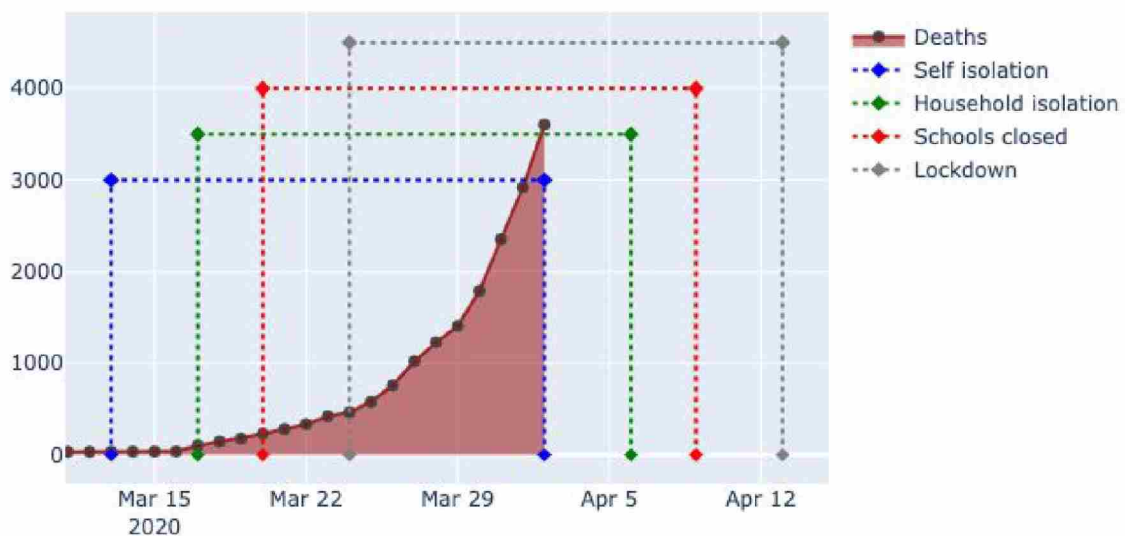


We have currently implemented a stringent set of measures in order to avoid an Italy-like scenario, in which the NHS collapses causing the death rate to double.

Because of the delay from implementation to impact we had to implement additional measures before we understood the impact of the early interventions to avoid an Italy-like scenario.

The graph below shows the number of deaths, the interventions and a rough estimate for when we would expect to see an impact on the numbers.

### Story of the epidemic



Preliminary data analysis suggests that we are likely to be similar to the Italy scenario due to the combination of efforts to increase capacity and the social impact measures. We will likely see the numbers decline after the 12th (with a margin of error of a few days), when daily deaths begin declining we know that the first crisis has passed.

From the decline, we will be able to measure the effectiveness of our current measures. Preliminary results based on surveying how behaviour has changed suggest that the range for  $R_0$  is currently around 0.6, with a max of 0.9.

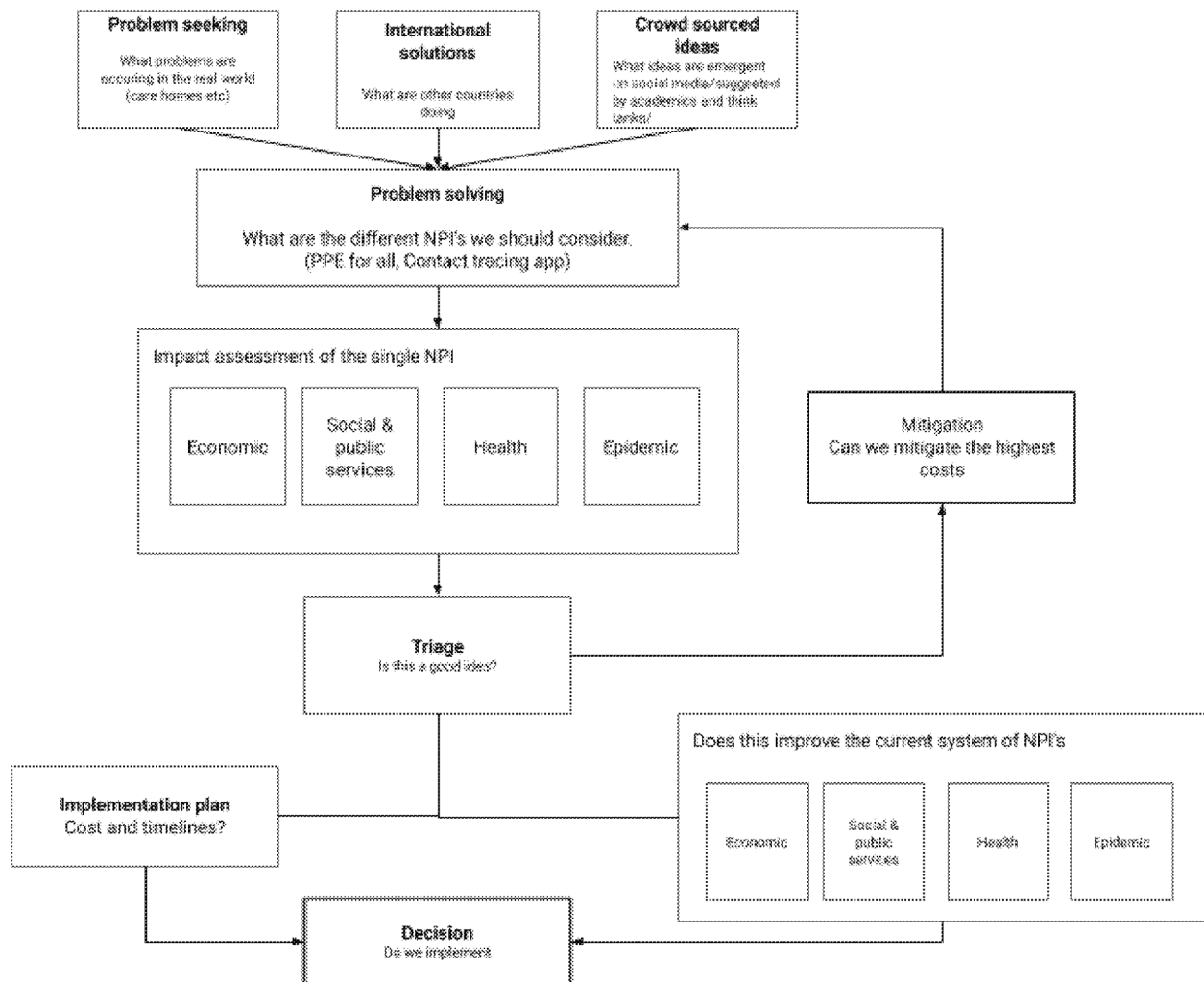
Therefore, modelling suggests that lifting any of the current measures would result in the  $R$  value increasing above 1 and therefore an exponential rise in infections.

This means that in order to lift measures, we need to replace them with other measures that have a similar effect on the epidemic, but a lower cost to society more broadly (economic, societal/public service, health).

We also need to ensure that we consider the NPI interventions as a whole system for three reasons:

- 1) Some measures will have little or potentially negative impact because other measures dominate and have second-order effects.
- 2) The R value that will drive the growth of the epidemic is not the average but the highest value.
- 3) If we commission out work, then it is likely that small crucial small vulnerable groups who are indirectly affected may be missed (household quarantine and the effect on domestic abuse).

We can lay out the system that needs to exist to allow for this problem to be worked through:



### **Problem seeking**

2-3 officials that are both proactively looking for problems by reaching out to teams, and talking to people to uncover problems that are emerging. An example of this would be talking to the polling teams in coms to understand worries about poor people not having access to an outside space and this increasing their difficulty in following government guidelines.

### **International scanning**

Here we are looking at what is being implemented in other countries.

There is a team working on this led by [NR] and a team from the royal society is thinking about this from a scientific perspective. It is likely we need a single person to interface with these different teams.

### **Crowd sourced ideas**

A large number of ideas will emerge in society (e.g. lines outside shops), we should collect these and encourage the best. [NR] in the #10 press team has begun work on this.

We should also have a team looking at the different ideas that are being produced from think tanks and academic teams. [NR] (expert advisor #10) could lead this effort, so it is likely that it will need 2 or 3 people to help triage.

### **Problem solving**

We need a group of people who are developing the large numbers of input ideas, combining and building on them to develop a set of the best single NPIs and then prioritising them into a what should be assessed

This group is the hardest to find, as you are looking for analytical creative people, a combination that is rare but does exist.

### **Impact assessment**

We need to assess the impact of the intervention in a number of different dimensions. The different dimensions need to be considered but my the first thought would be economic, epidemic, social & public services, and health cost.

For each dimension I would suggest a team of three, two analysts, and a policy person to lead the interaction with the department commissioning work and bringing in expertise.

It is likely worthwhile to add a behavioural person into this team to ensure that this is fully considered by the team.

### **Triage & mitigation**

The impacts should be reviewed and then we should also look to mitigate the highest costs. Therefore this stage should decide which NPI should be pushed to the next stage, which should be ditched, and which should be reviewed to look for ways to mitigate their impact in specific dimension.

As this step should likely act as a pseudo red team to the problem solving and impact assessment, this suggests that this step might not be part of the team, but a small committee (less than 8!).

### **Implementation plan**

It is important that we have a good idea of the feasibility, cost and time scales involved of any intervention.

This team should be formed of operational people and policy people who have experience in doing things so that the estimates and possible difficulties are as accurate as possible.

One possibility is that this is done by the same team that will be in charge of implementing the plan so that they have skin in the game.

### **System review**

We need to ensure that the intervention improves the system, and understand the effect it has when considered alongside the existing interventions. These results might suggest changes to other interventions.

To help ensure that we do not repeat work, and to ensure as small as team as possible, that to each dimension pod (the three people who look at the single NPI), we add a single person whose role is to look at the system as a whole.

### **Decision**

This is a ministerial decision, likely for the PM chaired meeting. There needs to be a few people who are in charge of writing up the papers for this meeting, it is important to note sometimes these papers should provide a negative recommendation on implementing a recommendation, but it should still be put to ministers.