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(FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=34A3DB026A094839B977362D13396897-VALLANCE, P]
Sent: 25/10/2020 08:45:01
To: Simon Case [SCase@no10.gov.uk]; Simon Ridley [simon.ridley@cabinetoffice.gov.uk];
kate.josephs@cabinetoffice.gov.uk
CC: Government Chief Scientific Adviser (GO-Science) [gcsa@go-science.gov.uk]
Subject: FW: How long have we got?

This is relevant to discussion today I suspect.

Patrick

From: McLean, Angela SCS (CSA-Personal) <Angela.Mclean113@mod.gov.uk>
Sent: 23 October 2020 22:42
To: Vallance, Patrick (GO-Science) <P.Vallance1@go-science.gov.uk>; Whitty, Chris <chris.whitty@dhsc.gov.uk>
Cc: SPI-M <SPI-M@dhsc.gov.uk>; Graham Medley < I&S >
Subject: How long have we got?

Dear Patrick and Chris,

After Sage on Thursday SPI-M Chairs and secretariat asked themselves, how long have we got? These are the back-of-an-envelope calculations we made.

Let us assume that we do not wish to exceed first wave peak hospital admissions.
Daily hospital admissions in England peaked at 3099 in early April.
What is the deadline to achieve R<1 if we do not wish to exceed first wave peak hospital admissions?

We can use the medium term-projections (MTPs) approved by Sage on Thursday 22102020 to do rough, back-of-an-envelope calculations on the last date by which we must achieve R<1 if we are to avoid exceeding first wave peak hospital admissions. The MTPs foresee hospital admissions doubling every three weeks from 20102020.

The median of the MTPs first exceeds 3100 on November 21 . If we do not wish to exceed that number then we need to achieve R<1 at least 11 days earlier, i.e. before November 10. The figure illustrates a highly optimistic scenario in which we achieve R=0.6 on November 10.

Should we choose a more optimistic underlying trajectory and take the lower quartile of the MTPs then we need to achieve R<1 before November 19.

We have some further observations.

1. If we achieve R<1, but not as low as R=0.6 we need to act sooner and cases will fall more slowly after the peak.
2. Even if we were to achieve this relatively low target (peak no worse than wave 1 peak), if infections fall more slowly than 1st wave (which is probable) then hospital bed occupancy could easily exceed wave 1.
3. Hitting this target does not guarantee fewer further COVID deaths than wave 1 (i.e. 40,000 deaths). That depends on how fast infections fall and the age/co-morbidity distribution of those infected.
4. Intervening so late means that the release from lockdown is essentially indeterminate - it depends on compliance. The criteria for release from lockdown should be decided and announced BEFORE lockdown is imposed. That could be either a fixed time, or a prevalence estimated from ONS/REACT. Depending on what is decided, the lockdown will need to be at least 3 weeks to get prevalence back to a manageable level.