

We, the UK government, has chosen to follow a mitigate strategy. This means that we are aiming to build herd immunity by late autumn.

The consequence of this is that we are not completely locking down our population to stop the epidemic, but are simply trying to reduce the effect of the pandemic to a level that the NHS can cope with.

We should note

- The NHS 'coping' means not completely collapsing as a healthcare provider.
- At its peak, thousands of people will be dying.
- We do not know you can build immunity to Co19.

The alternative plan, is to lock down heavily contacts between people, and then try and develop a vaccine (>12 months), treatment (unknown, but we don't have one for flu), or a technical system. An example of this is HIV has a reproductive value of 7, but it is not epidemic in the UK because of the system we have in place to stop the spread.

We have chosen not to peruse this plan, as we do not think that any solution will avoid a pandemic, and therefore the best way out is through.

For this plan to work, it is crucial that the NHS does not collapse. If the NHS collapses then the number of deaths will increase significantly.

Therefore, we need to both increase NHS capacity as much as possible and secondly to ensure demand on the NHS is as low as possible.

Therefore, our plan is to delay the peak and mitigate it. This is to increase the availability of resources in the NHS and to reduce the demand.

To do this, we have two different dials that we can control:

- Behaviours that stop a person spreading the disease.
- Behaviours that stop a person catching the disease

For stopping a person spreading the disease, we will likely want to encourage different behaviours depending on the importance of the role (critical infrastructure), and the cost to the individual (i.e professionals who can easily work from home).

For stopping a person catching the disease, we need to ensure that the those most likely to strain the NHS don't catch the disease and therefore follow more stringent behaviours.

We also need to ensure that the NHS is at maximum capacity, and this basically requires a fully functioning economy.

As we near the peak, demand for the NHS will rise, and therefore we will need to increase the stringency of different behaviours for the different groups.

The hierarchy of behaviours to stop the spread of disease are (from least to most)

- Symptoms, and travel, stay home
- Symptoms, stay home
- Symptoms, the whole family stays home.
- Everyone stays home

The only reason to not escalate to the most extreme measures, is that the consequence of the more extreme measures the effect on the work force becomes large.

However, as the effect of the virus spreads, and the NHS is closer to capacity we will want to ratchet up this hierarchy of behaviours in the different groups.

Additionally, we have extra tool which is testing which allows for us to ensure that people do not spread in key areas, and to remove people from quarantine who are crucial.

To stop people catching the disease we also have a hierarchy of behaviours, but here we have a greater dial

- Washing hands
- Lowering Social contact
- Removing contact
- Banning contact

As demand increases we will ask people to increase their protection level.

Different groups will necessarily start at different points.

It is important to note that in our current RWC scenario, the NHS very likely collapses. Therefore, we currently do not have a plan in the RWC scenario.

Currently in our reasonable worst case planning assumption, we assume an 80% attack rate and a 1% fatality rate. This collapses the NHS, which likely leads to a doubling in the death rate. Therefore, our deaths would be significantly higher than predicted in the RWC.

