

COVID-19:
Developing
a Framework
for the
Exit Strategy

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Scientists for Labour

Scientists for Labour is a socialist society affiliated to the Labour Party. Our aims are to both promote good science in politics, and promote Labour values in science. More information about Scientists for Labour, including how to join, can be found at <https://www.scientistsforlabour.org.uk/>. You can follow us on Twitter @scientists4lab.

Throughout the COVID-19 crisis, Scientists for Labour are preparing briefings and summaries of the latest research into coronavirus for Labour Party representatives and their staff. If you would like to receive these briefings or have any other queries, please contact Benjamin Fernando: chair@sfl.org.uk.

Aims and Scope

In this report, we suggest a framework through which the UK can transition out of the current state of lockdown. It should be clearly noted that this is not a plan for an exit strategy, but rather a discussion of the pertinent points that should be considered when developing such a strategy, or questioning that of the government: 'a strategy for the strategy', as it were.

Whilst every effort has been made to validate the statements made in this report and an expert fact-check has been performed, we cannot claim that the report is accurate in every regard. Care should be taken when extrapolating from the questions posed here to actual policy, and it should be noted that the situation is changing very rapidly.

The actual route taken in lifting the lockdown will almost certainly not be optimal, but the optimal route will only likely be identified after years of reanalysis in hindsight. Careful consideration of some of the factors below and questioning of the government approach on these points, will help to ensure that the national response is as close to optimal as possible.

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Executive Summary

As this global pandemic has played out, the government has come under pressure from both the Labour Party and the public to release an 'exit strategy'. This is a valid ask, but any questions should be based on an examination of the underlying assumptions and likely outcomes, rather than pushing for certainty where none currently exists.

The timeline and content of an exit strategy will have to consider various competing factors. These factors include minimising risk to the population whilst promoting economic rebuilding, controlling for the differing risks faced by different demographic or geographical groups and mitigating the strain on healthcare capacity that is likely to remain for the foreseeable future.

These factors must be analysed in terms of competing principles. For example, the need to maintain medical confidentiality whilst tracing contacts and the requirement for any strategy to be as simple as possible without being inflexible. Additionally, there is a need for the strategy to be communicated as clearly and concisely as possible without disguising the fact that enormous uncertainties exist in predicting some of the factors discussed above.

A potential exit strategy will likely be composed of a gradual easing of restrictions, beginning with key sectors and working down a list of priorities. At each stage, the metrics used in making the decision to advance (or indeed revert) should be clear; with a discussion of the expected uncertainties in each metric. For example, those uncertainties arising from the current poor specificity and sensitivity of the current antibody tests¹ or the temporal lag between infection and becoming symptomatic.

All of these uncertainties will come with an associated risk (for example, if restrictions are lifted too early, leading to a spike in infection rates, or too late, leading to further economic damage). Whilst it is prudent to be cautious, some of these uncertainties are currently very difficult to quantify and hence mitigate against. One such example is the question of how much or for how long past infection offers immunity to COVID-19².

In light of all of these considerations, it is important to consider how 'future-proof' an exit strategy might be. It is possible (or perhaps probable) that a 'second peak' will occur when restrictions are eased, and so the strategy should be sufficiently flexible to deal with this possibility. Another global pandemic with a different virus is almost certain to occur at some point in the future, so which of the current rules, recommendations or policies should be adopted on a permanent basis, to mitigate against this risk and to help combat it when it occurs?

Considerations must be made for how to deal with non-compliance with the exit strategy. On the riskier side, such considerations will likely include people moving 'a stage ahead' earlier than mandated; whilst some workers may not feel safe to return to work or send their children to school once these restrictions are lifted.

1. The current situation

At present, the UK is under the strictest extended lockdown that we have ever experienced, with the situation being replicated around the globe. Key changes from the status quo include:

- **HEALTHCARE:** the healthcare system is under greater strain than at any time in recent history. Shortages of personal protective equipment (PPE), staffing and equipment are contributing to this strain³.
- **SOCIAL POLICY:** strict social distancing rules have been in place for several weeks.
- **ECONOMICS:** the FTSE100 has lost nearly 20% of its value since the start of this crisis.
- **FINANCE:** loans have been extended to some businesses at risk of collapse. Some of these businesses may not recover.
- **EMPLOYMENT:** many workers are now on furlough, and these numbers may increase.
- **HOUSING:** a ban on evictions has been introduced.
- **JUSTICE:** substantial reductions in jury trials have occurred, though crime rates have also fallen substantially.
- **EDUCATION:** It is expected that both schools and further/higher education institutions will remain closed (or operating remotely) for the foreseeable future.
- **TRANSPORT:** numbers across all forms of transport have drastically reduced. Train and bus services are operating limited timetables, many airlines have grounded large portions of their fleets, and road traffic has been significantly reduced.

In the long term, all of the above areas will likely return to their pre-pandemic form. It is possible that an economic rebuilding strategy may involve modification of some of these categories: for example, air travel may not recover to 2019 levels, and perhaps should not be encouraged to because of the environmental damage caused by air travel. Scientists for Labour hope to expand upon these areas substantially in a later report, which explores the avenues that economic rebuilding might take.

2. Points to consider

2.1 Contributing factors

The following are some key parameters (influencing factors) which should guide considerations of how and when to ease current restrictions. This discussion is purely qualitative, but the statistical models being used by the Government will almost certainly undertake some parameterisation (consideration of the effects) of some or all of these parameters.

- **TESTING AND IMMUNITY:** it is unclear how strong the immunity conferred by past infection will be, i.e. it is possible that a single individual can contract the virus twice. In line with this issue, the reliability and availability of antibody testing (which confirms whether an individual has been previously infected and does not guarantee further immunity) will likely play a crucial role in determining the exit strategy. *A further report specifically on this topic is currently in production by Scientists for Labour.*
- **POPULATION DEMOGRAPHICS:** higher-risk parts of the population may have to remain isolated for longer⁴.
- **ECONOMICS:** whilst current projections suggest that any loss of GDP ought to rebound swiftly once all restrictions are lifted⁵, care should be taken to ensure that the economy is

not unnecessarily damaged, as this will, in the long term, affect public services. The full economic implications of COVID-19 are unclear – while some sectors of the economy may rebound relatively unscathed, others may require government intervention. Regardless, it is clear that the enormous financial costs incurred during the pandemic should not be used as an excuse for continuation of the last decade's austerity measures. These have contributed to the UK's relative lack of preparedness and have undervalued the contributions of people at the fighting edge.

- **WORKFORCES:** agricultural labour shortages are already occurring in the UK, compounded by perceived hostility to migrant labourers. Failure to alleviate these shortages could lead to shortages of some commodities later in the year.
- **TRADE:** considerations of international supply chains must be made – with some commodities (e.g. PPE or SARS-CoV-2 testing reagents) already in short supply, restoring access to consumables will be important.
- **HEALTHCARE CAPACITY:** much was made in the initial phases of the crisis of 'flattening the curve', but frontline staff are exhausted and many disposable resources are running short. Increases in other conditions (e.g. alcohol abuse) are likely to continue as the lockdown lengthens.
- **EDUCATION:** the longer that disruption to schooling occurs, the larger the attainment gap between advantaged and disadvantaged students will become⁶.
- **TRANSPORT:** many people will want to begin travelling again, both domestically and internationally. Whilst travel may be an important part of a return to normalcy, it is also potentially high-risk activity which could result in successive waves of infection being introduced.
- **RETAIL:** Shops providing food and other essential items have remained open during the lockdown, whilst all other retail outlets are closed. Shop staff are key workers with a large degree of potential exposure to the public. It would be prudent not to open all shops at the same time but rather to phase their opening, so the effect of any one phase can be assessed before moving on to the next phase. In Italy, bookshops and shops selling baby clothes have opened before other non-essential outlets.
- **INFRASTRUCTURE:** stresses have already been placed on some essential services (e.g. the internet). The longer a lockdown lasts, the more parts of the UK's infrastructure will require overdue maintenance.
- **GEOGRAPHY:** areas with lower healthcare capacity, higher levels of disadvantage, or high population density are likely to be at higher risk. A national 'one-size-fits-all' strategy may not be appropriate; but care should be taken to de-incentivise all non-essential travel.

2.2 Principles

The parameters discussed above will need to be considered within the framework of a given set of principles, to balance out competing factors and requirements. Some of these guiding principles might include:

- **FAIRNESS:** care should be taken to avoid a situation in which certain demographics feel that they are being unfairly disadvantaged in 'getting back to normal'. Any strategy will require making clear to any groups who are isolated for a longer period (e.g. the elderly, those in inner cities) why differential restrictions are in place. Care should be taken to ensure to avoid discrimination on the basis of any other characteristic (e.g. income) is avoided.

- **SIMPLICITY**: simplicity of messaging is an important factor in ensuring public cooperation. Care should be taken to ensure that the exit strategy is universally understandable and well-communicated; and that the public understand that non-compliance with gradual easing of restrictions will likely result in a return to more severe measures being implemented. The risk of doing otherwise was highlighted in the mixed messaging during the initial phases of the pandemic.
- **FREEDOMS**: individuals' desire to return to a 'normal way of life' should not be underestimated. These should be restored as soon as it is safe to do so, but no sooner. Different groups in society will tolerate different levels of disruption, and this variation (and the resulting non-compliance) need to be considered.
- **UNCERTAINTY**: there is inherent uncertainty (and hence risk) in any prediction made about how infection and death rates will change in response to easing of restrictions - especially as feedbacks exist in the public health system. Communicating uncertainty to the public is challenging⁷, so care should be taken to ensure that the public are aware that advice might change during the exit phase in response to their actions. Politically, this uncertainty translates into our recommendation that care should be taken when pushing for concrete dates for particular restrictions being lifted. Pushing for premature decisions (which may be more akin to 'guesses') might end up being worse than accepting that the uncertainties on a given topic are too large for specificities to be given.
- **ALIGNMENT**: in the early stages of the crisis, much was made of the fact that UK advice differed strongly from that of other European nations with similar demographics. If the UK's exit strategy differs from that of other comparable nations, care should be taken to explain why these differences exist and how they are justified to avoid undermining confidence in public health advice.
- **PRIVACY**: one likely component of any exit strategy is contact-tracing technology. Privacy concerns surrounding any such technology will likely have an influence on its uptake and hence the degree to which contact tracing of infected individuals is effective.
- **RESILIENCE**: a 'second wave' of the virus may emerge after initial restrictions are lifted⁸, and the exit strategy should include the capacity to accommodate such eventualities, or indeed other complicating factors - natural disasters or terrorist attacks, as an example.
- **TRANSPARENCY**: the government must be clear on its strategy, and open with the underlying reasoning, to allow for scientific scrutiny and avoid unnecessary changes in public health advice (actual or perceived). A discussion of such advice in the context of the initial phases of the pandemic was given in Scientists for Labour's March report, 'A science-based socialist response to the COVID-19 pandemic'.

3. A potential framework

The simplest strategy would be to choose a particular target (e.g. death rate falling below a certain number per day) and then removing all lockdowns. However, such an approach would likely be extremely dangerous, leading to an enormous rise in infection rates which might well overwhelm already stretched healthcare capacity.

As such, a gradual easing of restrictions is likely to be a better solution. As an example, the following four phases might be a sensible strategy (note that these are given as an illustration only and should not be construed as a public health suggestion).

- **PHASE ZERO:** the current situation, as described in section 1.
- **PHASE ONE:** (months) graded partial lifting of restrictions for services; beginning with any deemed essential, and working down the priority list. As such this Phase would involve several, possibly many sub-phases.
- **PHASE TWO:** (months-years) longer-term economic and social building, with behaviour-change campaigns to minimise the risk of recurring outbreaks
- **PHASE THREE:** (years) a 'return to normal', with economic rebuilding complete and all implemented socioeconomic mitigation measures either phased out (e.g. loans) or permanently implemented (e.g. budgeting for continual on-demand surge healthcare capacity).

An exemplar flowchart for such a decision making (without specifics) is given in Figure 1.

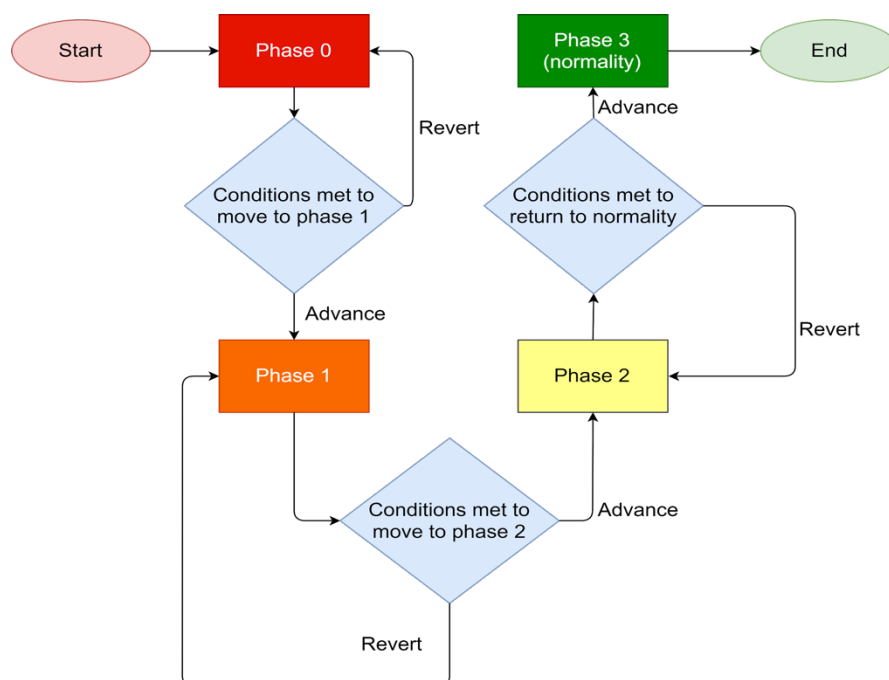


Figure 1. An exemplar progression strategy, based on a 'four phase' model. Conditions in each decision box might include metrics based on infection rates (morbidity), mortality, economic measures, or indeed one of many other factors.

4. Questions

These questions can, for the most part, be applied to any of the stages discussed above.

4.1 METRICS and TESTING

1. What metrics and targets will the government use at each stage before deciding to further ease lockdown restrictions?
2. Does the government intend to use a combination of different metrics or a single metric? If the former, how will these separate metrics be weighted?
3. How much granularity does the government expect to have in these metrics: for example, infection rates in terms of demographics or geography. Will any such information be used to inform a localised and/or demographic-specific exit strategy?
4. How will the government account for differing lag times in each of these metrics (for example, hospital admissions will lag the infection rate by a few days)?
5. Acknowledging the inherent uncertainties in all public health metrics, what confidence level will the government require of any such metrics; and how will it mitigate against the risks associated with these uncertainties?
6. If the 'immunity rate' in the population is a metric, how will the government estimate it? What efforts will be made to account for the limited availability of antibody testing, the high rates of both false negatives and false positives (low specificity and sensitivity) in such tests, and uncertainty about how much immunity is conferred by past infection?

4.2 FLEXIBILITY

1. What are the government's projections of any likely increase in the infection rate at each successive stage of restrictions being lifted?
2. In relation to the above metrics (or indeed any others), which criteria will the government use to decide if stricter measures need to be re-imposed?
3. What excess capacity exists under the government's predictions (and what surge capacity can be implemented) in the case of substantial further demands on key infrastructure, for example due to an unrelated natural disaster or a 'second peak'?

4.3 STRATEGY

1. What is the particular aim of each successive easing of restrictions?
2. How did the government develop its prioritisation plan for each successive step?
3. What is the basis for the overall strategy that has been chosen – is it to boost immunity in the general population, to attempt to eradicate the virus, etc.?
4. What comparative studies have the government undertaken, and which aspect of which countries' published exit strategy plans do they seek to emulate?
5. Is the risk analysis associated with each step available, and have critical failure points been identified?
6. What accommodations will be made in the exit strategy for 'step changes', for example, an efficacious vaccine becoming widely available?

7. What assumptions about unknown factors (e.g. a timeline for antibody tests being made available or their reliability) have made in the government's models and how sensitive to minor variations in these parameters is the overall strategy?
8. How sustainable is each stage of the exit strategy – for example, are there particular stages which can only be maintained for a given number of weeks (e.g. due to supply chain disruption, where some businesses are open and others are not) before a decision must be taken to either advance or revert?

4.4 TACTICS

1. How 'compulsory' will each step be: for example, will parents be obligated to send their children to school when in-person classes restart?
2. Within any geography or demographic-specific localisations, what accommodation will be made for those who are not themselves high-risk, but do pose an elevated risk of infecting otherwise vulnerable individuals?
3. What actions have the government already ruled out as being part of an exit strategy?

4.5 FUTURE-PROOFING

1. Given that another pandemic is, on a long enough time-scale, certain to occur, what steps has the government taken in each stage of its exit strategy to 'future-proof' that strategy, both to minimise future risks and to aid in future emergency response planning?
2. Of the emergency socioeconomic or behavioural changes implemented during the course of the pandemic, which does the government intend to maintain permanently and what is their assessment of the effectiveness of such measures?

5. Conclusions

Exactly what form the UK's exit strategy will take remains unclear. There is some scientific evidence for what might work (and indeed other countries ahead of the UK in the pandemic against which to compare), and good evidence for interventions which do not work.

In holding the government to account on this topic, it is our opinion that questioning should focus on the underlying assumptions and modelling that the government is using; in the initial stages of the pandemic these assumptions and models turned out to be unreliable. This approach has the advantage of being able to identify critical points of failure within the government's plan (for example, have they assumed an efficacious vaccine will be developed?) without the risk of undermining public health advice by pushing for timescales and decisions prematurely, whereupon they have to be revised.

In a future report, we will expand upon the international response and economic rebuilding aspects of the exit strategy and a report on testing for the presence of SARS-CoV-2, vs testing for immunity to the virus, is currently in production.

¹ University of Oxford News (accessed April 16): <https://www.research.ox.ac.uk/Article/2020-04-05-trouble-in-testing-land>

² Epidemiol Infect. 1990 Oct; 105(2): 435–446. doi: 10.1017/s0950268800048019

³ BMJ 2020;369:m1297 doi: 10.1136/bmj.m1297 (Published 2 April 2020)

⁴ Academic Preprint: Modeling strict age-targeted mitigation strategies for COVID-19. Maria Chikina and Wesley Pegden April 2020

⁵ OBR Forecast (accessed 16 April) https://cdn.obr.uk/Coronavirus_reference_scenario_commentary.pdf

⁶ *Lancet Glob Health* 2020 Published Online March 26, 2020 [https://doi.org/10.1016/S2214-109X\(20\)30116-9](https://doi.org/10.1016/S2214-109X(20)30116-9)

⁷ PNAS April 7, 2020 117 (14) 7672–7683 <https://doi.org/10.1073/pnas.1913678117>

⁸ Lancet Online (comment) April 8, 2020 [https://doi.org/10.1016/S0140-6736\(20\)30845-X](https://doi.org/10.1016/S0140-6736(20)30845-X)