

Message

From: Orford, Rob (HSS - Primary Care & Health Science) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7D38A628177A448789839F37A51FAF75-ORFORD, ROB]
Sent: 15/10/2020 09:14:07
To: Mark.Drakeford (Ministerial) [mark.drakeford@gov.wales]; Vaughan Gething (Ministerial) [vaughan.getting@gov.wales]; Atherton, Frank (HSS - Chief Medical Officer) [frank.atherton@gov.wales]; Kilpatrick, Reg (EPS - LG Director) [reg.kilpatrick@gov.wales]
CC: PS FirstMinister [ps.firstminister@gov.wales]; PS Minister Health & Social Services [psmhss@gov.wales]; Clifford, Desmond (OFM - Director General) [desmond.clifford@gov.wales]; Jenkins, Clare (OFM - Special Adviser) [clare.jenkins010@gov.wales]; Runeckles, Jane (OFM - Special Adviser) [jane.runeckles@gov.wales]; HSSG.TAC [hssg.tac@gov.wales]; Bennee, Fliss (HSS-Technology, Digital & Transformation Directorate) [fliss.bennee@gov.wales]
Subject: FW: Swansea Model with Interventions
Attachments: 2_week_baseline_return.png; 2_week_improvement_return.png; 2_week_worse_return.png; 3_week_baseline_return.png; 3_week_improvement_return.png; 3_week_worse_return.png; Baseline.png

Ministers,

Please find attached some working analysis of the Swansea epi model with firebreaks added. This is a work in progress which we will take to TAG tomorrow for further discussion.

There are some key conclusions that we would like to share with you (see below). The take home message is that if we act sooner (the end of this week) and for longer (3 weeks, rather than 2) we will have a greater impact in terms of weeks gained (with rate of deaths as a measure of success). R will need to be suppressed below 1, to 0.8. Another clear message is the need to find ways to sustainably lower R following any firebreak.

The analysis comes with the caution and the caveat that this is work in progress and may be subject to revision, however we thought it important to share with you given the situation.

Kind regards
Rob

From: Gravenor M.B. <m.b.gravenor@swansea.ac.uk>
Sent: 14 October 2020 22:12
To: Orford, Rob (HSS - Primary Care & Health Science) <Rob.Orford@gov.wales>; Collins, Brendan (HSS - Finance) <Brendan.Collins001@gov.wales>; Bennee, Fliss (HSS-Technology, Digital & Transformation Directorate) <Fliss.Bennee@gov.wales>; Dawson Mark. <Mark.Dawson@Swansea.ac.uk>
Subject: Swansea Model with Interventions

Dear all, please cast a critical eye over these scenarios. I'd treat everything with great caution because this has been done quickly. If we are the right track then we can explore in more detail.

Key assumptions:

- The baseline scenario is essentially the current fit to Wales, and using the recent R consensus with $R \sim 1.4$ now, which fits the current daily deaths of 5 per day. The baseline scenario assumes nothing changes.
- Fire break is introduced this Friday
- The Fire Break scenarios last 2 or 3 weeks, during which R is reduced to approximately 0.8 (lower in half term). So a fairly successful and substantial intervention is assumed.

- After the fire break we assume a return to baseline ($R \sim 1.4$). OR a return to a situation of $R \sim 1.25$ (Improvement scenarios), OR a return to a worse condition ($R \sim 1.6$) due to increased seasonal transmission mid winter.
- We do not include waning immunity (though we can)

Some observations:

- Expected time to 20 deaths per day is 7th November under baseline. 15th Dec with 3 week. 1st December with 2 week.
- So the short and long firebreak buys 3 weeks and 5 weeks
- Note that all scenarios predict deaths to continue above current levels for considerable time.
- The return to improvement scenarios are quite optimistic looking but strongly depend on the ability to keep R pretty low.
- The model should be tracked against these key metrics, and adjusted as necessary. For example if death are slowing this would be an indicator of a change in R in last couple of weeks that is not yet detectable.