (at the expense of adding a few Shenzhen based authors), let me know.

All the best,

5.1.2e

From: 5.1.2e <5.1.2e@rivm.nl>
Sent: Thursday, February 27, 2020 7:54 AM
To: 5.1.2e <5.1.2e@jhu.edu>
Subject: your Shenzhen paper

Hi 5.1.2e,

I have read your Shenzhen paper. I am very impressed with the detailed and thorough analysis. You guys have done a much more thorough job than we had, and you captured many more relevant aspects from the data than we did.

I am not really sure if I understand the calculations on the potential impact of isolation. A back of the envelope calculation: if a secondary case develops symptoms on average 6.3 days after a symptom onset of a primary case, and the incubation time in the secondary case is on average 5.0 days, the primary case must have transmitted infection on average 1.3 day after its symptom onset. We can do a similar calculation for the variance of the timing of transmission events relative to symptom onset. If the primary case is isolated on average 5.5 days (or 3.2 days) after symptom onset, most transmission events will have occurred and only a small proportion can be prevented. And arrive at a proportion much less than 69% or 69+13%.
With your serial interval distribution and the assumed epidemic growth rate as 0.14 or 0.15 the R0 must have been about 2.1. With the reduction of 69+13% and a possible impact of community wide measures (masks required in public places, schools closed) and behavioural change (everyone scared) the reduction seems too large to arrive at Reff 0.4.
The reason why I am asking is that I have advised our policy makers to expect little from contact tracing, and I used the Shenzhen data as an example. If I am wrong, I must retract that advice, and if not, I have to explain the discrepancy.

Sorry to bother you about this issue, and I feel like I should stress again that this is overall one of the most informative papers I have seen on this epidemic. I hope you aim high with this paper. Thanks for all the effort in getting this out, and thanks for sending it to me.

Best

5.1.2e

From: 5.1.2e <5.1.2e@rivm.nl>
Sent: donderdag 27 februari 2020 06:54
To: 5.1.2e <5.1.2e@jhu.edu>; 5.1.2e <5.1.2e@bdi.ox.ac.uk>
Cc: 5.1.2e <5.1.2e@rivm.nl>
Subject: RE: ncov CFR, IFR

5.1.2e thanks for sharing this. Very impressive work! We have been working on Shenzhen data as well, but with a different angle and only the publicly available part. might mean that you removed the need to write down the results, which frees up quite a bit of time.
Best, 5.1.2e

From: 5.1.2e <5.1.2e@jhu.edu>
Date: 27 February 2020 at 05:39:41 CET
To: 5.1.2e <5.1.2e@rivm.nl>, 5.1.2e <5.1.2e@bdi.ox.ac.uk>
Cc: 5.1.2e <5.1.2e@rivm.nl>
Subject: RE: ncov CFR, IFR

5.1.2e –

The attached is what has been eating my time the past couple of weeks. Hopefully it is somewhat helpful. Uploaded to medrxiv, so should be public in 24 hours or so, but still please don't circulate before then regardless.

And I agree 5.1.2e this is a pressing question…is there any way to let off the restrictions without the epidemic in China just blowing up.

Now I can get back to banging my head against this CFR wall.

All the best,
5.1.2e

From: 5.1.2e <5.1.2e@rivm.nl>
Sent: Wednesday, February 26, 2020 10:29 AM
To: 5.1.2e <5.1.2e@bdi.ox.ac.uk>; 5.1.2e <5.1.2e@jhu.edu>
Cc: 5.1.2e <5.1.2e@rivm.nl>
Subject: RE: ncov CFR, IFR

5.1.2i Wetenschappelijk beraad

Best
5.1.2e

From: 5.1.2e <5.1.2e@bdi.ox.ac.uk>
Sent: dinsdag 25 februari 2020 21:27
To: 5.1.2e <5.1.2e@jhu.edu>
Cc: 5.1.2e <5.1.2e@rivm.nl>; 5.1.2e <5.1.2e@rivm.nl>
Subject: Re: ncov CFR, IFR

5.1.2i Wetenschappelijk beraad

I'm really curious about what the story is in China outside Hubei - it seems control _can_ be achieved - but maybe through mass reduction of contact rates?

Cheers

[redacted]

On 25 Feb 2020, at 19:26, [redacted] <[redacted]@jhu.edu> wrote:

[redacted] –

Yeh, we are still grinding through on the CFR stuff, but I have been doing some analysis on primary data from folks in China which has taken precedence. Still, hoping to actually have something I am happy to share soon (not going to give a day again, since my track record has been bad).

A postdoc in our group also did a quick and dirty analysis on the diamond princess..mostly just to show that not accounting for surveillance changes could lead you astray: https://hopkinsidd.github.io/nCoV-Sandbox/Diamond-Princess.html

Will be in touch soon.

All the best,
[redacted]

From: [redacted] <[redacted]@rivm.nl>
Sent: Tuesday, February 25, 2020 3:35 AM
To: [redacted] <[redacted]@bdi.ox.ac.uk>; [redacted] <[redacted]@jhu.edu>
Cc: [redacted] <[redacted]@rivm.nl>
Subject: RE: ncov CFR, IFR

Hi [redacted]
Sure, this situation is coming very close to home now.
[redacted]
https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/newpage_00032.html#PressConference
Movie
https://www.youtube.com/watch?v=QD1CuS9uof0
Best,
[redacted]

From: [redacted] <[redacted]@bdi.ox.ac.uk>
Sent: maandag 24 februari 2020 11:45
To: [redacted] <[redacted]@jhu.edu>
Cc: [redacted] <[redacted]@rivm.nl>; [redacted] <[redacted]@rivm.nl>
Subject: Re: ncov CFR, IFR

Hi All

Well, the situation seems to be evolving, as they say. I hope you are all well.

[redacted]

[redacted]

[redacted]

Cheers

[redacted]

On 6 Feb 2020, at 03:12, [redacted] <[redacted]@jhu.edu> wrote:

[redacted] et al. –

[redacted]

All the best,
[redacted]

From: [redacted] <[redacted]@rivm.nl>
Sent: Wednesday, February 5, 2020 5:36 PM
To: [redacted] <[redacted]@bdi.ox.ac.uk>; [redacted] <[redacted]@rivm.nl>
Cc: [redacted] <[redacted]@jhu.edu>
Subject: Re: ncov CFR, IFR

Hi [redacted]

Thanks for the feedback.

[redacted]

And @[redacted] [redacted]

[redacted]

for that?

Cheers

[redacted]

Van: [redacted] <[redacted]@bdi.ox.ac.uk>
Verzonden op: woensdag 5 februari 2020 22:51
Aan: [redacted] <[redacted]@rivm.nl>
CC: [redacted] <[redacted]@jhu.edu> [redacted] <[redacted]@rivm.nl>
Onderwerp: Re: ncov CFR, IFR

Hello from Lusaka.

[redacted]

Cheers

[redacted]

On 4 Feb 2020, at 22:04, [redacted] <[redacted]@rivm.nl> wrote:

Hi [redacted], [redacted],
Here is the paper [redacted] has been working on.

[redacted]

Best wishes,

[redacted]

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<nCoV_IFRCFR_[redacted] 5.1.2e 002).docx>

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