

## COVID-19 Strategic Intelligence Group

3.00 pm on 28 May 2020 by Zoom Video Conference

### Present:

Professor Ian Young	Chief Scientific Officer, DOH
Dr Michael McBride	Chief Medical Officer, DOH
Dr Lourda Geoghegan	DCMO, DOH
Dr Naresh Chada	DCMO, DOH
Dr Gillian Armstrong	SMO, DOH
Professor Frank Kee	Centre for Public Health, QUB
Professor Diarmuid O'Donovan	Centre for Public Health, QUB
Dr Declan Bradley	Consultant Public Health Medicine, PHA
Professor Stuart Elborn	Faculty Pro-Vice-Chancellor, School of Medicine, Dentistry and Biomedical Sciences. QUB
Dr. Liz Mitchell	Co-chair of Contact Tracing Service Steering Group, DoH
Dr Jenny Mack	Public Health Registrar ST4, DoH
Professor Fiona Alderdice	Nuffield Department of Population Health, University of Oxford
Dr. Stephen Bergin	Assistant Director Public Health – Population Screening, PHA
Tricia Lavery	DOH (Secretariat)

### Apologies

Professor Cathy Gormley-Heenan	Pro-Vice-Chancellor (Research and Impact), Ulster University
Dr. Eugene Mooney	Senior Statistician, DOH

## Welcome

1. Prof Young welcomed participants to the meeting and confirmed that all were content with the note of the last meeting.
  - 1.1. Dr. Liz Mitchell has now joined the group given her role as Chair of the Contact Tracing group.
  - 1.2. There was one action from the previous meeting, IAD were to look at how confirmed cases could be added to the Departmental dashboard which has now been done. The Departmental dashboard contains considerable information gives a good idea of the current situation. R is not being reported by the dashboard, partly to avoid people placing too much emphasis on it and partly to avoid having adverse effects on people's behaviours. DoH has agreed to publish R separately on a weekly basis.

## Status Update

2. Prof Young presented slides on current status to update the group.
  - 2.1. In general we have continued to see a slow decline in terms of all of the metrics relating to the epidemic. Some commentators struggle to understand how R can be going up whilst numbers of cases and deaths etc. continue to decline. However, as long as R remains below 1 this will continue to be the case.
  - 2.2. We have been using figures for ICU occupancy as the principal input to calculate R, and this figure has progressively widening confidence levels as the numbers of patients in critical care has fallen, sitting today at 6 patients. In the past week the calculation of R by ICU occupancy has been mirrored by calculation of R based on number of hospital in-patients. From this point onwards the only criteria that will be used for calculation of R will be COVID – confirmed hospital in-patients and specifically the sub-set of hospital in-patients who do not have a nosocomial infection.
  - 2.3. R, based on COVID–confirmed hospital in-patients has been rising for the last few days and today is between 0.9 and 0.95. We have updated the Executive, and will also publish as our estimate of R for this week as between 0.8 and 1.0 and therefore a little higher than previous values. The modelling group have a model using various early indicators which we are building and will discuss in more detail tomorrow. This is being tested at the moment and it has been used to predict R for the next 10 days. At present it is tracking this observed value closely. This model suggests that R will rise to possibly 0.95 and then is expected to fall again, based on current trends. If the model is correct we expect R to fall to around 0.85, possibly slightly less, over the next week.
  - 2.4. We have access to multiple models that look at R using a variety of inputs. A report received yesterday from the main UK modelling groups gave a range

of values of R. There is a wide range of values, but if you combine all the values for all regions of the UK, the NI estimate comes out at 0.82 (0.7 – 1.0). Prof. Young expressed a high degree of trust in our NI modelling as it is tailored specifically for NI in a way that some of these models are not. The UK figure is very similar to our internal estimate of 0.8 – 1.0, which we will quote publicly today.

- 2.5. The view of SAGE and its modelling group is that at present R is fairly similar across the UK. They are not confident that there are any real regional difference, although London still tends to be slightly lower as it has been throughout the epidemic. The view in general is across the UK that R remains below 1 but not very far below 1.
- 2.6. In response to a question around the data inputs for estimating R across the UK, Prof. Young advised that in England a variety of inputs are still being used, and indeed some of the models use multiple inputs and combine them. The NI “early-indicator” model which is currently being tested is not using a single input source either. It uses a number of different indicators that reflect the early phase such as 111 calls, GP contacts, tests etc. and it combines these statistically to try and provide an early indication of what is happening.
- 2.7. In response to a question around comparable, multi-model methodology analysis from ROI, Prof. Young advised that NI data has been sent to ROI but as yet they have not used their modelling to provide an estimate of R for NI using their methodology. When the ROI data was modelled here using our NI methodology, we calculated that, at that stage which was 7 - 10 days ago, the ROI estimate of R similar to our NI value using the same model. ROI have been quoting a value of R of 0.5 – 0.6 and that is based on them using new cases as the input parameter. For NI that parameter is not a sufficiently stable number as our testing strategy is still evolving whereas they feel their testing strategy is more mature. When we modelled R for ROI bases on ICU occupancy or hospital admissions we estimated a value of R of 0.8, similar to our own. There is a further meeting this week with the ROI modelling group and further updates may come from that.
- 2.8. It was commented that the data showing the relative values of R across the regions of the UK is important because in terms of the 14 day quarantine and the common travel area, it is important that any decisions that any government makes in relation to restricting travel across these islands is informed by the evidence of rates of transmission and based on sound public health evidence.
- 2.9. Prof. Young commented that whilst R is important, but it is not the only number. Another indicator is the percentage incidence of infection each day, which is at least as important as well in relation to potential travel restrictions. The actual incidence of cases in England mainland UK is possibly twice as high as the NI figure, based on the percentage of the population with virus new cases each day. The comparison with the ROI is not clear but is believed to be relatively similar to the NI level.

## International Contact Tracing (Paper 2)

3. Prof Young invited comments on the paper which was carried forward from the previous meeting.
  - 3.1. Prof. Young invited Dr. Mitchell to give an update to the next meeting on progress to date with the Contact Tracing programme.
  - 3.2. It was commented that the New Zealand metrics (slide 31) were particularly well presented and it may be worth sharing with Dr. Mitchell and Dr. Bennett for consideration. It splits out the time from symptoms developed to the swab getting to the lab, time between results being received and getting to the patient, and then notification of the case to tracing of the contacts. In terms of period of infectivity before symptoms, there is a consensus that back-tracing contacts 2 days before symptom onset but some countries show variation in this (eg. Taiwan use 5 days).
  - 3.3. It was noted that NHS England have launched their Test and Trace programme today, and it appears the NI approach seems to be aligned with it fairly well.
  - 3.4. In relation to the Singapore model of using contact tracing to determine when to invoke a circuit breaker, it appeared the contact tracing data was used to break the circuit but it was unclear what data or information was used to re-introduce relaxation measures again. Prof. Young agrees to look for further information on the Singapore model to clarify this. The Singapore model uses a % figure rather than a calculation of R for their basis of decisions. Other percentage approaches, particularly relating to the capacity of the system, have been discussed. While this may form future discussions, the policy position is that we need to focus on maintaining R at less than 1.

## Transmission Amongst Children (Papers 3, 4 & 6)

4. Prof Young invited comments on the papers relating to transmission amongst children and the issue of schools.
  - 4.1. This has been discussed before and the NI policy decision is that schools will not open until late August at the earliest. Two of the papers come from SAGE sub-groups and were developed to address requirements of the Cabinet Office and the English schools opening; however, they clearly contain some messages that would be relevant for NI. The 3<sup>rd</sup> paper is a recently released systematic review which looks at and updates the evidence around transmission to children and from children.
  - 4.2. With the English schools opening first we will have a clear example of what works and what doesn't working terms of schools opening. However it is still

unclear exactly what is likely to happen in terms of English schools and how it will be done. The view from SAGE is that in all sorts of settings, schools being a good example, you can outline principles that may indicate increased risk or reduced risk but that co-produced local solutions will be required at school level. For example, different solutions may work more effectively in different schools depending on the state of the school estate.

- 4.3. The papers flag that this not just about schools but also those others that are directly impacted upon as a consequence of reopening schools, e.g. teachers, parents etc. The coloured graphs in Paper 3 clearly illustrate the impossibility of considering school opening in isolation and how everything is very interdependent. This feeds into the view of this group that the best approach is to take groups of steps in terms of relaxation and to then take the time to gauge the impact of those relaxations, rather than proceeding too quickly. The cumulative effect has to be a major consideration.
- 4.4. It was noted that PHA are already receiving queries from schools around the steps they need to take, mainly around the social distance limits, for which there are no clear answers as yet. Reference was made at this point as to the possible role of the Joint Biosecurity Centre (JBC) in relation to outlining principles which may be supportive in terms of trying to identify outbreaks. The current SAGE view is that it is very likely that when schools reopen there will be school-associated, school-centred outbreaks and there have already been examples of this in special needs schools in England. It may therefore be necessary to impose local restrictions in schools in the event of an outbreak including the need for a school to close down or be suspended again for a period. This will all have to be discussed at a policy level with the Department of Education in NI. Detail on how we in NI will relate to the JBC is still unclear at this stage.
- 4.5. The 3 papers were noted. A meeting is scheduled with the Minister for Education and his senior team at which Prof. Young and Dr. McBride will draw their attention to the SAGE papers relating to school re-opening and the mitigations that might be put into place.

## **Social Distancing – Wuhan Paper (Paper 5)**

5. Prof Young invited comments on the paper which looks at social distancing.
  - 5.1. There has been some further discussion on this at SAGE recently around why the distance used is 2 metres when WHO states a 1 metre distance as being sufficient. The opening up of the economy would be easier if we only observed a 1m distance.
  - 5.2. WHO appear to have taken the view that Coronavirus only spreads by respiratory droplets, and the 1m distance is from very old literature which relates to droplet spread. Other bodies have taken the view that the virus

can also spread by aerosol, which implies a considerably greater distance (<2m). This Wuhan paper relates to aerosols and aerosol persistence.

- 5.3. The SAGE view is that the science has not changed since they last considered it and therefore SAGE have no reason to change the 2m rule. SAGE intend to bring forward a paper about mitigations that can be put in place where you cannot maintain, or choose not to maintain for policy reasons, the 2m distance. This is likely to focus on mask wearing, ventilation etc. Prof. Young will bring the SAGE paper to this group when available but cautioned that there is unlikely to be a lot of new evidence and it is unlikely that the scientific advice will change. It will therefore be a policy decision to be taken around the level of risk that government are willing to carry. SAGE will not state suddenly that 1m is acceptable, unless there is some major new evidence to support that.

## **COVID in waste water effluent as a possible indicator (Papers 7 & 8)**

6. Prof Young invited comments on the papers.

- 6.1. Prof. Young advised that this was discussed at SAGE today under AOB. It is presented here today to note that we have considered it and are going to hold discussions around the possibility of generating local data to investigate its usefulness.
- 6.2. It has been suggested that it may be possible to sample the waste water from a school and use that as an indicator of the possible risk of infection in that particular school. However there is currently not enough evidence to support this suggestion. During the SARS epidemic there was fairly good evidence that SARS virus was recoverable from toilets and bathrooms giving some evidence of faecal transmission; however, to use that as a sentinel would be very risky without substantially more research being done. It should emphasise, though, the importance of cleaning bathrooms and toilets because that may be a source of transmission. There is data around COVID that virus has been cultured from faeces several weeks after infection and although the significance of that remains uncertain, faecal transmission is a potential route albeit a minor one and we will need to keep this under review.
- 6.3. In Paper 8, the toilets themselves in Wuhan Hospital were identified as a source of virus and emphasis again the need for good hand hygiene and regular cleaning of such facilities.
- 6.4. This is an area we will return to if anything more emerges but until then we will just keep a watching brief on.

## Period of Infectiousness (Paper 9)

7. Prof Young invited comments on the paper from Singapore which summarises their views and position on the period of infectiousness.

**7.1.** There are global differences in the advice on periods of self-isolation. The UK advises people to self-isolate for 7 days or up to a point of being 48 hours pyrexia-free, whichever is longer whilst other countries recommend a period of 14 days self-isolation or some intermediate duration. The SAGE view is that there isn't sufficient evidence to change the UK approach at this stage but that it should be kept under review. Contacts are advised to self-isolate for 14 days. At present the ROI approach is to release contacts after 5 days if they test negative but in NI we plan to continue to require contacts to self-isolate for 14 days. **We will raise this at the next ROI meeting to check the evidence base around which they were proposing to do that.**

**7.2.** The Singapore paper does not contain evidence to change our current approach. It clearly shows that the risk is small after 7 days but there probably is still a small chance of virus transmission. A paper tabled at the Senior Clinician's meeting today looked at the first few hundred patients to culture virus, and is possibly the only global study that has used serial viral cultures for up to 100 individuals. It demonstrated that in approximately 94% of individuals with confirmed COVID-19, no virus was culturable from day 7. The current recommendations in relation to the UK are 7 days isolation from symptom onset and 2 days free of fever i.e. if fever persists after day 7 then you remain isolated. Looking at the data in the paper by day 10 almost 100% of the patients in the study demonstrated no culturable virus. It is proposed to revisit the self-isolation period once community transmission rates reach lower levels, as it then becomes more relevant. Whilst 14 days may be excessive, 10 days may be justified as the safest precautionary approach and as we move into further phases of this we may move from a 7 day self-isolation period to a 10 day self-isolation period. Looking around the world, CDC recommends 10 days, WHO recommends 14 days and the UK position is at the lower end of the global recommendations with 7 days. Dr. McBride agreed to share this new paper with the group.

**ACTION: Dr. McBride to share the paper presented at the Senior Clinician's meeting on 28 May which related to a study on serial viral cultures.**

## AOB

8. Prof. Young reported that DoH has established a Web Ex facility for video conferences as zoom is considered to be an unsecure platform. Tricia Lavery to liaise with CMO Office to arrange for an account to be set up on Prof. Young's behalf.

## Date and format of next meeting

9. Next meeting will be on Monday 1 June at 3pm.

**9.1.** Items for the agenda will include the papers from the SAGE meeting this morning (28 May). As the function of this group is to provide a range of views and inputs to help inform our Departmental responses, **Prof. Young encourages all members of the group to raise any other issues they deem relevant on an ongoing basis.**