

Q&A

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PRIMARY QUESTIONS

1. Why don't we just increase NHS capacity? What about the Nightingales?

If R stays above 1 and incidence keeps doubling every 20 days, you must keep doubling NHS capacity every 20 days to prevent the NHS from being overwhelmed. If you had an additional 70% of NHS capacity (requiring huge costs and effort) this buys around two weeks of R being at this level. Even if doubling time slows, this does not change this position dramatically. As the hospitalisations increase, there will be a drop in demand from non-covid patients (50% drop in bed occupancy in wave 1). This will help with capacity, but has a fixed ceiling, which will not buy a dramatic increase in time if R is not brought under 1.

The Nightingale sites, if stood up to their maximum capacity, will provide around 2,400 extra beds. There are currently 8,681 Covid patients in hospitals in England. This capacity will be fully used in the coming weeks if R remains above 1. Additional beds also need staff. To use current capacity the NHS will already have to reduce staff to patient ratios. The numbers of skilled ICU nurses and anaesthetists will limit capacity before other constraints.

2. Liverpool's incidence is flattening. Surely this means our current strategy is working?

There are some initial indications of a levelling off in the number of cases across the Liverpool City Region. This levelling off in case numbers for all age groups in Liverpool, is largely driven by a fall in new reported cases amongst those aged 18-24. However, this fall coincides with a substantial decrease in the number of people in this age group being tested and the positivity rate has changed little (positivity for this cohort is still 12.8% (23 October)), suggesting that the fall in positive tests doesn't represent a fall in infections. The figures therefore cannot be taken as strong evidence our approach is working.

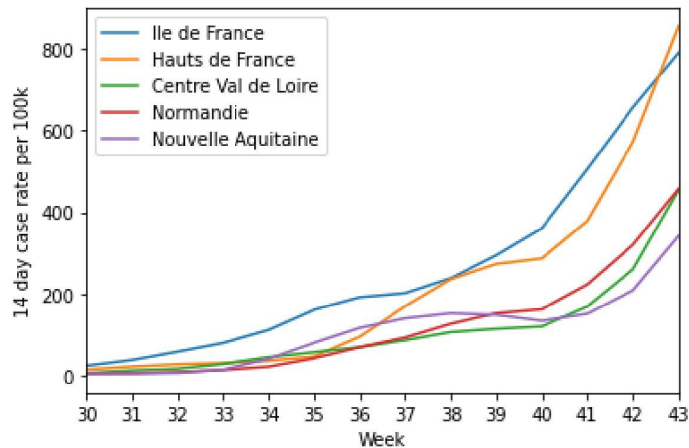
3. A regional approach: why should we tackle areas with low prevalence now?

While prevalence is higher in some parts of the country, it is growing everywhere. It is growing more quickly in those areas which have lower incidence rates. Between 16-23 Oct, the South East had a 45% increase in its weekly case rate, while the North East had only a 5% increase in its weekly case rate¹.

This trajectory means that we will ultimately need to act everywhere. So there is a choice of acting everywhere now, or acting in a staggered way. If we act in any area anytime after mid November, there would not be time to allow 28 days and then to release for Christmas. One set of rules for the whole country would increase simplicity, reduce criticism from local leaders in LCAL 3 areas, and therefore may drive up compliance

¹ 9-16 Oct used as a control to ensure increase was not abnormal.

As we have seen in France, although disparities in case rates remain from region to region, even areas with previously low case rates have seen numbers rapidly increase in recent weeks. By not acting sooner, cases have continued to rise rapidly across the country, and the death toll this week was the highest since April.



4. Why should we do another lockdown when there's no evidence the first one worked? The spread was already reducing before 23 March

R did not fall below 1 before lockdown on 23 March. The initial fall was because many people went into self-imposed lockdown, with the same social and economic consequences as a government-imposed lockdown. The measures introduced in March 23 brought R down to approximately 0.6. No other action has been able to reduce R below 1.

Internationally, many other countries have taken similar action. Most recently, Israel after seeing a spike in cases over the summer announced a national lockdown in September. Evidence suggests this was extremely effective in reducing cases, and has been able to loosen some restrictions. Closer to home, the Czech Republic, Germany, and France have started to move from a regional lockdown to a national one - there are a variety of reasons, but both Germany and France cited concerns over ICU capacity and ineffectiveness of 'test and trace' approaches as some of the principle drivers behind the decision.

5. What evidence is there that hospitality / retail etc are driving transmission?

The first place we have tightened rules is on social contact, with no household mixing indoors in level 2 and no household mixing in most outdoor settings in level 3. Government has decided to protect education and employment. So with education open and household mixing banned, R is still above 1, and further restrictions are needed to prevent the infectious social contact that is spreading the virus.

When we look at other settings that could be restricted, these are predominantly hospitality, leisure and entertainment. This means targeting those settings which are innately social, including hospitality and leisure.

NHS Test and Trace data shows that outside the areas we are purposefully prioritising, hospitality is the most risky. The figures do not drive transmission on their own, but without further restrictions we are very unlikely to get R below 1 and will eventually breach hospital capacity. To keep hospitality and other premises open we would need to impose restrictions on education or other workplaces.

6. What impact will mass testing have on transmission and incidence this side of Christmas? How much can we accelerate all of this work?

Mass testing will only have an impact on transmission and incidence if huge numbers of people come forward for frequent testing (e.g. twice per week) and, crucially, if they isolate when testing positive.

Whole-town pilots are being launched on 23 November to work out how best to engage citizens and deliver testing at that scale. If those pilots prove successful, we have the tests and the military manpower to roll out quickly to broad swathes of the country.

7. How do we know any of these packages will get R below 1? Why would we do anything if we don't?

We know that the restrictions in place in March / April reduced R from 2.8 to around 0.6-0.7, so there is evidence that the 'stay at home' package with high compliance works. We know that the national baseline or local interventions deployed thus far are not driving R below 1 (except for most the most recent LCAL 3 packages, where it's too soon to say).

SAGE advise a short term (2 week) stay at home firebreak (circuit breaker) could reduce R below 1 when it is not at a high level to start. Waiting longer to intervene could mean a much longer lockdown when R is much higher: SAGE notes that a lockdown of a longer period could reduce R from 2.7 to 0.6 in most of the UK, but the economic cost would be much higher. SAGE also notes that closure of Universities and schools could reduce R by 0.2-0.5 each², which may contribute to bringing R below 1 in some areas.

8. To what extent are people now more likely to survive in hospital?

Scientists and doctors have made crucial inroads to understand and treat Covid in the course of this year, and there have been significant improvements in data, testing and medical insight. But while these advances have led to better outcomes for many patients, we cannot be complacent. **It remains the case that the mortality rate for Covid-19 is 1%³, 10 times higher than the flu (0.1% mortality rate⁴).** This week, France recorded its highest daily death toll since April.

² Each closure represents a potential reduction in 0.2-0.5. These are not additive values.

³ In the UK, corrected for underreporting. At face value, this is 7.8% (analysis by ADD team).

Globally, the WHO estimated in March 2020 that mortality ratio is 3-4%

(https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200306-sitrep-46-covid-19.pdf?sfvrsn=96b04adf_2)

⁴ WHO estimate for seasonal influenza globally, March 2020

9. Why can't we just increase enforcement?

We've already made considerable effort in this space and should keep doing so. The Government has provided the police and local authorities with £60m in extra funding so they can step up their enforcement action, and we are also giving local authorities extra powers to target those breaking the rules. But enforcement alone is not enough.. If we are to avoid overwhelming the NHS, we need to further reduce social contact and drive down transmission.

SUPPLEMENTARY QUESTIONS

LONG TERM APPROACH

10. What is the evidence that we will be in a better position by spring?

CMO's professional view is that the reasons that Spring 2021 will likely look a lot better than now is based on three factors:

- Seasonality - Covid-19 is likely to behave like flu i.e. peak transmission will occur between late autumn and the end of winter. This is due to colder conditions improving virus survival and social and domestic conditions i.e. more time indoors, windows closed, lower ventilation rates, Christmas and New Year gatherings).
- Scientific advances - We already have major strides forward in diagnostic methods, and some treatment (e.g. more dexamethasone, less mechanical ventilation). A vaccine is a realistic but uncertain possibility in the first quarter of 2021. Most infections (and other health problems) are defeated by multiple moderately effective interventions of different types stacked on top of one another, not a single breakthrough ('the vaccine').
- Epidemic behaviour - Pandemics and epidemics tend to come in waves; the great majority of the damage is usually done in the first two waves (It is common for the second wave to be worse.) While Covid-19 will not disappear, after the initial waves it is likely to revert to a more normal, seasonal pattern like the flu.

NHS CAPACITY

11. How long do we have to decide to act before the NHS is under unacceptable strain?

SPI-M have assessed that the NHS will surpass fixed and surge bed capacity on 30/11/20, even after electives are cancelled.⁵ NHS England have separately shared an analysis that shows some regions will start exceeding these same bed capacity limits from mid-November.

If people avoid seeking help for non-Covid concerns and hospitals discharge non-Covid patients early to the same extent as in the spring, potentially 50% of usual bed occupancy

⁵ SPI-M forecasts indicate that we will exceed fixed and surge bed capacity by this date. Surge capacity includes re-allocated resource and Nightingale resource.

would be released. However, this would still be filled within 3-4 weeks in each region on projected growth trajectories. In this scenario, there would be 67,000 patients in hospital, compared to 17,000 at the peak in the spring.

12. We've already made significant steps to improve NHS capacity - is this necessary?

We have taken unprecedented steps to bolster NHS capacity this winter. Since the end of the first wave, we have provided an additional £516m to retain the Nightingale sites until April and up to £1.87bn additional funding to extend usage of the independent sector. We have also provided £588m to maintain enhanced discharge arrangements from hospitals to the care sector and provided an extra £206m of funding to expand the rollout of the flu vaccine.

However, SPI-M have assessed that the NHS will surpass fixed and surge bed capacity on 30/11/20, even after electives are cancelled.

TRANSMISSION IMPACT

13. How will we know in 2-4 weeks time that any measures we take are working?
How will we judge success?

While we may not be able to observe definitive changes in epidemiological metrics within 2-4 weeks, we should be able to observe meaningful changes in behaviour consistent with an eventual decline in viral prevalence (so-called 'leading indicators').

Within 2-4 weeks we would expect to see a significant change in the number of contacts as captured by the CoMlx survey or as reported through test and trace. Further, we would expect to see a significant increase in the amount of time spent at home and a significant decrease in visits to other settings as captured through our various mobility datasets.

Further, within 2-4 weeks we would expect to observe changes in self-reported behaviours as captured by the Opinions and Lifestyle Survey. Using this data we can track adherence to social distancing guidelines, the size and nature of gatherings and behaviours such as hand washing and wearing of face masks.

ECONOMIC IMPACT

14. Are we just taking economic pain without any gain?

If we do not act now, not only is it likely that the whole of England will be in LCAL 3 by early December, but we would probably need to introduce tougher local measures than those used to date to avoid overwhelming the NHS. This may be seen as 'lockdown by stealth'.

A slower response will mean that we would head into Christmas with high prevalence and a high number of daily deaths.

Acting now to reduce transmission will reduce the need for a longer, stricter lockdown later ,

resulting in less economic damage overall. With additional time to prepare new policy, and more evidence on 'what works', we will be able to better calibrate our response in the spring. This will elongate the period between end of lockdown and the next spike in infection, and push this potential third wave later into the Spring, when scientific advances and seasonal and epidemiological conditions will make the virus easier to contain.

15. What is the economic impact of taking harder measures now? Are we really going to put millions of jobs and livelihoods at risk?

Not controlling the virus could have a much greater economic impact in the long run. Taking decisive action now will mean the virus will be brought under control sooner and business restrictions will need to be in place for less time overall. A softer intervention might have less dramatic immediate economic impacts, but would increase the need for additional, subsequent interventions: heightening uncertainty and making it harder for businesses and employers to plan.

And if we act strongly now, we will have the ability to relax measures in time for Christmas which is a crucial event for many businesses, particularly in the retail sector.

The Government has put in place a number of measures to support businesses and protect jobs.

16. Will the JSS be enough to mitigate the economic impacts of tougher restrictions?

The Government has put in place a number of measures to support businesses and protect jobs, not just the JSS. The Self-Employment Income Support Scheme, which provides critical support to the self-employed, has been extended through to April (with the level of the grant covering Feb- April still under review).

HEALTH

17. What is the average reduction in life expectancy of COVID victims? How many of those in the death forecasts will die very young?

[Line on life expectancy/ average age (comorbidities, vulnerabilities)]

[Data on younger deaths]

And even those who survive Covid carry a significant risk of suffering long term health problems. A study by Southmead Hospital Bristol of 110 patients hospitalised with COVID-19 found that 74% had at least one of the following symptoms after 12 weeks: excessive fatigue, breathlessness, insomnia, muscle pain, chest pain, cough, loss of smell, headache, fever, joint pain, diarrhoea.

And it's not just patients who are most acutely affected and hospitalised who are likely to suffer long-term effects: a study by King's College London and ZOE found non-hospitalised patients may also be affected. The most recent evidence from the King's College London and ZOE study suggests that 10% of patients may still have symptoms at 4-6 weeks, while

1.5-2.5% may still have symptoms at 3 months. Early patterns detected in this study suggest that it may be more common in women, and that the median age of a Long COVID sufferer was 45 (although a US study found that 1 in 5 young people aged 18-34 with no previous chronic medical conditions reported suffering with Long COVID). Our long-term understanding of COVID-19 is still in its early stages, and longer-term data is not yet available.

18. What will be the non-COVID health impact of all of this?

If we do not act now, and hospitals become overwhelmed, they will need to postpone urgent elective surgery that requires anesthetic support (as they have just announced in Leeds), reduce bed occupancy by discharging early as we saw in the spring and many people needing help will stay away from hospital [wave 1 saw a 50% drop in non-covid bed occupancy]. This contributed to 67,000 excess deaths from all causes in the spring.

OTHER APPROACHES

19. Segmentation: why can't soft segmentation make a major difference in driving down deaths?

It is not possible to fully identify all those who may be vulnerable to severe infection, nor is it possible to create effective barriers between them and the rest of the population. We need to protect everyone and avoid overwhelming the NHS by taking action now to reduce transmission across the population.

20. Herd Immunity: when will we get population immunity?

Pandemics and epidemics tend to come in waves, and it is quite common for the second wave to be worse. Estimates on herd immunity for Covid-19 vary considerably, and will depend on a number of factors, including individual connectivity and susceptibility, which may vary from country to country. Questions also remain about the length of the immune response.

INTERNATIONAL COMPARATORS

21. What are the average ages of mortality in comparator countries? Why are they different (if they are)?

Data on the average age of mortality due to Covid-19 is not published for all countries. Moreover, we know that different countries adopt different methodologies, definitions and inclusion criteria for Covid-19 cases, deaths and hospitalisations, which can further compound the challenges of direct comparisons. Accessing comprehensive information about these differences, and attributing their relative impact, is extremely challenging. It should be noted that testing strategies and capacity will also impact the number of cases detected and therefore deaths with Covid-19.

The mean age of Covid-19 mortality in the UK is 82.4 [CEBM]. In Italy, it is 79.5 years [Istituto Superiore di Sanità, 22/10]. The age distribution of Covid-19 mortality looks broadly similar in France [SPF], Germany [Robert Koch Institute] and Belgium [Sciensano].

22. Why do we have more deaths/ cases than comparator countries?

This is a complex question that requires epidemiological analysis of demographics, comorbidities, socio-economics as well as health system and political characteristics. A lot of the required data is not yet available and there are significant differences and uncertainties in reporting. Therefore, it is too early to make a definitive assessment of the differences and drivers of Covid-19 mortality internationally.

That being said, it is clear that the UK has seen high case rates and mortality in the first wave, and initial evidence from the second wave indicates a similar trajectory. That is why it is important to take action to minimise the death toll.

Taking current death rates and dividing by case rates from three weeks ago, the mortality rate in the UK is 1.7%, compared with France 1.7%, Spain 1.6%, Germany 1.7%. This is rudimentary analysis but shows that our mortality rate is not significantly different from key comparators questions

23. Sweden aren't locking down – why can't we follow them?

Sweden has had a very different response to managing Covid-19. Factors including high compliance with Covid-19 guidance amongst the population meant the Government took a different approach, which relied less on legislation than most comparator countries.

However, as of 29 October, Sweden has sustained the highest number of Covid-19 deaths per 100k people (59) out of the Nordic countries. Sweden's figure ranks higher than France (57) and just behind Italy (63) (DELVE). They are also now seeing a sustained rise in daily confirmed cases.

24. "Singapore, South Korea and Japan aren't locking down – why can't we follow them?

Countries in South East Asia had experience with H1N1 and SARS that gave them a strong head start, including a culture of wearing medical masks amongst the general population, and the infrastructure needed for effective testing and tracing. This allowed them to effectively control infections from the initial outbreak and keep total cases low. However, they have moderated restrictions - including circuit breakers and implementing other strict measures for a limited period of time - to ensure that total case numbers remain in an acceptable range.

Countries like Singapore are city-states which are incomparable to the UK.

25. Why is the US able to carry on without significant restrictions?

The US does not offer an example we want to follow: it has a higher death toll than the UK (on both an absolute and a per capita basis), and has one of the highest excess death rates of any country in the world. Its economic downturn has been [comparable] to ours.

The United States has a very different political system to the UK, with health responsibilities devolved to the individual states and even to cities. Many cities and states have implemented a range of policies including lockdowns. New York City, the most populated city

in the USA, was one of the largest Covid-19 hotspots in the spring. The city enacted strict lockdown measures after the healthcare system struggled to meet demand, and cases and deaths were rising fast. The policies implemented were successful in lowering case rates and easing the strain on the health service. Cases are again beginning to rise in New York City, and the city's mayor is considering reintroducing a lockdown.