Scientists for Labour

COVID-19 Recovery Strategy: An Analysis

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Executive Summary

On the 10th of May the Prime Minister briefly outlined new measures to begin to ease the lockdown. The subsequent 60 page document, published on the 11th of May, sought to clarify what many thought were unclear and under-evidenced measures. At the time of writing, we have not analysed all follow-up pieces of legislation due to the fact that these were delayed in being made available.

Here, we provide a point by point analysis of the claims outlined in that document, with any supporting or critical evidence where possible, in an attempt to verify whether these measures are 'supported by the science'. It should be noted that many of the papers referenced are preprints and hence have not been subjected to a thorough peer review.

Sections of this document seem to present a more optimistic view of the pandemic dynamics than is apparent in the literature. This seems to tally with government communications centring round the 'apparent success' of measures taken so far. There is no mention of a second peak in infections, which is deemed likely, although there is mention that monitoring will be taking place, with restrictions being reintroduced if the situation worsens.

As mentioned in the prime minister's speech, a lot of the phases seem to rely on an accurate calculation of R. The exact number (including its confidence limits), and method of calculation, are opaque. Generally, this approach, particularly in the latter phases, seems to rely on the ability to rapidly detect and isolate infected individuals, which will be difficult to implement due to the length of time it takes for symptoms to appear. Whilst the response time can likely be reduced from that at present, care should be taken in assuming that the time between occurrence and detection can be reduced to zero.

This lack of key numbers and evidence is reflected in other parts of the document, with guidance being promised 'this week' or on other vague timelines. Guidance must be provided more rapidly (and without delay in the future) to ensure certainty for workers.

Notably, there is little extra information for those who are shielding in the 'high risk' category, or those in the 'moderate' category who may be left wondering if some of the easing of lockdown will apply to them. On schools, there is little evidence on bringing back specific year groups first when schools reopen, and no acknowledgement of the fact that children cannot social distance.

The situations with PPE, testing, and contact tracing are still uncertain, and there is no mention of the potential role of antibody testing; which is likely to prove crucial. Similarly, the 'ultimate' exit strategy is somewhat confusing - it appears that the government expects the virus to be completely eliminated from the population. Whether or not complete elimination of the virus will happen is uncertain.

Disclaimer

This analysis has been undertaken within the last 36 hours by a team of volunteers who also have full-time jobs. As such, we cannot claim that it is comprehensive, free of error, or of omission. Whilst our regular reports are independently fact-checked, this is not possible on such a short timescale.

Scope

This report is not a replacement for the in-depth summaries of 1) Contact Tracing, 2) Testing, 3) A Framework for an Exit Strategy and 4) Pathology which can be found on the SfL website: COVID-19 | SfL

For reasons of efficiency, we have focussed on those sections of the document which are most suitable for independent fact-checking, and hence critical scientific analysis. **This includes sections 2-5 and Annexe A, but not sections 1, 6, or Annexe B.**

Further details

We expect that many readers will have further questions. Please direct queries to chair@sfl.org.uk or call us (using the number provided in past emails) and we will attempt to put you in touch with someone who has the relevant expertise.

Colour coding

Section references (blue) are to the government's command document: Our plan to rebuild: The UK Government's COVID-19 recovery strategy
Sub-section references are in orange to the same
Links are **yellow** for news articles
Links are **green** for papers in academic journals.
Links are in **purple** for governmental statistics or advice

Section 2: Our aims: saving lives; saving livelihoods

Key Points

Key aim: "return life to as close to normal as possible, for as many people as possible, as fast and fairly as possible… in a way that avoids a new epidemic, minimises lives lost and maximises health, economic and social outcomes."

To achieve this:

1. Redesign social distancing measures in line with the level of risk
2. Wind down economic support schemes whilst people are eased into work

Three key factors for consideration:

1. *Health effects*. As advised by the Chief Medical Officer and NHS England, this will take into account:
    a. Direct COVID-19 mortality
    b. Indirect harms arising from overwhelming of the NHS
    c. Increases in mortality or ill health as a result of measures taken
    d. Health effects of any increases in deprivation arising from economic impacts

    No part of the plan assumes an "acceptable" level of infection or mortality.
    The biggest risk to life is a second peak in winter. The plan focuses on avoiding this.
2. *Economic effects.* Need to protect "international economic competitiveness." Includes seeking new opportunities where possible- e.g.: pharmaceutical and medical devices.
    a. Short term economic impact, including the number of people who can return to work when it is safe to do so, working with businesses and unions to help people get back to work safely
    b. Long term economic future, including investing in supporting an economic bounce back
    c. Sustainability of public finances
    d. Financial stability so that banks and others can continue to provide finance to the economy
    e. The distributional effects (i.e.: a consideration of the impact on different demographics, business sectors, and areas of the country)
3. *Social Effects* including a consideration of mental health, the risks of domestic abuse, and online fraud.
    a. Number of days of education children lose
    b. The fairness of these actions, including the impact on those most affected by social distancing measures
    c. Maintaining public services and civic organisations

Feasibility: Includes technological risk, timelines to implement new technology, and the ability to work with global partners.

Overarching principles:

1. Informed by science
2. Fairness
3. Proportionality to the risk posed
4. Privacy
5. Transparency

The UK Government will work in close cooperation with the developed administrations in Scotland, Wales and Northern Ireland. Will acknowledge that the virus is spreading at different speeds in different parts of the UK.

Critical Analysis

As this section of the document outlines the principles underlying the decisions taken by the Government throughout the pandemic and into the recovery there is little scientific commentary. The statement that a “zero-risk” approach will not be possible in this crisis is reflected by the uncertainty in epidemiological modelling, and quite appropriately implies that decisions will be monitored and reversed where they are shown to be breaching one of the aforementioned guiding principles.

Key Questions:

1. What is the government’s analysis of the likely final outcome: will the disease become endemic, or will it be eliminated?
2. What steps are being taken to address uncertainty in the predictions of the answer to the above question?
3. How is the government mitigating against the risk of the current vaccine trials all failing?

Section 3: Our approach: a phased recovery

Key points:

Strategic plan:
The Government have defined the UK response to the pandemic as having three distinct phases, we are exiting the first phase at present.

- **Phase 1**: Contain, delay, research and mitigate is ending
- **Phase 2**: Smarter controls
- **Phase 3**: Reliable treatment

Phase 2 Summary: Smarter controls

- This phase aims to make social contact less infectious
    - **Make contact safer** to reduce the chances of infection
    - **Reduce contact with infected people** by testing, tracing and monitoring
    - **Preventing hotspots** with rapid local detection and interventions
- When these measures are in place there will be a stepwise adjustment to current controls
- The government will monitor the situation after each step is taken and reverse them is necessary, but might shorten the monitoring period later
- The gaps between different steps in this phase will likely initially be weeks, however, this could be shortened as monitoring capability becomes more precise
- Safety guidelines will be released this week to help the public keep safe and reduce transmission risk
- The government will continue to prioritise vulnerable groups for testing, and cocoon the most vulnerable
- Those showing symptoms, no matter how mild, will continue to self isolate
- There may be local outbreaks that can be dealt with on a local level without introducing lockdown to the whole country
- The stringent restrictions of phase 1 could return if individuals are not diligent about personal hygiene and keeping a safe distance

Phase 3 Summary: Reliable treatment

- COVID-19 is not likely to be totally eradicated
- The Government will attempt to develop either an effective treatment or a vaccine
- There are 70 ongoing vaccine trials worldwide
- Due to the inherent uncertainty of research it is impossible to determine whether or when an effective treatment will become available

Scientific evidence

Claim	Evidence	Notes
'social contact will be made less infectious by … making such contact safer (including by redesigning public and work spaces)' Pg 20	Work-related Covid-19 transmission	Designing workplaces to lower transmission of COVID-19 has been discussed in the literature, such as significantly reducing the number of employees in a building, but there have been no empirical studies on the efficacy of any of the proposed solutions to lowering transmission. Some workplaces essential for reopening the economy, such as public transit, may be impossible to make safe.
'while reopening outdoor spaces and activities (subject to continued social distancing) comes earlier in the roadmap because the risk of transmission outdoors is significantly lower' Pg 21	Indoor transmission of SARS-CoV-2	Outdoor transmission of COVID-19 is much less likely than indoor transmission, so opening up parks and other outdoor recreational facilities probably does have less of a threat of increasing transmission than reopening indoor facilities
'Initially, the gap between steps will need to be several weeks, to allow sufficient time for monitoring. However, as the national monitoring systems become more precise and larger-scale, enabling a quicker assessment of the changes, this response time may reduce.' Pg 21	*Unclear to us if this is possible*	It is unclear how much the government will be able to shorten the monitoring period, since the infection timescales of the virus, not the efficacy of the monitoring system, governs how long it takes for the consequences of a policy change to manifest themselves.
'They will also include measures that were unlikely to be effective when the virus was so widespread that full stay-at-home measures were required, but that may now have some effect … introducing stricter restrictions	Is a 14-day quarantine effective against the spread of COVID-19? Travel restrictions hampering COVID-19 response	While testing and quarantining, so long as it is done accurately, of international travellers does have a positive impact in slowing the spread of COVID-19 a travel ban or other burdensome restriction on international

on international travellers.' Pg 22		travellers would probably hamper COVID-19 response
'They will also include measures that were unlikely to be effective when the virus was so widespread that full stay-at-home measures were required, but that may now have some effect ... advising the use of face coverings in enclosed public areas such as on public transport.' Pg 22	Face Masks for the General Public	Face masks may help lower the spread of COVID-19 and their use should be encouraged
'Throughout this period, the Government will need to continue an extensive programme of shielding for this group while the virus continues to circulate.' Pg 22	Quantifying SARS-CoV-2 transmission suggests epidemic control with digital contact tracing	Cocooning of vulnerable people is a strategy that has been proposed for a while, and although vulnerable people should take greater precautions than the rest of the population, it is unlikely for it to be possible for a cocooning strategy to actually work unless the number of daily tests and contact tracing teams is radically increased to include almost all members of the population, and not just those showing symptoms or the most vulnerable
'As quickly as possible, the Government must move to a more sustainable solution, where the continued restrictions described above can be lifted altogether.' Pg 23	Fresh Covid-19 outbreaks reported in South Korea and Germany after rules relaxed	It is very easy for COVID-19 to return even after it was thought to be eradicated in a country. This needs to be borne in mind throughout.
'The Government also anticipates targeting future restrictions more precisely than at present, where possible, for example relaxing measures in parts of the country that are	The effect of inter-city travel restrictions on geographical spread of COVID-19: Evidence from Wuhan, China	It may be the case that local teams could be able to reintroduce restrictions to a specific area of the country, without causing restrictions needing to be reintroduced to the entire country, so long as travel

lower risk, but continuing them in higher risk locations when the data suggests this is warranted.' Pg 23		between different parts of the country remains minimal
'It is possible a safe and effective vaccine will not be developed for a long time (or even ever), so while maximising the chances this will happen quickly where the Government can, it must not rely on this course of action happening.' Pg 23	Only vaccines or drugs will end social distancing	There will probably have to be some social distancing measures until a vaccine or a pharmaceutical treatment is developed

Critical Analysis

It is our opinion that this document is significantly more optimistic than the prevailing view presented in the literature (acknowledging that the literature too may have a bias in seeming pessimistic).

The description of a cautious stepwise approach to easing restrictions is appropriate, but there is no mention of a potential second wave of the pandemic (and the figure on Pg 21) implies a continuing reduction in the number of infections. This is potentially misleading and could lead the public to assume that 'the crisis is over'. Evidence from Germany suggests that a rise in the infection rate should be expected and strategies to deal with this should be in place.

This approach is also heavily reliant upon the ability to rapidly detect and isolate infected individuals which will be difficult to implement due to the length of time it takes for symptoms to appear. Without greater detail regarding how this lag between an outbreak and detection will be dealt with, the cautious and experimental approach will be unlikely to have sufficient reactivity to bear out the optimistic presentation of this approach.

Key Questions

1. Can the government provide a more thorough summary of their assessment of the risks of secondary outbreaks occurring?
2. Can the government provide a more exact assessment of exactly what steps will be taken on a local level should secondary outbreaks occur?
3. What is the government's estimate of the minimum response time between the occurrence of an outbreak and its detection, bearing in mind the lag between infection occurring and symptoms being reported?

4. What is the maximum local level of differential that the government is willing to introduce within England (e.g. complete lockdowns in some towns?)
5. When can we expect a more detailed plan for the quarantine of international travellers?

Section 4 - our roadmap to lift restrictions step-by-step

Step One

This guidance should come into effect on Wednesday 13 May.

Key Points

- **People should work from home where possible**
  - Those who cannot work from home may go to their workplace if it is open
  - Opening workplaces should follow new 'COVID-19 secure' guidelines to be published this week
  - Anyone with symptoms, or with a symptomatic household member should not go to work
- **Guidelines for schools remain unchanged**
  - Children of key workers may attend
  - Vulnerable children may attend
  - Local authorities should urge more children who would derive significant benefit to attend
  - Paid childcare in accordance with public health principles in Annex A may take place
- **Public transport should be avoided where possible**
  - There will be increased funding for widening pavements, create pop-up cycle lanes and close some roads
  - Public transport social distancing guidelines will be published this week
- **Face-coverings should be used where social distancing is not possible**
  - Facemasks for medical settings should be preserved for healthcare workers
  - Children under the age of 2 should not wear face-coverings
  - Face-coverings protect others rather than the wearer
  - Homemade cloth coverings can be effective in some circumstances
- **Outdoor public spaces have a lower transmission risk**
  - People can only meet one person from outside their household outdoors observing social distancing guidance
  - Outdoor exercise is unlimited, excluding high risk sports and publicly handled surfaces (outdoor gyms and playgrounds)
  - Can drive to open outdoor areas irrespective of distance
  - Should not drive to parts of the UK with different guidance (e.g. devolved regions)
- **The clinically vulnerable should be protected**
  - Clinically vulnerable refers to people over 70, those with underlying health conditions and pregnant women
  - These people will not be shielded but should take particular care and minimise contact with others

    - “Extremely vulnerable” people, those with the most high risk conditions, are shielded, i.e. strongly advised to stay at home and avoid face-to-face contact with others
    - Those who are shielded will receive the provision of essential food
    - The Government will also facilitate calls and support for shielded people
- **The Government will be imposing higher fines for those who are not compliant**
    - They will seek to make clearer what is and is not permitted
- **Further physical proceedings will take place in Parliament**
- **International arrivals will be required to self-isolate for 14 days**
    - The Government will arrange accommodation for arrivals where necessary
    - Arrivals will be required to provide contact information and strongly advised to download the contact tracing app
    - These rules will not come into force on 13 May but as soon as possible

Step One Summary

From the 13th of May the lockdown restrictions will be partially relaxed, with extra guidelines becoming available to enable some people to return to their workplaces where working from home is not possible. Individuals will also be permitted to use open public spaces provided they follow the social distancing guidelines to be announced this week. The clinically vulnerable are advised to take a more stringent approach to protecting themselves, and the “extremely vulnerable” will have provision made to continue self-isolating as before.

Scientific evidence

Measure	Evidence	Notes
Higher-risk groups: discussion	Who's at higher risk from coronavirus - Coronavirus (COVID-19)	Still contains the recommendation for high risk groups to shield, and moderate risk groups to ‘only leave your home for things like getting food or medicine, or exercising once a day’ which hasn’t changed since the governments relaxing of lockdown measures.
Homemade cloth face-coverings can help reduce the risk of transmission in some circumstances. Face-coverings are not intended to help the wearer, but to protect against inadvertent transmission of the disease to others if you have it asymptomatically.	Selection of homemade mask materials for preventing transmission of COVID-19: a laboratory study	A range of household materials can be used to reduce transmission of the virus - though they are not as effective as masks designed for medical settings.

SAGE advise that the risk of infection outside is significantly lower than inside	Indoor transmission of SARS-CoV-2 Covid-19 and outdoor safety	Outdoor transmission of COVID-19 is much less likely than indoor transmission, so opening up parks and other outdoor recreational facilities probably does have less of a threat of increasing transmission than reopening indoor facilities
The rate of infection remains too high to allow the reopening of schools for all pupils yet.	Expected impact of reopening schools after lockdown on COVID-19 epidemic in Île-de-France	Reopening schools after lifting lockdown will likely lead to an increase in the number of COVID-19 cases, indicated by the modelling in this preprint which focuses on a specific region of France. *(See SfL report Prime Minister's Speech: 10 May)*
Can drive to open outdoor areas irrespective of distance	Using mobility to estimate the transmission intensity of COVID-19 in Italy: A subnational analysis with future scenarios	An increase in mobility to 20% of pre-lockdown levels could lead to a much more damaging second peak

Critical Analysis

The measures set out in this section to enable the first step of the release from lockdown are sensible. However, several of them appear to have been 'de-synchronised', such that actions were announced before appropriate safety measures were in place. This is dangerous.

Substantive discussion has already occured in the media on this topic, with areas of particular concern including the announcement about workplaces, and the statements about the safety of public transport. The release of safety information should be done prior to, or simultaneously with, information being released. Failure to provide accurate and sufficient guidance can result in individuals taking matters into their own hands, with associated risks in behaviour and subsequent difficulties in eventual re-alignment with rules.

Those in the 'clinically extremely vulnerable' group have now been shielding for 7 ½ weeks, and were expected to finish the 12 weeks of shielding on 14th June (if they received notice on the first day - 23rd March). While lockdown measures are starting to relax for the wider population, there has been little further information for the 'clinically extremely vulnerable' group, as well as the 'clinically vulnerable' or 'moderate risk' group. Those segments of the population who need shielding or who are at moderate risk - which includes all over 70s - have been left behind somewhat in these new measures.

Key Questions

1. Can the government confirm that any future changes to the lockdown strategy will include safety information being released prior to, or simultaneously with, policy announcements?
2. Does the government have any plans to provide further advice and guidance to those in the vulnerable and extremely vulnerable groups, to assist with their planning for further shielding?
3. Does the government have an estimate of how the capacity of public transport systems will vary over the easing of restrictions?
4. Has the government considered the impact of the 'unlimited driving distance' rules on isolated and rural communities (e.g. the Lake District, south coast beaches), who may have comparatively older populations and lower access to healthcare services?

Step Two

These changes will come into effect no earlier than 1 June 2020, subject to improvement in testing and tracing capacity.

Key points:

- Restrictions on schooling will be gradually relaxed
    - Children in reception, year 1 and year 6 will return to school
    - Preparation for some face-to-face contact with year 10 and 12 students
    - The ambition for all primary school children to have one month in school before the summer break
- Phased return of non-essential retail
    - The Government will release further guidance on this phasing
    - This will not include hospitality and personal care (hairdressers etc.)
- Cultural and sporting events behind closed doors
- Re-opening more public transport in urban areas
- Households will be allowed to include one other household in an exclusive group
    - The Government will release further information on the nature and timing of this step

Step Two Summary

The second step of adjustment presents a further move back to normality. Schools will begin classes again for some groups of students, ideally moving towards face-to-face education for all primary pupils before the beginning of the summer holidays. There will also be a relaxation of restrictions on the retail sector, with the sequence for reopening to be released in the next few weeks. Households will also be able to expand their contact to one other household to maintain social bubbles.

Scientific evidence

Measure	Evidence	Notes
Opening non-essential businesses	Considerations for public health and social measures in the workplace in the context of COVID-19	We need clarity regarding practices for hygiene and social distancing in workplaces, as well as travel to and from workplaces (employees and customers)
Partial reopening of schools	WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 May 2020	We need a clear understanding of the transmission and severity in children The epidemiology of each school's area must be considered Control and intervention measures should be considered for each school
Partial reopening of schools	Age-dependent effects in the transmission of COVID-19 epidemics	It is unclear whether children are less likely to be infected or just less likely to exhibit symptoms
Reopening cultural events	WHO advice - staying safe during season of religious and cultural events, amid the COVID-19 outbreak	We need clarity on what constitutes 'behind closed doors' at cultural events and on the limits put in place on events of this type
Groups of households being allowed to interact	*Unclear to us what the plan for this is, and hence it cannot be fact-checked*	It is as yet unclear when or how the Government intends to implement this step, or on what basis the measure is justified (scientific or otherwise).

Critical Analysis

Exactly how the government devised its prioritisation strategy for reopening schools remains unclear. Whilst children often have milder cases, it is unclear whether this means that they are less susceptible to infection, or have higher rates of asymptomatic disease.

Whilst the aim of ensuring that those who stand to lose the most from disrupted education are prioritised (those with upcoming exams), this must be weighed up against the risk of increased transmission, especially in younger pupils who are unable to follow social distancing and contact reduction measures as effectively.

Key Questions

1. Can the government elaborate on how it devised its prioritisation strategy for the reopening of schools, specifically in relation to the tradeoffs against ability to comply with hygiene and distancing measures?
2. How does the government expect the opening of schools to affect the reproduction rate?
3. What measures will the government instruct schools to take to account for the reduced ability of the youngest pupils to undertake risk-adverting measures in hygiene?
4. Will any specific protective equipment be installed in schools prior to their reopening?
5. Has the government undertaken an analysis of how the resumption of sporting and cultural events (even behind closed doors) will affect the reproduction rate?
6. What steps is the government taking to address the concerns of the TUC?

Step Three

The Government plans for step three to come into force no earlier than the 4 July 2020.

Key points

- Open some businesses which were not included in step two:
    - Personal care
    - Hospitality
    - Public spaces
    - Leisure facilities
- Any reopened businesses will have to adhere to the COVID-19 secure guidelines
    - Some businesses may not open, or only open in part
- The Government will pilot and phase these reopenings
- A series of taskforces will work with stakeholders in these sectors to ensure businesses can comply with guidelines

Step Three Summary

The third step in this approach is the phased reopening of higher risk businesses, such as hospitality and leisure facilities. The Government aims to set up taskforces to work with these sectors to pilot and test safe reopening of these businesses. All reopened businesses will have to comply with COVID-19 secure guidelines.

Scientific evidence

Measure	Evidence	Notes
Opening further businesses	Considerations for public health and social measures in the workplace in the context of COVID-19	Risk assessments should be carefully undertaken well in advance.

Critical Analysis

This third step contains very little detail at this stage. It is probably fair to state that no country that has entered lockdown has entirely exited from it so it is impossible to fully predict the impacts of opening these higher-risk businesses. This should become clearer as countries ahead of the UK in the pandemic are better able to act as guides for what our policy should be.

However, there needs to be greater insight into the increased scale of PPE availability and tracking and testing required to enable this third step. The WHO notes that opening businesses and schools should carefully take place in advance, indicating that this activity could be very time consuming, especially if it needs to be done before the 4th of July.

Key Questions

1. When will risk assessments begin for these higher-risk businesses?
2. Can the government provide more clarity as to which countries it expects to use as models for the third phase of the lockdown - if this is not yet known, what comparative studies is the government currently making use of?

Section 5 - Fourteen supporting programmes

This section details the fourteen programmes which will be supporting the UK lockdown exit strategy.

1. NHS and care capacity and operating model

This programme will secure NHS and care capacity, ensuring it is sustainable going forward.

Key Points

- 17 million items of PPE have been delivered to 258 trusts and organisations
- The National Government has been working closely with devolved administrations
- A new PPE industrial strategy to ensure that all staff are appropriately equipped for all NHS and care settings
    - Expanding overseas supply with a Cross-Government PPE sourcing unit. This body will secure new supply lines and lobby other Governments to lift export restrictions.
    - Improve domestic manufacturing capability by building on existing opportunities and supporting the scale-up of engineering efforts for small companies.
    - Expanding and improving the logistics network supplying the front line. The NHS, industry and armed forces will work together to provide PPE to 58 000 healthcare settings. The Government will also release stock to wholesalers for primary and social care
- Seeking innovative operating models for UK health and social care settings ensuring patient safety
    - This could include telemedicine and remote monitoring
    - An increase in capacity for community care and step-down services
- Investing in preventative and personalised solutions for long-term illnesses and obesity
    - Expanding infrastructure for active travel (walking or cycling)
    - Expanding health screening services
- Delivering manifesto promises
    - Building 40 new hospitals
    - Reforming social care
    - Recruiting 50000 new nurses
    - 50 million new GP appointments
- Ensuring those in need can access social care
    - Investing £1bn in social care each year
    - Ensuring people can be discharged from hospital into appropriate social care provision
    - Long-term reform of social care ‘no one is forced to have to sell their home to pay for care’

Summary

The Government has set out five key areas to ensure the long-term sustainability of the NHS throughout this crisis and beyond. This includes a coordinated industrial strategy to secure PPE for frontline staff, identifying health operating models which can support remote care, and taking preventative measures to reduce the burden of long-term illnesses. These measures will be complemented by long-term investment strategies in the NHS and social care.

Scientific evidence

Claim	Relevant paper	Notes
Preventing critical care capacity from becoming overwhelmed	The effect of non-pharmaceutical interventions on COVID-19 cases, deaths and demand for hospital services in the UK: a modelling study	Extreme restrictions should remain in place for a large proportion of the year to prevent NHS critical care capacity becoming overwhelmed

Critical Analysis

The claim that the government has been working closely with devolved administrations seems to go against the fact that Scotland, Wales and Northern Ireland now all have differing lockdown measures. This divergence creates risks, as opportunities and incentives now exist for greater levels of travel to enable different activities.

The promises reiterated in this section do not go far enough to repair previous damage to the health and social care sector done by the government e.g. vacancies for nurses remain around 40,000.

Key Questions

1. Is there a comprehensive plan in place for the rectification of PPE shortages, and if so will the government commit to providing updates on the situation at the daily press conferences?
2. How will steps to provide telemedicine avoid discriminating against those with poorer levels of internet connectivity, or reduced ability to use technology for any reason?

2. Protecting care homes

The key priority in adult social care is infection control.

Key Points

- An additional £3.2bn of additional funding for local authorities
- £1.3bn for the NHS and local authorities to work together on discharged patients with additional needs
- The number of deaths in care homes has been falling for the last fortnight
- The majority of care homes have been protected from any cases
- There will be further steps to support work with the care home sector
    - Widespread and swift testing of symptomatic residents and all those discharged from hospital
    - Infection prevention and control through distribution of PPE and issuance of remote training on cleaning practices
    - Expanding the workforce by paying for rapid induction training and making DBS checks free for care home staff
    - Clinical support from a named physician for every care home before the 15th of May
    - Expansion of guidance to include tailored advice for controlling outbreaks for groups with different needs
    - Local authorities will take the lead on ensuring the previous points are delivered to care homes with the ability to escalate to the regional and national level.

Summary

The Government has set out a plan to control the spread of COVID-19 through care homes. This includes significant increases in funding, with greater access to guidance, PPE, staff and clinical support. Local authorities will have responsibility for delivering these provisions.

Scientific evidence

Measure	Evidence	Notes
Increasing funding, PPE access and support for care homes	Coronavirus disease 2019 (COVID-19) – Situation Report 72	Alongside a programme of test and trace, social care can be used to take the pressure off the health care sector

Critical Analysis

Measures such as increasing testing in care home settings come far too late for some. This section also lacks clear measurables needed in order to evaluate success.

Key Questions

1. How will the enhanced testing program be used to mitigate against the risks of a second wave occurring in care homes?
2. How does the government intend to pursue contact tracing in a care home setting?

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3. Smarter shielding of the most vulnerable people

Key points

- Around 2.5 million people across the UK have been identified as being clinically extremely vulnerable and advised to shield.
    - People who are most at risk of severe illness if they contract COVID-19.
    - Advised to stay at home at all times and avoid any face-to-face contact, until the end of June.
- Additional support for those who are shielded
    - Delivery of food, medicines and care
    - Over one million food boxes have been delivered since the programme began
- The Government will also consider guidance for others who may be more vulnerable to COVID-19 and how it can support people to understand their risk.

Summary

Individuals who have a higher risk of serious illness will be asked to continue self-isolating as they have been. These efforts will be supported by national and regional authorities with the delivery of key supplies.

Scientific evidence

Measure	Evidence	Notes
People at higher risk should continue to self-isolate	Ethnicity, comorbidity, socioeconomic status, and their associations with COVID-19 infection in England: a cohort analysis of UK Biobank data	Initial studies indicate that ethnicity and living in a deprived area are risk factors for severe COVID-19

Critical Analysis

Very little additional advice has been given to those who are shielding other than ‘carry on’, which may be confusing and concerning for many as the rest of England starts to relax from lockdown. Many of these people will only be able to integrate back into society once the threat from COVID has been significantly reduced or a vaccine provided, however the government has outlined no further timelines for when this might occur.

The statement that one million food boxes have been delivered should be taken in the context there are 2.5 million people who have been shielding for over 7 weeks. Clearly more is necessary to support this group.

Key Questions

1. When does the government intend to update advice for those in the vulnerable and extremely vulnerable categories?
2. What is the current assessment of the long term-health risks to these groups from reduced exercise, Vitamin D, and social isolation.

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4. More effective, risk-based targeting of protection measures

Key Points

- It is clear the virus disproportionally affects older people, men, people who are overweight and people with some underlying health conditions.
- Public Health England is launching a review into factors affecting health outcomes.
- Clinically vulnerable people have been identified as those over 70 and pregnant women are advised to take particular care avoiding those from outside their household

Summary

PHE and the Government are working to target advice for specific higher risk groups. Until the factors affecting clinical outcomes are identified these individuals are advised to take special care to avoid situations which could place them at higher risk of contracting the infection.

Scientific evidence

Measure	Evidence	Notes
Only some of the presumed risk factor characteristics are mentioned. Notably missing is the fact that those from BAME communities seem to be dying at a much higher rate than their white counterparts.	Coronavirus (COVID-19) related deaths by ethnic group, England and Wales	When taking into account age in the analysis, Black males are 4.2 times more likely to die from a COVID-19-related death and Black females are 4.3 times more likely than White ethnicity males and females.

Critical Analysis

More evidence is needed on who is most vulnerable to COVID-19 and why. This should be considered alongside all other measures, including when to return to work, reopen school and increase levels of social contact.

Key Questions

1. Can the government urgently summarise its understanding of what the origin of these risk factors is?
2. Can the government details what additional research funding it has provided for groups studying the origin of the ethnic biases in fatality rates?
3. What is the government doing to better support older men and BAME populations specifically through this crisis?

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5. Accurate disease monitoring and reactive measures

Key Points

- Success depends on monitoring and quick detection of outbreaks. This will be challenging during winter
- **Joint Biosecurity Centre (JBC):** The Government will set up an independent analytics and response centre to provide real time analysis and assessment of infection outbreaks at a community level, to enable rapid intervention
    - The centre will:
        - Collect data
        - Analyse data
        - Advise Chief Medical Officers in regards to changing the COVID Alert level
        - Identify mitigation actions
    - The centre will set the COVID-19 alert levels
        - Level 1 - Not present in the UK
        - Level 2 - Low number of cases and transmission
        - Level 3 - Epidemic in general circulation
        - Level 4 - High or exponential transmission
        - Level 5 - Material risk of healthcare services becoming overwhelmed

Summary

The development of a new independent centre which will report to the Government and the public the current status of the infection in the UK. This centre will be responsible for collecting and analysing information which will advise the Government decisions for the phased exit strategy.

Scientific evidence

Measure	Evidence	Notes
Creation of an independent analytics and response centre	*Not applicable*	Evidence for or against such a centre does not exist, because the idea is new. Time will tell whether or not setting up the centre was worthwhile.

Critical analysis

The development of this Centre will likely provide much needed impartiality and transparency to the monitoring and communication around the pandemic. However, at this stage it is impossible to determine whether the Joint Biosecurity Centre will be a success. There are some key questions regarding how the Centre will interact with decision makers going forward.

Key Questions

1. Will information from this centre be released in a comprehensive and clear way on a timely basis to ensure that the centre is truly 'independent'?
2. Who will staff the Centre, and what steps will be taken to ensure that a diverse range of expertise is present?

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6. Testing and tracing

Key Points

- Better targeting interventions with mass testing and tracing will enable the country to move through the exit strategy phases.
- The UK has testing capacity >100,000 tests/day, the government has committed to 200,000 tests by the end of May
- Baroness Harding is leading the COVID-19 Test and Trace Taskforce
- The Taskforce will ensure rapid testing for newly symptomatic patients and their contacts
- This testing regime will rely on several systems
    - Widespread swab testing with fast turnaround with digitally enabled ordering and results collection
    - App-based contact tracing to alert users when they may have been exposed
    - Online and phone based contact tracing to complement the app
- Outbreaks amongst the socially excluded will be hard to detect and contain
- The Government will add antibody testing to determine whether people have already had the disease
- These different sources will form the national COVID-19 dataset

Summary

An extensive testing programme has been proposed with ambitious targets of over 200k daily tests targeted using contact tracing and identifying symptomatic individuals. The swab tests will increasingly be augmented with antibody testing to determine the recovered population. A national COVID-19 dataset will be formed to provide monitoring and research capability.

Scientific evidence

Measure	Evidence	Notes
Testing	Daily COVID-19 tests	The number of people tested in the UK has been falling since 1 May.

Critical Analysis

Whilst the Government has regularly claimed that there is a testing capacity of >100,000 tests/day this has not translated into that many people being tested each day, which has on average fallen since 1 May. There are also significant concerns regarding the efficacy of contact tracing, as it will likely require a significant uptake of users. For further details on these issues please refer to the SfL reports on testing and contact tracing.

Key Questions

See SfL Reports on Tracing and Testing on our website for a full list of questions: COVID-19 | SfL

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7. Increased scientific understanding

Key Points

- £25m in research grants have already been distributed to study vaccines, therapies and treatments.
- The Government has recruited 9000 patients into the world's largest randomised trial for repurposing drugs to treat COVID-19.
- The UK has launched a £20m consortium to use genomics to track the spread of COVID-19.
- The DoH has set up a platform for accelerating the development of new drugs for COVID-19.
- UKRI has opened a call for research projects into the health, social, economic, cultural and environmental impacts of COVID-19.

Summary

Significant research funding has been made available to rapidly find routes to treatments or vaccines which will enable the Country to move to phase three of the exit, reliable treatment. There will also be work to understand the wider impacts of the COVID-19 pandemic.

Scientific evidence

Measure	Evidence	Notes
Increasing scientific funding	Beat COVID-19 through innovation	States that innovation is a cost effective way to ease the lockdown

Critical Analysis

The decision to provide greater funding to science and technology is welcome, as any therapy or vaccine which can shorten the time to entering the third phase of reliable treatment will almost definitely be a cost-effective approach.

Key Questions

1. How will research be coordinated across so many programmes and groups?
2. What steps are being taken to ensure that international responses (e.g. those through the Coalition for Epidemic Preparedness) are well-coordinated?

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8. ‘COVID-19 Secure’ guidelines

Key Points

- An extensive programme of engagement with many stakeholders has been undertaken to agree the best way to make workplaces less infectious.
- These guidelines will be based on sound evidence.

Summary

The Government is working with a wide variety of stakeholders including Unions, the NHS and the health and safety executive to develop comprehensive guidelines to maintain the safety of people in the workplace.

Scientific evidence

Measure	Evidence	Notes
Guidelines for workplaces	Uniforms should not be washed at home during COVID-19, warn scientists	Healthcare workers should be provided with washing facilities

Critical Analysis

Clear guidelines are urgently required for reopening workplaces around the UK. There is considerable confusion regarding what controls should be in place across different settings.

Key Questions:

1. Will the government ensure that any future advice is released concurrently with, or prior to, future policy announcements?
2. Will any extra funding be made available to employers to ensure that their workplaces are COVID secure compliant?

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9. Better distancing measures

Key Points

- The Government will replace the current social restrictions with targeted measures.
- These changes will be done with the three key factors of health, economy and society at the forefront.

Summary

The Government will gradually adjust social restrictions to target high risk groups. These changes will be done in such a manner as to best protect the health of the population, the UK economy and prevent adverse social impacts.

Scientific evidence

Measure	Evidence	Notes
Not applicable	*Not applicable*	*Not applicable*

Critical Analysis

This section is a restatement of the general purpose of the whole document.

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10. Economic and social support to maintain livelihoods and restore the economy

Key Points

- The Government released one of the most generous support packages in the world.
- The job retention scheme has prevented 800k employers from laying off 6 million employees.
- There has been a Self-Employment Income Support Scheme.
- Universal Credit has had a temporary one year increase of £20 per week.
- Introduced a moratorium on private rental evictions.
- Established a hardship fund for rough sleepers.
- For businesses:
    - VAT deferrals until the end of June, providing a £30bn cash injection.
    - Business rates holiday.
    - Cahs grants for small businesses.
    - £1.25bn in support for innovative firms.
- £750m to enable frontline community support in areas such as domestic violence.
- The Government response to COVID-19 could cost up to £100bn over 2020-21.
- The UK economy must be agile to changes in the global economy after COVID-19.
- As people return to work the economic support measures will be wound down.

Summary

The Government has attempted to ensure that the economy can be maintained throughout the period of this crisis by providing extensive funding to maintain businesses and jobs. The direct cost of the Government response has been estimated to be £100bn over the next year by the OBR.

Scientific evidence

Measure	Evidence	Notes
Economic maintenance	COVID-19 puts societies to the test	Previous recessions have exacerbated child poverty with long lasting effects on outcomes
Economic maintenance	How Covid-19 has exposed inequalities in the UK food system: The case of UK food and poverty	COVID-19 has exposed the insecurity faced by many people in the UK

Critical Analysis

With a strong probability of a global recession the poorest in society will be the most vulnerable to falling into poverty with long-term impacts on their health and wellbeing outcomes. They are also the most likely to be unable to work from home, and have jobs in high risk environments

such as personal care or hospitality businesses. Without Government financial support and clear guidance on social distancing in workplaces the poorest in society are far more likely to be pressured into working in dangerous situations.

Key Questions

We do not feel qualified to pose the most pertinent questions on this topic.

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11. Treatments and vaccines

Key Points

- An epidemic modifying strategy will aim to induce immunity in the population.
    - The vaccine must be very safe and effective - as it is used on the total population.
- A disease modifying vaccine strategy protects the entire or most vulnerable parts of the population from the worst effects of the disease.
    - The epidemic may continue with significantly reduced mortality and long-term health effects.
- To move to phase three the Government must reduce the time taken to develop, test, manufacture and distribute a reliable vaccine or treatment.
    - Vaccine taskforce to accelerate vaccine development.
    - There are three phase 3 drug trials underway testing 10 candidates.
    - Investing in UK based manufacturing capability to ensure a vaccine or drug can be manufactured at scale as quickly as possible.
    - The Government will plan the rapid distribution of a vaccine or treatments.

Summary

The Government will be prepared for the development of an effective treatment or vaccine with a plan for rapid manufacturing and distribution across the nation.

Scientific evidence

Measure	Evidence	Notes
Current vaccine status	*See SfL Vaccine report* *COVID-19 | SfL*	There are 10s to 100s of new publications about vaccines every day, which we are providing updates for in our daily briefings The Government should endeavour to fund, promote and encourage scientific research into new vaccines

Current treatment status	*See SfL daily briefings, Pathology Report, and upcoming Treatment Report* *COVID-19 | SfL*	There are 10s to 100s of new publications about treatments every day, which we are providing updates for in our daily briefings The Government should endeavour to fund, promote and encourage scientific research into new vaccines

Critical Analysis and Key Questions

See documents linked above.

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12. International actions and awareness

Key Points

- The UK will only be fully free of COVID-19 when it has been eradicated across the world.
- The UK has spearheaded global action through the G20 and G7.
- Co-led the Coronavirus Global Response International Pledging event mobilising £6.5bn from 42 nations.
- Co-led on a G20 action plan to call for a $200bn global support package from the world bank and regional development banks, and $12bn of debt suspension until 2021.
- Pledged £388m for the global funding call for vaccines.
- There is also support for:
    - Debt relief.
    - Combating gender inequality.
    - Ensuring access to critical goods.
    - Resilient supply chains.

Summary

The UK claims to have been an international leader in the global response to COVID-19, leading on initiatives such as debt relief and financial support to lower income nations. As well as pledging a large contribution to the global funding call for vaccine research. This is to ensure that there is a global effort to overcome the effects of the pandemic.

Scientific evidence

Measure	**Evidence**	**Notes**
The need to assist the poorest nations	The moment to see the poor	The greatest burden of the disease will sit with the poorest

Critical Analysis

It is of vital importance that poorer nations are given equitable access to treatments and vaccines when they become available. This document has been clear that the UK cannot be free of the disease until it is eradicated worldwide, whilst also stating in the previous point that it is vital that the UK has the manufacturing capability in place to rapidly develop and distribute vaccines and treatments. Whilst these are not mutually exclusive positions, care should be taken to avoid an inward-looking approach to distribution of medicines.

Key Questions

1. Given that 'free trade is vital to the UK', what is the government's assessment of Brexit on the UK's response to tackling coronavirus?
2. What is the government's assessment of COVID on Brexit negotiations?
3. What is the government's assessment of the risks of regulatory divergence in key areas (including medicine) if the pandemic continues on past the end of the year?

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13. Public communication, understanding and enforcement

Key points

- The Government request for compliance has been a significant intrusion into people's lives.
- Targeted measures will be more effective, but complex messaging will be more difficult to comply with.
- The Government will invest in population-wide public health education.
- People will have to be trusted to comply with more subtle measures.
- Deterrence will be in place for those who refuse to comply.

Summary

The Government will invest in extensive public health education and messaging to ensure that the population is clear on how best to prevent the spread of COVID-19. This will be accompanied by deterrence measures.

Scientific evidence

Measure	Evidence	Notes
Complex messaging will be more difficult to comply with	COVID-19: are we getting the communications right?	The Government has not been transparent - refusing to deal with 'unfriendly' publications in the past

People will have to be trusted to comply with more subtle measures	The public's response to "social distancing" is a government communications failure	Early non-compliance can be viewed as a communications failure by the Government

Critical Analysis

The Government's public communications are not helped by constantly referring to their "success", when it is clear they have mismanaged many aspects of the crisis.

Key Questions

1. How will the government ensure that poor healthcare literacy does not continue to pose as much of a challenge in any potential second wave?
2. How will the government reach out to communities who are less able to understand the current measures, including but not limited to immigrants, refugees, and those with disabilities?

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14. Sustainable government structures

Key points

- Governments must learn the lessons from this crisis to ensure resilience to future epidemics.
- This will require rapid reengineering of UK Government structures.
- This crisis has shown some of the best aspects of Government, creativity and energy from the NHS to rapidly transform analytics and procurement processes.
- Before the crisis the Government set out plans for investing in infrastructure including investments in science, technology and skills.
- The duty of this Government is to develop structures which will help the UK face future epidemics.

Summary

The Government will attempt to restructure itself to be more capable of dealing with future public health crises. This will include extensive investment in science and technology.

Scientific evidence

Measure	Evidence	Notes
Government restructuring	Standards for evidence in policy making	Poorly vetted facts by influential people can undermine the relationship between evidence and policy making

Critical Analysis

Efforts to bring greater objectivity and scientific rigour to policy making and Government are welcomed by Scientists for Labour. However, inconsistent messaging and repetition of misinformation can undermine trust in both science and policy making. It is vital that a framework for standards of evidence is adopted to allow the Government to take a scientific approach to policy development going forward.

Key Questions

1. In the longer term, how will the government better respond when potential pandemics are discovered, to mitigate against potential future risk?
2. How will the government better integrate scientific expertise and advice into its decision making?
3. Will the government commit to a public enquiry into its response?

Annex A: Staying safe outside your home

Key Points

Distance from people outside your household

- Very unlikely to be infected walking past someone on the street
- PHE recommends staying 2m from other people

Clean hands and Face

- Clean hands and face with soap and water
- Use hand sanitiser outside the home - especially in buildings and after touching public surfaces
- Avoid touching your face

Working from home

- Your employer should make reasonable adjustments to enable you to WFH
- If the workplace is open and you cannot WFH then you can travel to work

Avoid being face-to-face with people outside your household

- Higher risk of respiratory droplets when facing someone talking or coughing within 2m
- Stand side-to-side to reduce risk

Reduce the number of people you spend time with in a work setting

- Employers can change shift patterns and rotas to keep the same small teams working together where possible

Avoid crowds

- Reduce transmission risk by staying away from people
- Avoid public transport at peak times
- Businesses can take reasonable steps to reduce crowd sizes
- Use of exits and entrances can be staggered where possible

Modes of travel

- Walk or cycle to reduce demands on public transport
- Avoid peak times if using public transport
- Employers should consider staggering working hours and expanding bike storage, changing facilities and car parking space

Wash clothes regularly

- Virus could potentially stay on fabrics for a few days (although believed shorter)
- Wash clothes regularly if working with people outside your household
- Consider changing clothes in workplaces only normally if there is a high risk of infection or highly vulnerable people (example: care home)
- Change in uncrowded room

Keep indoors well ventilated

- Virus is less likely to be passed on in well ventilated room and outdoors
- Leave windows and doors open or move activity outdoors where possible where people from different households come into contact
- Use external extractor fans and ventilation systems to maximise air flow
- Normal temperature settings for heating and cooling systems can be used

Face covering in enclosed spaces where social distancing isn't possible and the people are outside of your usual contacts. Most relevant for short periods indoors in crowded areas (example: public transport/some shops)

- Face covering does not protect you, but if you are asymptomatic may protect others
- Always isolate alongside your household if you have symptoms (cough and/or high temperature)
- Face covering must not be surgical masks or respirators or dust masks for industrial workers used by healthcare/other workers (example: health/care/industrial workers) as these must be reserved for them
- Face masks should not be used by children under 2, those who would have trouble managing them correctly (example: primary school children), those with respiratory conditions
- Use face masks correctly (cover mouth and nose) and wash hands before putting them on and off

Follow employers advice when at work

- Government has issued guidance to help employers assess and manage workplace risks (includes: guidance on social distancing, hygiene for surfaces, where the virus is believed to last for 72hrs, such as cleaning communal surfaces/areas)

Scientific evidence

Measure	Evidence	Notes
Distance from people; avoid face-to-face contact	Preprint: Could SARS-CoV-2 be transmitted via speech droplets? Preprint: Aerosol Particles Laden with COVID-19 Travel Over 30m Distance	Speech droplets can transmit the virus Indicates that droplets could travel more than 30m
Wash Clothing	Stability of SARS-CoV-2 in different environmental conditions	Environmental stability study found no infectious virus could be detected from treated cloth on day 2 but points out that recovery of virus does not necessarily reflect the potential to pick up

		the virus by casual contact. Disinfectants, with the exception of hand soaps, prevented detection of infectious virus after 5 minute incubation at room temperature (ref)
Ventilation	Modes of transmission of virus causing COVID-19: implications for IPC precaution recommendations Is the coronavirus airborne? Experts can't agree Airborne transmission of SARS-CoV-2: The world should face the reality	WHO guidance from the 27th March was that the virus was not airborne (transported in virus-laden aerosols smaller than 5 micrometres in diameter) except in a handful of circumstances (example: medical intubation). (ref) Gathering unequivocal evidence for airborne transmission could take years and some scientists have suggested that there is preliminary evidence that airborne transmission — in which the disease spreads in the much smaller particles from exhaled air, known as aerosols — is occurring and that "increasing ventilation indoors and not recirculating air can go some way to ensuring that infectious aerosols are diluted and flushed out" (ref) Not recirculating air if the virus is found to be airborne would be recommended (ref)
Face Coverings	Covid-19: What is the evidence for cloth masks? Preprint: Facemasks and similar barriers to prevent respiratory illness such as COVID-19: A rapid systematic review	In line with CDC recommendations (ref). WHO guidance is only to use a face mask if you are taking care of someone with COVID-19 (ref). **Potential Positives:** "If an aerosol droplet hits the weave of the mask fabric

	Rational use of face masks in the COVID-19 pandemic	rather than the hole it is clearly arrested. And lessening the aerosol dose chips away at the R0 [reproduction number] and helps to slow the epidemic . . . They are not a cure but they address the longer flatter epidemic curve everyone is trying to achieve." (ref) **Potential Negatives:** Shortages for those in need, complacency and neglecting other hygiene measures such as hand washing/physical distancing, failure to fit masks, dispose of masks or take them on and off correctly, no protection from entry through eyes (ref) A **PREPRINT (not peer reviewed)** systematic review of facemasks and similar barriers to prevent COVID-19 concluded that ""Using a mask for short periods of time by particularly vulnerable individuals during transient exposure events may be justified." (ref)
Return to work	Opinion: If we follow Boris Johnson's advice, coronavirus will spread	"The countries that have succeeded in taming their coronavirus epidemics – such as South Korea, Taiwan, China, Australia and New Zealand – differ from the UK in many ways. But they all have in common "test, trace, isolate" as the centrepiece of their strategy." (ref) "The UK government claims to be "following the science", but it seems the science now needs to catch up with a

		government that is prioritising concerns about economic damage over epidemic control. The economic damage is clear, and the lockdown will also have knock-on health effects due to unemployment, domestic abuse, and postponed diagnoses and treatments. But if science is the rationale, why not level with the public and show the data that suggests the return to work is now the lesser evil? If there is evidence from modelling that social distancing while at work or commuting – rather than sheltering at home – is sufficient for virus control, let us see it." (ref)

Critical Analysis

Distancing: The science around the 2m distancing is uncertain at this time, but the way this has been described in the document is likely to lead to confusion. By referencing that the science is complex and that it is 'not a rule', this does not provide actual guidance to people on how to socially distance.

Ventilation: WHO guidance is that the virus was not airborne (transported in virus-laden aerosols smaller than 5 micrometres in diameter) except in a handful of circumstances. There is no current evidence to suggest that the virus is airborne. Increasing natural ventilation indoors would be a sensible precaution for droplet transmission and should the virus be later found to be airborne. The government guidance here states use of external extractor fans and ventilation systems and, although previous government advice is indeed to avoid the use of fans that re-circulate the air, it may be important to emphasise that ventilation should aim to avoid recirculation as a precautionary measure (ref).

Face coverings: The scientific advice appears to be in line with the government advice that face coverings are not protective to the wearer. The government has highlighted instances of people who should not wear masks and pointed out the importance of correct application. However, the current guidance appears to imply this would mostly be children rather than the average person lacks correct knowledge of applying and using masks effectively. In light of a lack of good quality evidence for the benefits of face coverings, it would be beneficial to ensure

policy remains mindful of these limitations and ensure that more widespread use is not advocated before there is evidence that the benefits outweigh the limitations.

Return to Work: It is hard to evaluate the return to work guidance without the specifics; this is an issue in itself as well as how accountable employers would be to uphold these guidelines. On the return to work itself, the David Hunter piece is a good balance of explaining how "following the science" is open to interpretation based on what you prioritise (ref). It would be helpful to know the rationale for returning to work; whether modelling suggests that returning now is sufficient to control the spread of the virus, especially without test, track and trace in place, or whether the return to work is for limiting economic damage and/or potential knock on health effects from lock down.

Key Questions

1. Will the government commit to reviewing this advice on a weekly basis in a public manner to account for developments in the latest research into transmission?
2. Is the government funding urgent research into highly unlikely but potential alternative forms of transmission (e.g. wastewater)?
3. What steps will the government take to ensure that its advice on facial coverings does not lead to a shortage in the supply of medical PPE?