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COVID-19 SMALL GROUP SCIENTIFIC DISCUSSION:

“SHOULD GOVERNMENT INTERVENE NOW AND IF SO, HOW?”

LOGISTICS

Date: Sunday 20th September Time: 5.30PM

Location: Zoom Video Conference

Attendees:

- Prime Minister
- Cabinet Secretary (Chair)
- CSA Sir Patrick Vallance
- CMO Professor Chris Whitty
- Professor John Edmunds OBE: professor in the Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine
- Professor Sunetra Gupta: professor of Theoretical Epidemiology, Department of Zoology, Oxford University
- Professor Carl Heneghan: Director, Centre for Evidence-Based Medicine, Oxford University
- Dr Anders Tegnell: chief scientist, Swedish government
- Professor Dame Angela McLean: CSA MOD and professor of mathematical biology, Oxford University

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References

- 1) <https://www.gov.uk/government/publications/national-covid-19-surveillance-reports>
- 2) <https://www.gov.uk/government/publications/react-1-study-of-coronavirus-transmission-august-2020-results/react-1-real-time-assessment-of-community-transmission-of-coronavirus-covid-19-in-august-2020>
- 3) <https://www.ft.com/content/6b4c784e-c259-4ca4-9a82-648ffde71bf0>

ANNEX C

BRIEFING NOTE & RECOMMENDATIONS - Professor Sunetra Gupta

The key issue to consider in directing policy is whether or not it is justified to take extraordinary measures in response to Covid-19 – given that no extraordinary measures are in place for other infectious diseases such as influenza, pneumococcal pneumonia, and indeed other coronaviruses. We have reached an accommodation with these other diseases and accept that they cause a level of disease, suffering and death, but not sufficient to change our way of life. Given that it is not possible or realistic to attempt to eliminate Covid-19, our goal should be to achieve levels of herd immunity that permit the same situation to prevail with Covid-19.

The term ‘Herd Immunity’ has become misunderstood - as shorthand for a policy that indiscriminately allows the virus spread, thus putting the population (vulnerable and non-vulnerable) at risk; and as the level of immunity in a population that causes the pathogen to disappear. Neither definition is correct: Herd Immunity is not a policy: it simply describes the state of progress of an epidemic and the Herd Immunity Threshold (HIT) defines the proportion immune at endemic equilibrium. The segments of a population that are vulnerable to dying from the pathogen can enjoy a reduced (but not zero) risk of infection once HIT is achieved, and this risk can be further reduced with a vaccine.

A fundamental problem with Covid-19 is that we cannot measure how close we are to HIT (this was my original intention in March when we developed neutralising antibody assays [1] for SARS-Cov2) because (i) there are no reliable markers of exposure (ii) HIT is a function of R_0 and of heterogeneities in susceptibility to infection [2-4], neither of which we can easily measure. A comparison of the dynamics of Covid-19 in different settings would suggest the acquisition of immunity in the population is already playing a role in keeping infections down.

Let's now examine how HMG might manage public expectations and policy towards achieving the necessary levels of herd immunity that will put Covid-19 on a par with the large set of respiratory pathogens that affect the human population.

As a first step, we could conduct tests to establish the risks of influenza *and* Covid-19 simultaneously in the population. Only if the risk of death from Covid-19 is higher than that of influenza, would extraordinary measures be justified. In other words, we need to set the *context* more clearly for the measures taken.

Should the risk of death from Covid-19 be higher than that of influenza, we are presented with two solutions. The first is to bring in population-wide restrictions to keep infection levels down until a vaccine becomes available. This would come at a huge social and economic cost, and it is not clear that such a policy is sustainable until the development of a safe and effective vaccine, upon which it is predicated.

An alternative solution would be to take steps to protect the vulnerable sectors of the population, while allowing those that are at low risk to accumulate immunity such that the risk to the former is reduced as rapidly as possible to levels that we accept for other respiratory pathogens. We should capitalise on the very low rates of death with Covid-19 in much of the population, while permitting and supporting the rest to adopt social distancing measures commensurate with their risk.



Dr Anders Tegnell - Note on talk with UK government connected to COVID-19 and the question

“Should government intervene now, and if so, how?”

A short note from a Swedish perspective based on the experience of the pandemic in Sweden and the work at the Public Health Agency. Public health activities in Sweden should by decree be based on scientific evidence and well-trying experience. We need to remember that the scientific evidence in the area of public health has always been weak in general for a number of reasons. The UK is one of the most active countries in the area of evaluating and following up public health effects but in many other countries little has been done in the past.

The short answer to the question above is in my opinion yes. The myth that Sweden did nothing during the pandemic is false. We have initiated a wide range of activities not least in the area of communication. During the last 20 years the public health community has discussed pandemic preparedness extensively and taken aboard experiences from previous events during this pandemic (SARS, MERS, the swine-flu pandemic etc). I believe there is a strong consensus that with a pandemic a government needs to be active even if we know that most of the non-medical measures have comparatively little effect and the evidence for how and when they work is limited. But even so there is a possibility to make a difference.

What basis for activities have we used in Sweden?

Measures are based on the specific Swedish context, we have tried to use tools that were in place.

- Identify where we could make the biggest difference with the least side effects
- Take into account possibilities for implementation, sustainability and acceptance
- Mix legal obligation and voluntary measures
- Follow results to adapt (flexibility)
- Consistency and sustainability

In practise, we have done the following:

- Break chains of transmission by minimising contacts with a focus on symptomatic persons
- Focused on places where important transmission takes place; restaurants, big gatherings, long term care facilities, areas with vulnerable groups
- Increased resources and quality of contact tracing, isolation and quarantine

Information in English on the Swedish COVID-19 response:

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<https://www.folkhalsomyndigheten.se/the-public-health-agency-of-sweden/communicable-disease-control/covid-19--the-swedish-strategy/>

<https://www.government.se/government-policy/the-governments-work-in-response-to-the-virus-responsible-for-covid-19/>

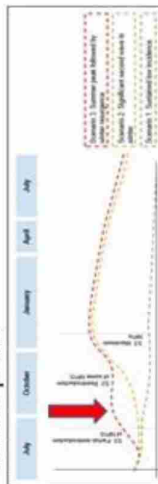
Report: Covid-19 in schoolchildren – A comparison between Finland and Sweden

<https://www.folkhalsomyndigheten.se/publicerat-material/publikationsarkiv/c/covid-19-in-schoolchildren/>

1. The Reasonable Worst Case Scenario

The COVID-S scenario

"a difficult autumn followed by a large winter peak"

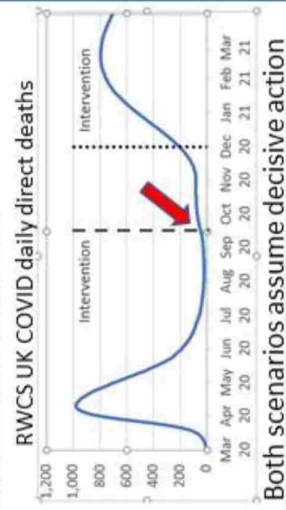


The SPI-M - SAGE - HMG RWCS used for HMG, NHS and T&T planning

Infections double once in August, and once in early September.

Decisive action brings R back down to 1 until early November.

Further interventions fail to contain transmission thereafter.



Both scenarios assume decisive action is taken now

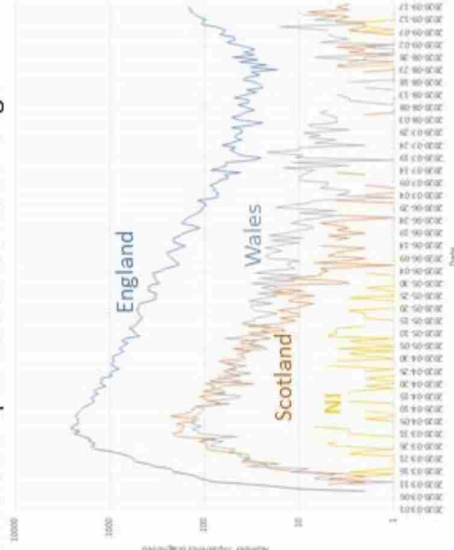
The COVID-S scenario and the HMG RWCS assume decisive action in mid-September brings R back to 1 so that new infections remain flat for 6 weeks.

2. How do numbers compare today?

Current numbers of new infections, hospitalisations and deaths are close to the RWCS at the moment

	Prevalence	Daily hospital admissions	Daily deaths
RWCS	78,000	271	49 (any time)
Now	71,000 (Eng only)	196 (Eng and NI only)	27 (< 28 days)

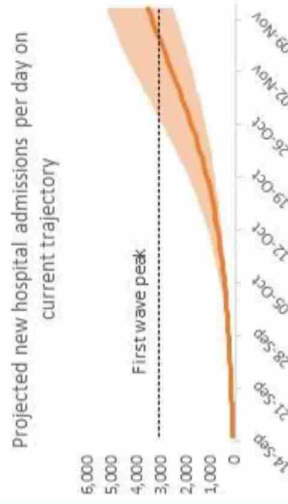
COVID hospital admissions are rising.



Hospital admissions are growing fastest in the regions most badly hit by the first wave.

3. Where does this trajectory go?

Under the current trajectory, hospitalisations will increase exponentially, surpassing the first wave by early November.



HMG has planned against a RWCS in which new infections are stable from the second half of September until the end of October.

Observed epidemiology is currently in line with the RWCS, but infections are still rising.

Without immediate, decisive action we expect COVID epidemiology to breach the RWCS in the next few days. It will then exceed HMG, T&T and NHS planning assumptions. T&T will not function effectively in a large second wave.

Angela McLean for SPI-M
20 September 2020