

KREAB *briefing*

COVID-19

outlook 10 June 2020



As the relaxation of lockdown measures continue in the UK, tensions around how to proceed are emerging within Government. This briefing outlines the developments over the past week and builds on our previous briefings to look at how the UK is likely to develop.

Overview

The Government has continued the process of relaxing the lockdown measures, which this week includes the re-opening of dentists, with non-essential retail to follow next week.

There has been considerable media focus in the last week on the R rate, which indicates the degree to which the level of infection is growing or shrinking, and on the value in each region of the UK. This has also attracted the attention of local politicians who seek to demonstrate they are safeguarding the health of their citizens.

The main issue is the media reporting has largely been based on the output from just one of the ten infection models used by Government and the other models all indicate lower values.

Despite the variance in modelling, the findings used in the media reports are being presented as absolute fact, with no consideration of the spread of possibilities the outputs represent or how the various assumptions built into models affect the output.

The estimates of R for the UK, as a whole, are all under 1, and there is reasonably high confidence in this. However, when the data is broken down to a regional level, the degree to which a precise figure for R can be given is lower as there is considerably less data for each region.

When looking at the output from any model, it is important to understand how they are put together and what sensitivities they have to the assumptions made. This is because we do not have perfect infection data for the population, so the models need to incorporate other sources of data.

For example, the model used by the media showing some regions have an R rate above 1 incorporates mobility data showing how much people are driving, cycling and walking in each region. If people start to move around more, the calculated R rate for this model will go up. This assumption might be sensible however, increased movement of people does not necessarily mean they will be meeting more people, therefore it is not a guaranteed outcome. Some other models being monitored do not use this metric which is one of the reasons the Government's scientific advisors look at ten different models to formulate a consensus.

The principle reason for Government allowing more freedoms week on week is to demonstrate, to the public, a progressive return to normality. This is considered key to ensuring public support for the lockdown measures. The disadvantage to this approach is it is more difficult to identify the effect of each individual relaxation on the infection rate.

The Government aims to make an assessment at the end of June before deciding to proceed with the next stage of the relaxation measures on 4 July. Given the difficulty of reading the data and the increased pressure inside the Conservative Party to release lockdown faster, it is likely that 4 July will see some new freedoms start but this will only be part of a continuous process of relaxation of control measures.

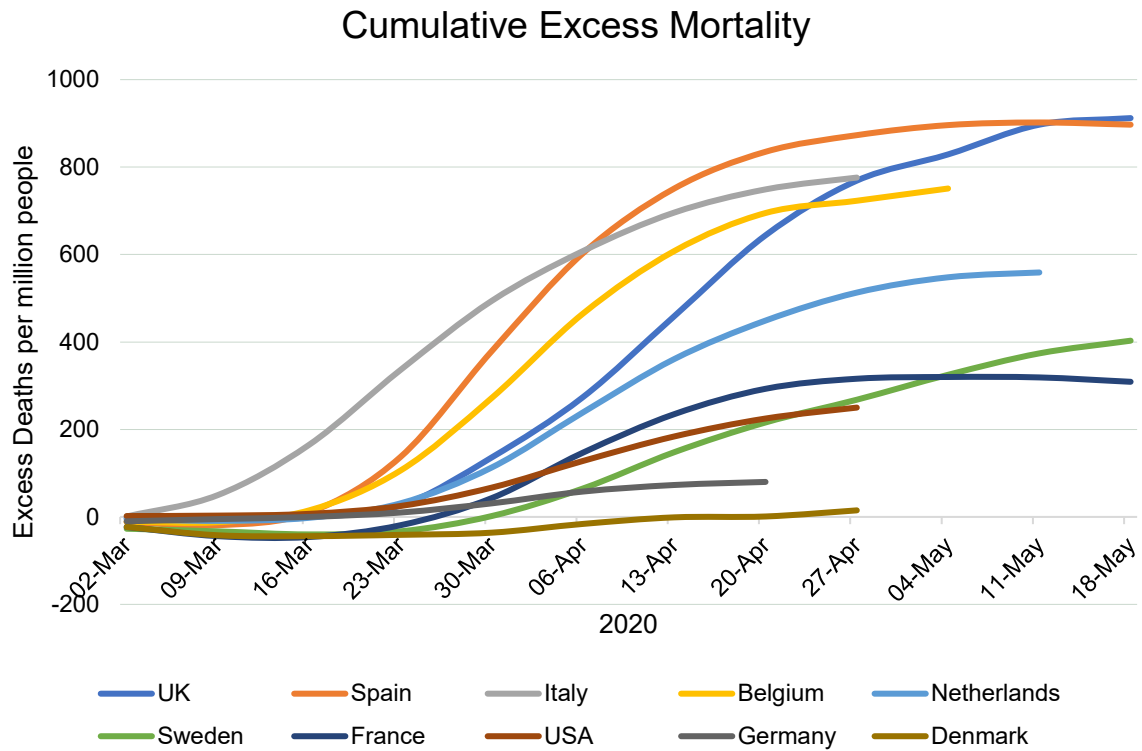
This is a critical moment for the Government's handling of the epidemic. Whilst the national R rate is below 1, the UK still has a relatively high level of infection compared to when other countries relaxed their measures. This means the process of bearing down on pockets of infection is more difficult due to the number of cases to be tracked and traced.

There are also increased tensions within the Government over the course of action it should pursue.

There are also increased tensions within Government over the course of action it should pursue. With increased warnings about long-term damage to the economy caused by an extended lockdown, many ministers are pushing for an accelerated release of the measures. However, there is also a cohort of ministers who fear the Government will be judged on the number of deaths during the recovery phase and therefore think the progress should be extremely cautious, with much slower step by step relaxation and several weeks between each step.

Majority opinion within the Conservative Party leans towards accelerating the relaxation measures, but ultimately decisions will fall to Boris Johnson and while he is inclined to want to get the economy moving faster he is naturally concerned about avoiding a second peak in infections, this has been the cause of any inconsistent decision making.

Latest Kreab analysis of worldwide excess mortality figures shows demographically and geographically, similar countries have had significantly contrasting outcomes in terms of their death rates. The difference will clearly lie in the measures each Government took to control the virus and will be key to learning lessons from the outbreak.



Current UK situation

While the easing of lockdown measures have mirrored those in other countries, the UK is doing it at a point when it has a much higher infection rate than others, the risk of a resurgence of the infection is therefore greater.

Attendance is only between 40% and 70% at those schools which are open.

Reception, Year 1 and Year 6 pupils have now started to return to primary schools in England, although not all schools have opened and attendance is only between 40% and 70% at those that have. Years 10 and 12 will start to return to secondary schools part-time from next week. The Government has now recognised for most primary schools, opening for all years will not be possible as they do not have enough space to ensure social distancing.

Rules on the number of people that can meet outside have also been relaxed in all regions of the UK, although the exact details vary. Dentists can also re-open this week and professional sport is beginning to resume, albeit without spectators.

While some had hoped that the Government would embrace the concept of “social bubbles” which would allow households to combine so that they could associate more freely as has been used in several other countries. However, Boris Johnson has announced that this will apply for households with only one adult in them to help counteract loneliness rather than being generally available to all.

The Government’s scientific advisors are keen to see how these measures collectively affect the infection rate before any further relaxation takes place. The epidemiologists are concerned the moves could take the transmission rate R over 1, which would mean infections are increasing again. Given that a rise in infections would take two to three weeks to be identified through testing, they are not likely to have a clear picture before the next batch of relaxation measures are due to start on 4 July.

This is clearly a very critical stage for the UK’s management of Covid-19 and if the Government gets it wrong; it could require major corrective action including tighter restrictions on movement and the economy.

Controlling the virus

The Government has been clearly advised of the dangerous point the UK has reached in battle against the virus, and it is therefore counting on the rapid identification and suppression of hotspots of infection.

Most of the epidemiologists advising the Government have told them that if there is an effective test and trace programme, these hotspots can be dealt with and the R number would remain below 1. However, the majority of them think the infection level is still too high in most areas for the system to be able to cope with the task, and many think a working smart phone app has to be part of the system. This is particularly true for regions such as London, where levels of public transport use are much higher.

The manual part of the Government’s Test and Trace system is up and running but it has faced a lot of criticism, particularly around the number of tracers that are reported to have nothing to do. This has been exacerbated by the lack of official data on the number of people being traced.

The testing regime is only identifying around 20% of all daily infections.

Kreab understands unofficial internal figures show the system has been able to trace and isolate on average around two people for each person who tests positive for Covid-19, but in the absence of an automated app, it is impossible to know if that represents everyone who needs to be traced or not. A more significant problem is data from the Office for National Statistics’ (ONS) national population survey and Kings College’s self diagnosis app shows the testing regime is only identifying around 20% of

all daily infections that take place. As a result Kings believe the system would only make around a 15% difference to the infection rate overall if it worked properly.

Testing capacity has increased further to over 200,000 per day, including the capacity to offer 40,000 antibody tests per day that can tell if someone has previously had the disease rather than having an active infection. The new antibody testing is currently only being used for selected healthcare workers and as part of the Government's sample testing, which it uses to estimate the percentage of the population who have had the virus and for assisting in calculating the R rate.

Where is R?

The key to understanding the spread of the virus and the effect of the lockdown measures is to have a good indication of the R number. Once this figure is above 1, it serves as a marker for an increase in the number of infections in the population. For management of the epidemic, it is also necessary to understand the variation of R in different parts of the country.

The overall R number is between 0.7 and 0.9.

SAGE, the Government's scientific advisory body, is clear the overall R number is below 1 in the country as a whole, and lies between 0.7 and 0.9. Their advice to the Government is also that it is not above 1 in any of the UK's regions. This conclusion is on the basis of studying many models produced by different groups of epidemiologists and coming to a consensus view rather than looking at a single study.

As a basis for producing scientific advice for the Government, the process above is clearly the right way forward. However, the media does not take this approach and rather seeks to highlight the most newsworthy model. This is the rationale behind the media narrative in the past week stating R is at or above 1 in the North West and South West. This information has also been reinforced by a handful of local politicians.

Media reports were largely based on one of the models by the Medical Research Council and Cambridge University, which like some other models includes mobility data in its calculations, where increased movement as lockdown measures are relaxed, is reflected in its R rate calculations. Other models use different indicators and come to different conclusions, such as the London School of Hygiene and Tropical Medicine model, which has been influential in guiding Government thinking. However, even its modelers recognise R is likely to be very close to 1 in some areas.

One of the problems of trying to produce regional R numbers is that the number of data points becomes too small.

One of the problems of trying to produce regional R numbers is that the number of data points becomes much smaller, and so the error range of the numbers produced is much wider.

A potential solution to this is the Kings College approach of collecting bulk self-diagnosis data from millions of users, which allows for more statistical significance at a regional level. The Kings results

do appear to show the rate of decline in infection rates did slow after the first easing of lockdown measures in May, but also that the rate is still declining, so R remains under 1. Their results would tend to suggest R is still below 1 in the South West, although there are early indications of an increase in infections in the North West and East.

A problem all the models have in common is the data they receive from patients in care settings is limited, and the R rate is likely to be significantly different in the community than in care settings. In areas where the number of infections are now very low, such as the South West, a hotspot around a care home can have a substantial effect on the R rate. This illustrates well that the overall number of infections needs to be considered alongside R.

Transport

After resisting the measure for weeks, the Government has finally bowed to pressure and decided to make the wearing of face coverings compulsory on all public transport. The Government still believes the evidence on the benefits of masks is weak and making their use compulsory goes against many ministers' instincts, including those of Boris Johnson. However, the Government intends to open the economy as fast as it can, so if it takes some risky decisions on relaxing lockdown measures, it wants to act cautiously in other areas which do not impact the economy.

The same cannot be said for the imposition of quarantine measures on people arriving at UK ports, airports and stations. These are expected to have a very serious impact on the travel sector and pressure to revise the proposals within the Conservative Party is intense. Many other countries are also in dialogue with the UK to mutually drop these measures, although this will depend on infection rates in the UK dropping further. The measures will be formally reviewed in three weeks and revision is likely.

Vaccines and Treatment

While several vaccines are now undergoing human trials, no results are expected for at least a month. One of the limiting factors for trials is the falling number of cases in many of the countries where vaccines are being developed. The Oxford University vaccine team remains one of the most advanced, having completed its phase one trial where 1,000 volunteers were vaccinated, half with the test vaccine and half with a placebo, primarily to test safety. The vaccine is now in its phase two and three trials to assess effectiveness with 10,000 volunteers in the UK and 30,000 recruited in the USA by its manufacturing partner AstraZeneca. They have been able to secure the support of the Brazilian Government to include 2,000 volunteers there, which could help attain earlier results as their infection rates are still growing.

AstraZeneca is already starting to produce the Oxford University vaccine.

In an effort to accelerate availability of the vaccine, and in a show of confidence regarding its likely effectiveness, AstraZeneca is starting production of the Oxford vaccine, aiming to produce two billion doses. It would then be available from September should the vaccine prove effective.

A factor that would be potentially as significant as producing a working vaccine would be finding a successful treatment for the disease. The UK is host to one of the most comprehensive trials of treatments and some results are starting to be produced, although there is not yet a breakthrough “cure” treatment. Remdesivir has been found to be effective in reducing the length of hospital stays, but its effect on survival rates is not yet proven. A trial to see if ibuprofen could have a similar effect is also underway.

Trials are now ongoing to examine if using the antibodies from people who have recovered from Covid-19 could be effective.

Ultimately, medical scientists believe if a treatment is to be found it may lie in a combination of several different drugs.

One drug that has been conclusively proved to be ineffective is hydrochloroquine, a drug championed by Donald Trump. Although trials have not irrefutably proved the drug is dangerous, it has proved it does not work against Covid-19.

BAME issues

The Government has published its report investigating the increased risk to BAME communities from Covid-19.

The report backs findings from many other studies, such as the Kings College one, which state the increased risk is genuine. Those of Bangladeshi heritage were found to be twice as likely to die from the disease than white people. For other ethnic groups, the risk was around half of that figure.

The report has become the subject of political controversy as it does not have any findings about why this may be the case.

In a week where several large Black Lives Matter protests have taken place in the UK, the fact that the report makes no proposals for action to reduce this risk has provoked particular fury. To ease this criticism, the Government has said the report is part of its ongoing work to address the issue and that it will make further proposals in future.

Outlook and future government action

As highlighted above, the Government is facing a critical moment in its management of the epidemic. While the economy has suffered inevitable damage due to the lockdown, there are still good prospects for recovery if companies can be allowed to return to normal or near normal operation before they start to make staff redundant or close facilities.

Despite the huge amount of support Government provided to business, industry groups are warning the point at which decisions may cause long term damage is fast approaching. They are actively lobbying for an early end to lockdown measures.

At the same time, the R number for the virus is sitting just below 1, and if the Government moves too fast then there is a high danger of a second wave of infection. Epidemiologists are therefore urging a slow step by step approach for the Government, with several weeks between each step.

The Government is therefore trying to find a balance between these two competing issues. The subject is notably causing internal divisions, with BEIS and Treasury ministers leading those that want lockdown measures ended as fast as possible, while the Department of Health ministers and the Home Office lead those that want a more cautious approach.

This is likely to mean a more cautious approach will be taken for measures that have a lower impact on the economy, hence the compulsory face masks mentioned earlier in the report. For those that have a greater impact, such as the closure of hospitality venues, a more high-risk strategy is likely (see below).

The quarantine measures brought in for people arriving in the UK are at the absolute centre of ongoing tension within Government.

The quarantine measures brought in for people arriving in the UK are at the absolute centre of ongoing tension within Government. Each side is seeking to undermine the other's arguments through selective leaking of internal documents. Ultimately, due to the overwhelming hostility to these measures on the Conservative backbenches and business pressure backing up the arguments of BEIS and the Department of Transport, modification of these provisions to allow people arriving from most countries to avoid quarantine is inevitable.

The belief of those ministers advocating for an early release of the lockdown measures is the health effects of the lockdown itself, and the economic damage it causes, are being seriously underestimated. If large scale redundancies replace the current furloughs, then these effects will start to be much more obvious, although it will be too late to do anything about it. They also look to the views of those economists that have suggested a consumer driven revival could rapidly bring the economy back, as those people who have been able to carry on working but have had less

opportunity to spend their salaries are now sitting on considerable sums, which they could spend if allowed to.

Firefighting the virus

One issue the Government is united on is pursuing a strategy for the rapid identification and suppression of the hotspots of infection. This form of firefighting against the virus allows for an earlier relaxation of lockdown measures to help reopen the economy. It also fits with the advice given by the Government's social policy advisors who are clear that the best way to maintain societal compliance is to ensure the relaxation of control measures is progressive, and measures are not rolled back on a national basis.

The ability of the UK to identify hotspots rapidly is improving. The increase in testing capacity and the speed of return of results means data on diagnosed infections is now sufficient enough for accurate tracking of the development of the disease. This was not the case previously, where epidemiologists were having to track hospital admissions and deaths, which lags the infection numbers by one to two weeks.

The Government is also using numbers from the Kings College app to help identify hotspots as this picks up infections even faster than the testing regime. There has been some scepticism about the Kings approach, as it relies on self-diagnosis, but there is now more acceptance of this as a valid method. Kings itself has also started a trial using testing to validate self-diagnosis in order to prove it is a valid diagnostic tool so its results yield a higher level of trust.

The manual system for tracing people who have been in close contact with someone diagnosed with Covid-19 is operational, but there are some question marks about its effectiveness which have been exacerbated by the Government's refusal to publish any data from it. This is because they want to be able to publish consistent figures that the ONS validates given it has been critical about the Government's Covid-19 testing data previously.

This does allow the Government time to improve performance of the system before it releases data. It also highlights the Government's need for an automated phone app to help identify who should be self-isolating, but there are still issues with being able to roll the app out across the country. At present, it seems unlikely the app will be available before the end of the month.

The Government has been strongly advised that if it is to proceed with the further release of lockdown measures in July, then having a working app is vital.

The Government has been strongly advised that if it is to proceed with the further release of lockdown measures in July, then having a working app is vital, placing NHS app developers at the very centre of Government plans to allow the country to operate more normally. There is a minority of data scientists Kreab have spoken to who are expressing scepticism the app will ever work satisfactorily.

Detection of Covid-19 in work and transport settings

Many transport operators as well as some schools, universities and workplaces have looked at, and in some cases have set up, temperature sensing stations at entrances to their facilities in the hope this can be used to screen out people who are suffering from the disease to prevent their facilities being a source of infection.

This method had some effect in combatting SARS, and so some have hope it could also help the battle against Covid-19. However, SARS was generally not infectious before a fever developed, whereas Covid-19 is. In addition, not everyone who contracts Covid-19 gets a temperature, and in most cases that particular symptom only lasts two or three days.

15% of Covid-19 sufferers only have the symptom of loss of smell.

Therefore, some scientists are urging that, when setting up a temperature sensing test, a smell sensing facility should be used in combination with it. Data from Kings College shows only about 5% of people develop a temperature without the loss of smell or cough symptoms, whereas 15% of people only have the loss of smell. The loss of smell also lasts up to a week, so is more likely to be detected.

Using the two in tandem, this form of testing could identify up to 90% of symptomatic infectious people, although the issue of infectious people without symptoms will remain. This does present a possible way forward for the airline industry in particular.

The other option that could be deployed instead is the use of rapid 20-minute Covid-19 tests, which are now becoming more widely available although, in busy transport settings there are serious logistical problems with holding people for 20 minutes, especially while practicing social distancing.

Next steps for the lockdown

The next official stage in the relaxation of lockdown measures is due to commence on 4 July. This was previously given as the earliest possible date, but it is now clear the Government will stick to that date for the official launch of the next stage. However, its preference is to be able to release some elements of the lockdown each week, which renders the staged approach effectively obsolete.

The key issue will be the regulations for the hospitality sector. The Government has talked about piloting measures and starting with outside areas, but despite this, many in the sector are planning on a full opening and working out how they will ensure social distancing.

The active debate inside Government is fuelling these expectations in the sector which are likely misplaced. It is highly probable Ministers do want to move towards a situation where interior areas of pubs, cafes and restaurants can be used, but this will not be the first step.

To counter the sector's disappointment at not being able to fully open initially, the Government is considering bringing forward the date for the opening of outside areas of pubs, cafes and restaurants but ultimately it may have to be the key development announced on 4 July.

The financial issue for such venues is how they can be profitable when they are likely to have to operate at a lower capacity and need more staff to ensure social distancing. The furlough scheme does nothing to help this situation as to operate, these venues will need to take all staff off furlough, but they will have less income to pay them with.

The financial issue for hospitality venues is how they can be profitable with a lower capacity.

In line with the thrust of emerging Government policy towards such issues, its decisions are likely to be riskier in areas that boost the economy but more cautious in areas that do not. So, in the hospitality sector, we may well see the social distance recommendation reduced from two metres to one metre, which makes a very significant difference to the possible capacity in hospitality venues. This could be balanced by a more cautious measure, so we could potentially see the wearing of face coverings being compulsory in these venues at times other than when actually eating or drinking.

The Government's desire to be able to show progress back towards normality every week should be contrasted with the more cautious approach being taken in the devolved governments. By July, this could result in the regulations affecting people's lives and businesses being very different in England to those in Northern Ireland, Scotland and Wales.



25
COUNTRIES

40
NATIONALITIES

+400
CONSULTANTS

+500
CLIENTS

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