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The Independent Scientific Advisory Group for Emergencies (SAGE)

The Independent SAGE Report 7

Zero COVID-UK: Why is England not pursuing an elimination strategy?

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Submitted to The UK Government and the People of Great Britain & Northern Ireland by Sir David King, former Chief Scientific Adviser, UK Government, Chair of Independent SAGE

A Better Way To Go: towards to a Zero COVID UK

At the final Downing Street press conference on 23 June the Chief Medical Officer (CMO) for England painted a pessimistic picture of continuing levels of COVID-19 deaths and new infections.

“I would be surprised and delighted if we weren't in this current situation through the winter and into next spring. I think then let's regroup and work out where we are. But I expect there to be a significant amount of coronavirus circulating at least until that time”

Prof Chris Whitty, CMO England, Downing Street press conference. 23 June.

Were the levels of deaths in the week leading up to Chris Whitty's words to continue, that would amount to many thousands of deaths over the next nine months. **It is the view of Independent SAGE that a death toll from COVID-19 of this magnitude is not only preventable but is absolutely unacceptable.**

Independent SAGE believes that the UK government must fundamentally change its approach and we propose a new overarching strategic objective of achieving a **Zero COVID UK**, i.e. the elimination of the virus from the UK. We believe this should be informed by science and debated in public, and a proper coordinated strategy for its achievement developed with the public.

KEY POINTS

- The prospect of many thousands of further deaths from COVID-19 over the next nine months is unacceptable
- The UK government must propose and share with the public a strategic plan on how the pandemic is going to be managed in the next 12 months and of how the various measures against the pandemic fit together in an integrated plan.
- Independent SAGE believes that this strategy should have as its prime objective the achievement of a Zero COVID Britain and Ireland
- It will require the government in Whitehall to replace their failing NHS Test and Trace System with a fully-fledged and locally controlled system of Find, Test, Trace, Isolate, Support (FTTIS)
- The Republic of Ireland, Scotland and Northern Ireland already have very few deaths and very small numbers of new positive cases. They have the virus under control and are well placed to achieve elimination of the virus
- England and Wales will need to make the necessary efforts as soon as possible to achieve the same position
- Achieving elimination would allow all social distancing measures to be lifted, schools to be fully open, the hospitality and entertainment industries to reopen fully, revitalisation of the economy and a sense of much needed normality for the population.

The United Kingdom stands at a crucial point in its efforts to deal with the COVID-19 pandemic. What has been achieved so far is a moderate level of control of the pandemic in some parts of the UK but only limited control in most of England. The death toll has been one of the highest in the world and continues to grow. Independent SAGE believes that we can change that trajectory. We believe that a clear strategy based on proven public health principles is now required to see us through the next 9 to 12 months.

Substantial work is going on in many centres around the world to develop and test an effective vaccine for the COVID-19 virus. Simultaneously a large number of clinical trials are being undertaken with the aim of developing effective clinical treatment for patients with severe and potentially fatal infections. Unfortunately, there is no guarantee that either of these major strands of clinical research will provide a 'silver bullet' solution to the epidemic.

Even under the most optimistic estimates for when a vaccine will become available, it is unlikely to provide "sterilising immunity" and in any case is very unlikely to be provided to all individuals in the UK within the next year. In addition, those treatments which have shown efficacy will probably be limited to hospitalised patients and provide only partial benefit at best. There will remain a large number of survivors left with longer term sequelae, creating additional burden on an NHS which already has a difficult task in catching up with backlogs in routine care.

In any conceivable case, the only rational way forward is to work on the basis that we need to bring the epidemic rapidly and successfully under control across the whole of Ireland and Britain or otherwise face a continuing toll of avoidable deaths and serious illness.

The success of other countries such as New Zealand, Australia, Iceland and South Korea in bringing the coronavirus under control is remarkable. What Britain and Ireland have in common with these three countries is that they are islands (or in the case of South Korea, a virtual island). As we know only too well, it is travel that has spread the virus across the world and brought it to our shores. Were Britain and Ireland willing, and able, to take advantage of being islands, it would greatly help in defeating the virus and returning our lives and our economy to something like normality.

Box 1

Control

Reduction of the number of people currently infected with the disease to a low level and the capacity to maintain that control indefinitely (e.g. Germany, China).*

Elimination

Reduction to zero new infections spread among people living in a country and the presence of the measures necessary to prevent or deal with imported cases and associated spread from new arrivals (e.g. New Zealand).

Eradication

Permanent reduction to zero worldwide incidence of infection (as has been achieved with smallpox and almost with polio through mass vaccination programmes).

*Independent SAGE would suggest that a seven day rolling average of one new case per million population per day could represent 'control' in Scotland, Wales, Northern Ireland and the regions of England.

Independent SAGE has seen no evidence that the government has a considered strategy for the next stages of handling the pandemic in the UK. It is clear that the government has consistently failed to heed broad-based scientific advice, including that from the World Health Organization and the European Centre for Disease Prevention and Control, such as large scale testing with test results available within 24 hours or less, a strong Find, Test, Trace, Isolate and Support system to break chains of transmission and robust and continued public health messaging campaigns to reiterate the importance of personal protective behaviours (e.g. hand washing, social distancing, avoiding crowded spaces, wearing a face covering where you cannot avoid such spaces). Similarly, the government does not appear to have learned from the experiences of other countries that have been successful in achieving elimination or near elimination of the infection.

We fear that the government has given up trying to control the pandemic further and is hoping that by reacting to local outbreaks as and when they happen (e.g. the current Leicester lockdown), it can keep levels of infection at what they regard as a 'manageable level' (i.e. their current quite high but not catastrophic levels). Independent SAGE believes that this is not acceptable, that we should not give up. Thousands of lives could be saved over the next year by a renewed effort to further suppress the virus.

The UK strategy should have at its heart a commitment to fully control the disease and to move towards elimination as soon as possible. The government must share that strategy with the public and seek their support and assistance in seeing it implemented. The four countries of the UK are not in the same position with regard to the pandemic and each part of the UK should develop its own programme of action in keeping with an overall goal of elimination of the virus, which is **the achievement of a 'Zero COVID UK'**.

The planks of this strategy to achieve a Zero COVID UK should be to:

- Fully develop community-based and locally led Find, Test, Trace, Isolate, Support (FTTIS) programmes with expanded local laboratory provision, involvement of local public sector organisations and provision of all the resources necessary to enable adherence to the regulations on notification of infectious disease
- Restrict loosening of lockdown measures in any part of the UK until control of the outbreak has been achieved in that country
- Put in place well designed and scientifically based plans to act swiftly to contain and suppress completely and localise flare-ups in COVID-19 infections. Such plans to be exercised in simulation and well understood by the public before they have cause to be put into effect and implemented with full engagement with the communities affected
- Restrict incoming or outgoing personal travel internationally and within Britain and Ireland to the extent necessary to maintain control of the epidemic and, in particular to ensure effective isolation of incoming passengers.

- Combine all these measures with a systematic public information campaign stressing that things are not 'back to normal' yet, that premature removal of restrictions in the midst of a deadly pandemic threatens to squander all the sacrifices of lockdown and that strict compliance with restrictions now will make a full return to normality come sooner. The public messaging must be done in a culturally acceptable manner to reach all communities especially those that have been disproportionately affected such as the deprived and ethnic minority populations.

In Scotland and Northern Ireland (and also in the Republic of Ireland) both the numbers of deaths and the numbers of newly positive cases are very low. Both Scotland and Northern Ireland should continue to increase their efforts until control is assured and there is, in effect, a Zero COVID Scotland and a Zero COVID island of Ireland. In the case of Northern Ireland, an all-island approach to the pandemic should immediately be adopted using the Memorandum of Understanding already in place with the Republic of Ireland. As Scotland and the island of Ireland achieve full control, travel restrictions between them should be reconsidered alongside normalisation of social and economic activity.

It seems sensible that travel restrictions should either be instituted on public health grounds between England (and Wales) and Ireland and Scotland, or instituted if they are not already in operation. The Republic of Ireland has already instituted requirements arriving directly from Britain.

The achievement of a zero COVID Britain **and** Ireland will require the cooperation of the UK government in Westminster, the Scottish Government, the Welsh Government, the Northern Ireland Executive and, importantly, the Irish Government. The advantages would be manifest and wide-ranging, including the ability to lift all social distancing restrictions, revitalise economies, fully reopen all educational establishments and work towards unrestricted travel arrangements with similar Zero COVID countries.

If the UK government is not prepared to accept this advice, based as it is on the best scientific understanding of the pandemic, it must (as a matter of urgency) outline its strategic plan for the rest of the period of this pandemic and the analysis and advice upon which such a plan is based.

Progress to date across Britain and Ireland

The response to the UK's substantial burden of COVID-19 is the subject of widely differing views as to its timeliness, effectiveness, professionalism and competence.¹ What is undeniable is that the UK has experienced an enormous burden of preventable disease and death. In addition to the toll of avoidable deaths there will be a long trail of illness and disadvantage resulting from complications of the infection and also from the economic, educational and psychological effects of the measures that have been instituted to try and bring the episode to a close.²

The position in which we now find ourselves in the UK is of a substantial variation across its four constituent parts. The death toll and number of cases show very large variation and makes it clear that at no stage of this epidemic should the territory of the UK have been treated as one homogenous whole. What progress has been made has been achieved by substantial sacrifices during the course of substantial social restriction on the ability of most of the population to attend places of work, education and social activity. It has also been accompanied by substantial restriction of travel distance and of international and domestic flights. The islands of Britain and Ireland have benefitted from the curbs put in place on international travel by many other countries. By the beginning of April, nine out of ten people in the world lived in countries which had imposed complete or partial border closures to foreign nationals.³ The resulting airline shutdown benefited the UK and Ireland neither of which instituted significant travel restrictions.

The current position in the four constituent parts of the UK

Before considering the position in each of the four parts of the United Kingdom, it is worthwhile comparing the same plot of mortality data for each of them. It is generally accepted that excess mortality is the best indicator of how a country has been affected by COVID-19. The UK contributes to a European initiative, EuroMoMo, that monitors mortality in individual countries for the purposes of detecting and measuring excess deaths related to public health threats such as seasonal influenza and other infectious diseases.

The statistical method used by EuroMoMo is to calculate Z-scores for each country. This is a statistical method which, in this case, enables the production of comparative mortality occurrence despite very substantially different populations. The data clearly shows the spike in mortality associated with the COVID-19 pandemic and how England was affected to a substantially greater extent than the rest of the UK (Fig. 1).

¹ BMJ The UK's public health response to covid-19 <https://www.bmj.com/content/369/bmj.m1932>

² Royal College of Psychiatrists https://www.rcpsych.ac.uk/docs/default-source/news-and-features/news/rcpsych-covid-member-survey-2-summary.pdf?sfvrsn=951e1c72_2

³ Connor P. More than nine-in-ten people worldwide live in countries with travel restrictions amid COVID-19. Pew Research Center. <https://www.pewresearch.org/fact-tank/2020/04/01/more-than-nine-in-ten-people-worldwide-live-in-countries-with-travel-restrictions-amid-covid-19/>

Figure 1: Graphs of the weekly z-score at the national level within the UK from 2015.



England

England finds itself in a very difficult position. The late adoption of appropriate public health measures left the country facing a very substantial burden of infection which, in due course, resulted in very significant mortality. It also created a situation where, despite the lockdown, the virus has still been circulating - although to markedly reduced extent. Along with the rest of the UK, community find, test, trace, isolate, and support (FTTIS) programmes in England were abandoned on the 12th of March and only relatively recently have attempts been made in England to put a new system in place via a patchwork structure of ill-connected activities. This has been the subject of a separate Independent SAGE report.⁵

⁴ EuroMOMO <https://www.euromomo.eu/graphs-and-maps> (accessed 29 June 2020)

⁵ SAGE Report on FTTIS <https://www.independentsage.org/wp-content/uploads/2020/06/FTTIS-12.42-160620-names-added.pdf>

Much of the available data is based on UK figures, but as England makes up 84% of the UK population, it can be taken as broadly reflecting the situation in the UK. The available data shows that, although there has been a substantial decline from the peak of the epidemic so far, neither the number of deaths nor the number of new cases being detected show any signs of reaching the low levels needed before the pandemic would be judged to be under control (Fig. 2 and Fig. 3).

Despite the very obvious continuing levels of infection, the government in Whitehall has decided to proceed with the process of lifting the measures of social restriction at a pace which appears to be running ahead of the establishment of adequate control of the disease. It appears that the government has accepted a position whereby there will be a continuing and substantial number of deaths and new cases in much of England until the epidemic has been resolved in some way.

Figure 2: COVID-19 mortality in the UK

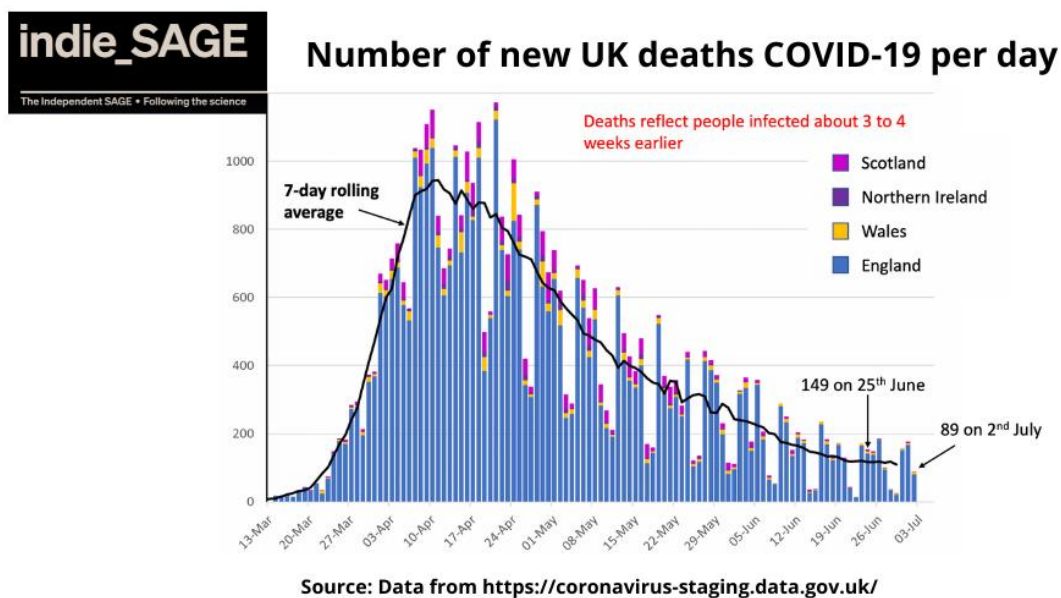
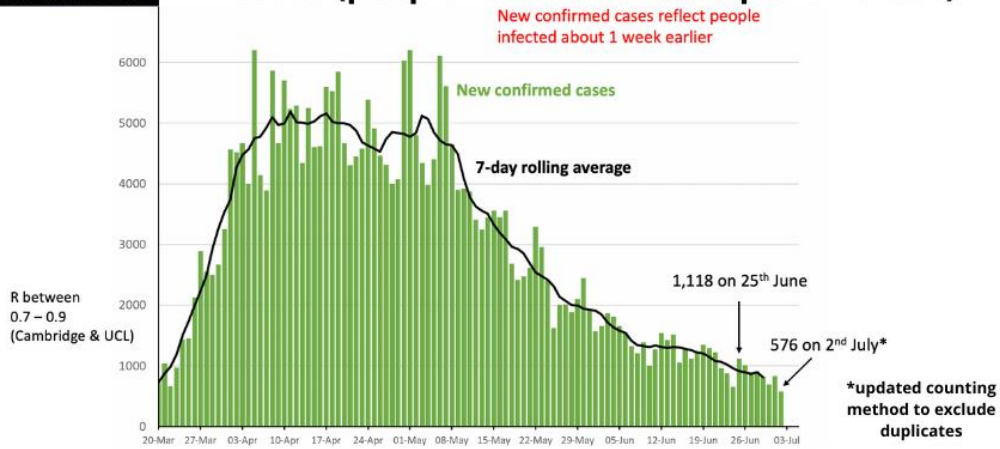


Figure 3: Confirmed COVID-19 positive cases in the UK

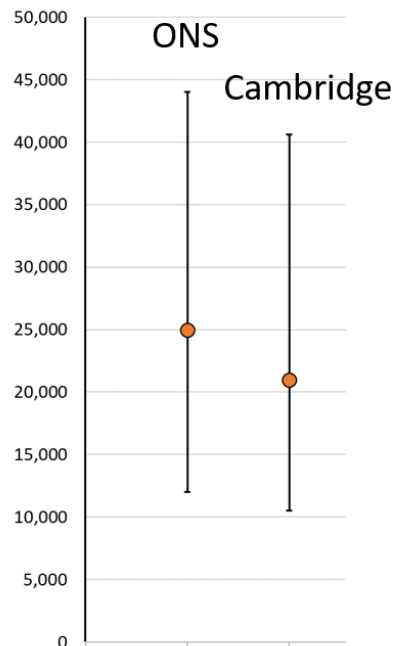
Number of new UK confirmed COVID-19 cases (people who have had a positive test)



The number of new confirmed cases does not however reflect the number of new infections occurring in the community. In the absence of active case finding and campaigns to encourage people to come forward for testing, it is extremely likely that the number of new cases in the community is considerably higher. This situation is amplified by a relatively high rate of asymptomatic infections. There are a number of surveillance systems and modelling approaches that have attempted to provide estimates and these suggest that the number of new infections ranges between 20,000 and 25,000 per week (Fig. 4).

Figure 4: Estimated number of new infections per week in England in late June (ONS & Cambridge MRC Statistics unit)

Best estimates are somewhere between **20,000 and 25,000 new infections a week (3,000 – 3,500 a day) (England only).**



ONS (latest report 2nd July)- does not rely on people coming forward with symptoms <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurvey/pilot/england25june2020>

Cambridge MRC statistics unit (latest estimate 1 July) <https://www.mrc-bsu.cam.ac.uk/tackling-covid-19/nowcasting-and-forecasting-of-covid-19/>

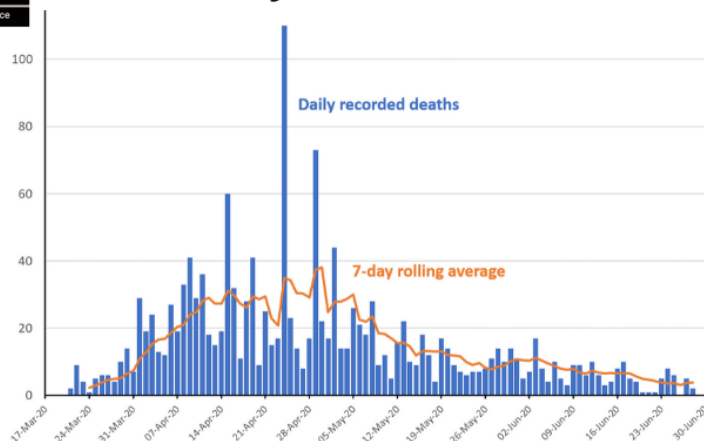
Wales

Wales has had unusual figures for both cases and deaths. The death figures have been erratic in terms of reporting, which is not unusual, and the mortality curve, using a 7-day rolling average (Fig. 5), has a long low profile. The level of COVID-19 deaths in Wales per head of population was, by mid-June, lower than all but two of the nine regions of England.⁶

Figure 5: COVID-19 mortality in Wales

⁶ https://digitalanddata.blog.gov.wales/2020/06/16/chief-statisticians-update-how-does-covid-19-mortality-in-wales-compare-with-the-rest-of-the-uk-and-how-does-it-vary-within-wales/?_ga=2.82352854.1177370115.1593432424-389039814.1589485631

Wales: Daily Confirmed Deaths from COVID-19



Data from <https://coronavirus.data.gov.uk/#category=nations&map=rate&area=w92000004>

As John Appleby, Director of Research and Chief Economist at the Nuffield Trust, has noted, Wales is unusual amongst the countries of the UK (including the regions of England) in having the highest cumulative rate of positive cases and the slowest decline in the rate of positives. But as with all data of positive cases, the availability and operation of testing is an important factor.

Scotland and Northern Ireland

Scotland and Northern Ireland have both had what would appear to be strong indicators of bringing the pandemic under control. Scotland, for example, had by 28 June recorded no deaths on four consecutive days and the number of new positive cases has been in single figures on several days. Northern Ireland by 29 June had a total of 17 positive tests in the previous seven days. Although the statistics from Northern Ireland's Department of Health (An Roinn Sláinte) are notably poor, they only record four deaths in the seven days to 29 June. Data from elsewhere shows that there were only 17 deaths in the week ending 19th June which mentioned COVID-19 on the death certificate.⁷

Republic of Ireland

The Republic of Ireland is of substantial importance because the border which divides the island of Ireland is the UK's only land border. The fortunate position achieved in Scotland and Northern Ireland is matched by the Republic of Ireland which adopted, at an earlier stage, the public health driven approach recommended by both the World Health Organization and the European Centre for Disease Prevention and Control.^{8,9} The number of deaths in the seven days to 26th June was 15 and the number of new cases in the same

⁷ NISRA. Weekly Deaths in Northern Ireland Death Registration Statistics including COVID-19 by Date of Death Week ending 19th June 2020.

<https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/Deaths%20registered%20in%20NI%20-%20week%2024%202020.pdf>

⁸ World Health Organization. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

⁹ European Centre for Disease Prevention and Control. <https://www.ecdc.europa.eu/en/covid-19-pandemic>

period was 46.¹⁰ It would appear that the UK government could learn from the operation of the FTTIS system in the Republic of Ireland, including how to maximise openness in information and data, and the national deployment of a mobile phone app.

¹⁰ Rialtas na hÉireann - Government of Ireland. Ireland's COVID-19 Data Hub. <https://covid19ireland-geohive.hub.arcgis.com/>

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Following the science