

Wales Technical Advisory Cell: COVID 19 Brief – As of 15/03/2020 (Paper for SAGE Group)

Main Recommendations

1. **TAC group recommends** that unless the requisite resources are identified in the next seven days, with a clearly defined plan to implement them in a timely manner a policy of more stringent interventions should be considered for Wales.
2. The **TAC group would welcome advice from SAGE** on the policy of standing down testing of individuals who are self-isolating.
3. **TAC group asks SAGE for support** in determining a UK strategy to use non-health data to monitor compliance with Behavioural and Social Interventions.
4. The **TAC group recommends** that we publish the NHS Wales demand-capacity spreadsheets that we are using to inform planning decisions so that other scientists can openly interrogate them and provide comment.
5. The **TAC group recommends** that NHS Wales publish graphs showing where we are on the epidemiological curves on a daily basis, showing progress with and without BSI interventions.

1. Current Projections

- With all three social interventions¹ in place in Wales early in the epidemic there will be a peak need for 1,595 ICU units and 16,552 hospital beds. This represents a 66% reduction in the Reasonable Worst Case (see Figure 1).

¹ Self-isolation, household quarantining, shielding vulnerable groups and over 70s

- If every single NHS Wales bed is available to COVID-19 patients there is be a deficit of -5,989 beds at peak and -1,447 ICU beds - if all current NHS capacity is available. The deficit is likely to be higher.
- As of 15/03 we are likely to be 10 weeks away from the modelled peak demand (without interventions).
- As of 15/03 we have three patients in ICU. We are therefore four weeks away from maximum ICU capacity, without interventions.
- In order to buy more time for the NHS the next behaviour and social interventions² should be deployed within Wales this week.

2. Behavioural and Social Interventions in Wales

- The UK strategy for herd immunity will only succeed if the NHS holds up. Without a serious and significant change in NHS Wales bed capacity, oxygen availability and ICU units the desired policy outcome will not be observed and further societal restrictions will be required.
- It will be important to track the outbreak in near real-time to understand where we are on the epidemiological curve. Public Health Wales is well positioned to provide this data. This should be kept under constant review by TAC.
- Adding further societal restrictions³ will lead to a longer period of societal shut-down and a move away from pursuing herd immunity as a way of minimising COVID19 deaths in the longer term.
- A more extreme and extended period of societal distancing may provide an opportunity for a mass vaccination programme, if a vaccine is developed. However, a vaccine may be more than a year away, if at all.

² Household quarantine and shielding vulnerable groups and over 70s

³ Shut down of all public gatherings, longer household quarantine

- If a more stringent set of control measures, above the three current interventions, are to be applied this should be considered and adopted as early as possible. Particularly if available resources do not meet demand projections.
- **TAC group recommends** that unless the requisite resources are identified in the next seven days, with a clearly defined plan to implement them in a timely manner a policy of more stringent interventions should be considered for Wales.

Interventions (% change in RWC)	Average daily available beds 2018/19*	Capacity		Peak estimates			Deficits		
		Total level 3 ICU capacity	Daily mean admissions 2018/19	Peak CoV caseload	Peak ventilated cases	Peak daily CoV admissions	Daily available beds	Level 3 ICU capacity	New daily admissions capacity
None (RWC)	10,563	148	2,267	48,681	4,690	6,486	-38,118	-4,542	-4,219
Case Isolation (-20%)	10,563	148	2,267	38,945	3,752	5,189	-28,382	-3,604	-2,922
Household isolation (-25%)	10,563	148	2,267	36,511	3,518	4,865	-25,948	-3,370	-2,598
General social distancing (-55%)	10,563	148	2,267	21,906	2,111	2,919	-11,343	-1,963	-652
Social distancing in over 65s (-30%)	10,563	148	2,267	34,077	3,283	4,540	-23,514	-3,135	-2,273
Combined interventions									
Case isolation with household isolation (-50%)	10,563	148	2,267	24,341	2,345	3,243	-13,778	-2,197	-976
Case isolation, household isolation and social isolation for over 65s (-66%)	10,563	148	2,267	16,552	1,595	2,205	-5,989	-1,447	62

Figure 1. COVID-19 Demand capacity estimates for NHS Wales with Behavioural Science Interventions

3. NHS Wales - Scaling of COVID-19 testing in the Community

The **TAC group would welcome advice from SAGE** on the policy of standing down testing of individuals who are self-isolating.

Instead TAC group would like to consider a policy of scaling-up community based testing e.g. through drive through facilities or self-testing through home kits (as with other conditions) should be implemented. Laboratory capacity freed up from reduction in other NHS activities could be redirected towards COVID testing.

The benefits of a rapid increase in COVID-19 testing in Wales are several-fold and include:

- A better understanding of the epidemic and provide greater intelligence for policy shifts e.g. lifting or imposing measures.

- To be able to provide meaningful information to those who are self-isolating which would support greater compliance, as observed in other countries (e.g. Hong-Kong).
- It would help, in future outbreaks, in identifying individuals who may not be at risk (e.g. for workforce purposes).

4. Tracking implementation of Behavioural Interventions

- **TAC group asks** SAGE for support in determining a UK strategy to use non-health data monitor compliance with control measures.
- A near real-time strategy that utilises mobile phone data, social media, transport data and financial transaction would help in understanding societal behaviours and the degree of adoption of control measures.
- There is a vast range of evidence that shows public attitudes/views towards the various interventions and their changes in behaviour.
- One source is a UK wide YouGov survey of 2,300 people in response to COVID-19 (results for Wales are based on 120 interviews are similar to the UK, UK results given here).
- It shows how views and behaviours are changing quickly. For example 24% of people reported avoiding crowded public places to protect themselves – up from 14% the 2 weeks before that; 27% of respondents reported avoiding people who have flu like symptoms; 15% of people reported avoiding public transport.
- The same survey also shows changes in attitudes towards various interventions, for example 56% think the Government should cancel large events (up from 36%) , 34% temporarily closing schools (up from 17%) and 27% cancelling routine hospital appointments (up from 7%).

- Although thought to be significant, as far as we are aware impact of non-governmental (or self-imposed) control measures has not been included in current epidemiological models. In order to understand the addition of these behaviours on the epidemiological curve it is important that further surveillance and modelling is undertaken, using different real-time data sources.

5. Letter from 200 Scientists

- In response to the open letter from 200 Scientists about the UK Government response to the COVID19 epidemic, that was published on the 15/03 the TAC group have the following reflections and considerations⁴.
- The need for robust debate is an important part of science and the scientific process. Scientists like the ones who have felt strongly enough to challenge the current approach should be encouraged to test models and the interpretation of them publicly.
- Offering alternate expert advice or questioning conclusions is an important part of the process and a reason why the UK is good at science.
- Peer review is a cornerstone of the scientific process. This has always been the case and if anything this is more important now that ever. And it should be done without fear or favour. Others will come up with alternate solutions and we will not dismiss them out of hand simply because we have not come up with them first. We are also learning from others experiences and approaches, that is a given. Science is collaborative and iterative.

⁴ <https://sites.google.com/view/covidopenletter/home>

- We must be transparent in our decision-making. This is a complex fast moving set of problems. The evidence is kept under constant review and the UK will soon publish the scientific evidence that we are using to help inform our decision making for others to review and provide further comment.
- We are doing our best and we are working together to reduce harm and protect the vulnerable from this new disease. For obvious reasons this is a highly emotive issue. Now is not the time to lose our heads, quite the opposite. We need to replace fear with facts, panic with patience and above all else a determination to work together to see this through.
- The **TAC group recommends** that we publish the NHS Wales demand-capacity spreadsheets that we are using to inform planning decisions so that other scientists can openly interrogate them and provide comment.
- The **TAC group recommends** that NHS Wales publish graphs showing where we are on the epidemiological curves on a daily basis, showing progress with and without BSI interventions.