Dear Julie Marson, MP for Hertford and Stortford.

I am writing to you again as my representative MP in respect of the announcement made by Sir Patrick Vallance, Government Chief Scientific Officer (CSO) on 21st September.

As his announcement was not open to question at the time, I expect you will be able to answer these questions I have prepared in response to it via your political channels.

1. The CSO stated: *What we see from July, as we look at the increase in cases per 100,000 of population, an increase which has occurred over August and has increased into September... Could that increase be due to increased testing? The answer is no. We see an increase in positivity of the tests done, so we see the proportion of people testing positive has increased even if testing stays flat.*

   Positivity has only increased since the end of August, i.e. the last 2 weeks prior to his announcement. Why did he make it seem like the nominal rise in cases "over August" is also accompanied by a rise in positivity when it is not the case?

UK COVID-19 Tests and Cases
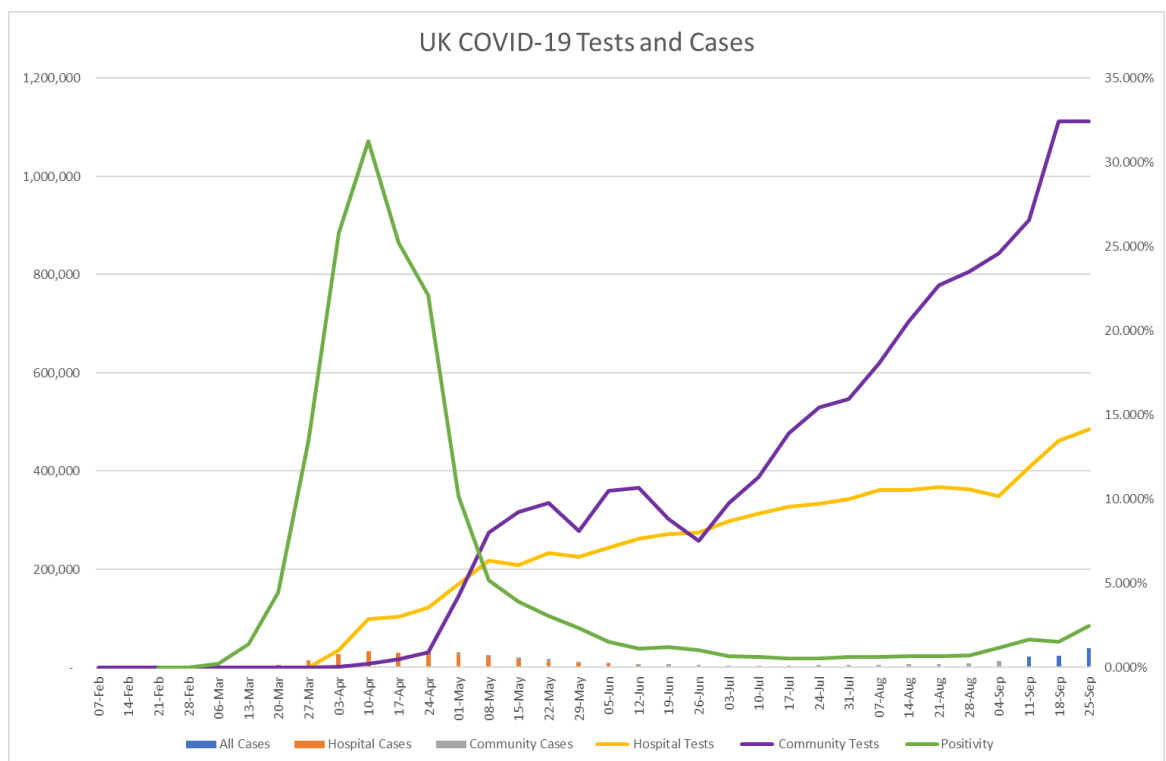
2. The CSO stated: *At the moment, we think that the epidemic is doubling roughly every seven days. It could be a little bit longer, maybe a little shorter, but let's say roughly every seven days. If, and that's quite a big if, but if that continues unabated and this grows, doubling every seven days, then what you see of course, let's say that there were 5,000 today, it would be 10,000 next week, 20,000 the week after, 40,000 the week after. And you can see that by mid-October if that continued, you would end up with something like 50,000 cases in the middle of October per day.*

   Why did he choose to show just one scenario, a "big if" scenario and no other? What is the scientific basis for his "not a prediction"? Why did he specifically pick one small period out of all the periods where cases have doubled and not consider other periods? Why did he only show a scenario where cases continue to double? Why did

he show this until mid-Oct and no other period? That said, applying a rather more plausible forecasting method, simply fitting a 3-order polynomial, yields a significantly lower estimate of under 15,000 cases per day by 13th October.
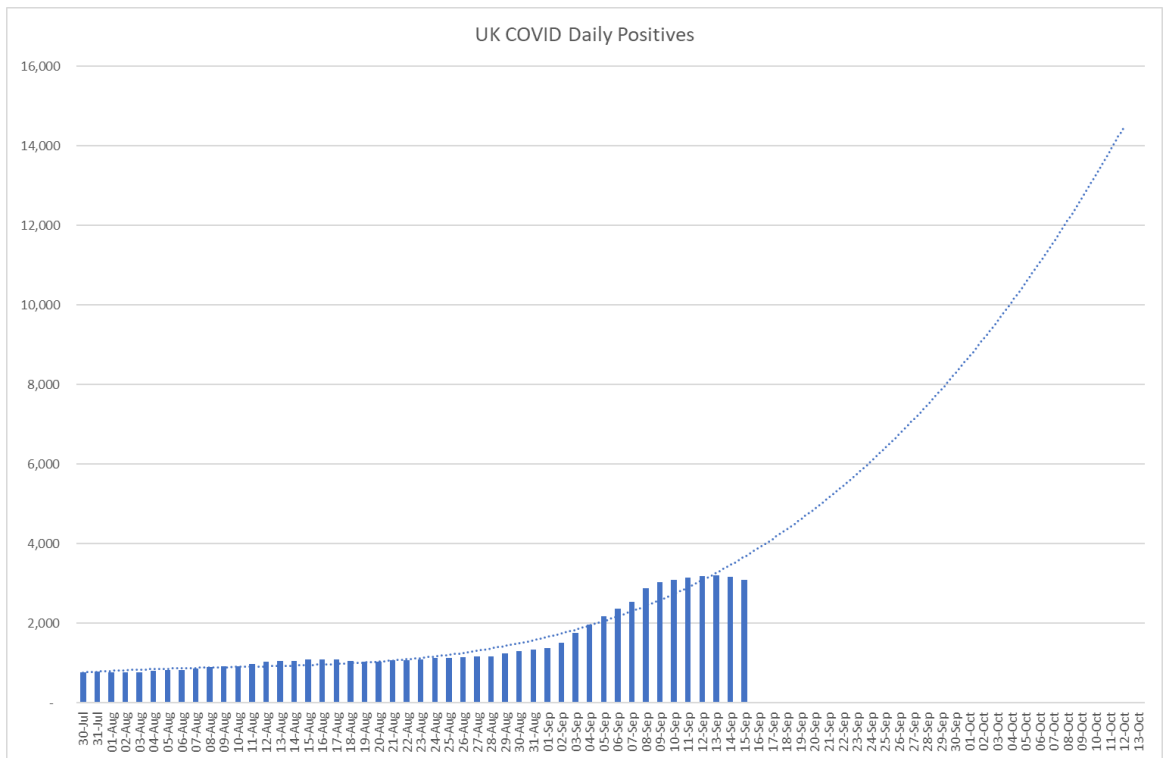
Much has been made of false positives recently. It has been a common subject of debate by the Health Secretary and Foreign Secretary. Why was the impact of false positives not even considered? It is not difficult to estimate the false positive rate. Dominic Raab, the Foreign Secretary, referred to it at least twice on Sky News as being 93% and the reason why it cannot be relied upon to replace quarantine after international travel. He said it on 6th Sept[1] so the CSO must surely be aware of it? He repeated it on 23rd Sept[2] so evidently nothing has changed in government thinking before and after the CSO's announcement?

Adjusting for false positives using estimated prevalence rates from the ONS[3] and the Zoe app[4], and testing and case data published by the government[5], shows a rather different picture of events, doesn't it?

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[1] https://www.youtube.com/watch?v=5RMtTZedzf0
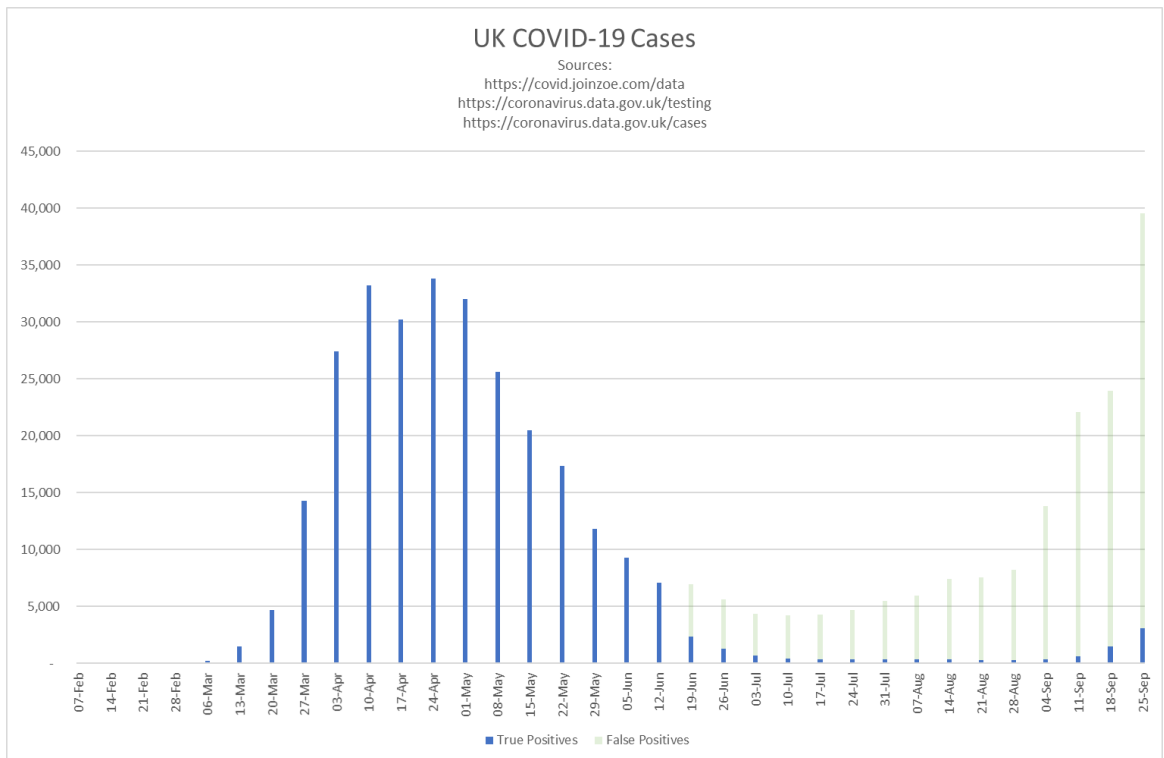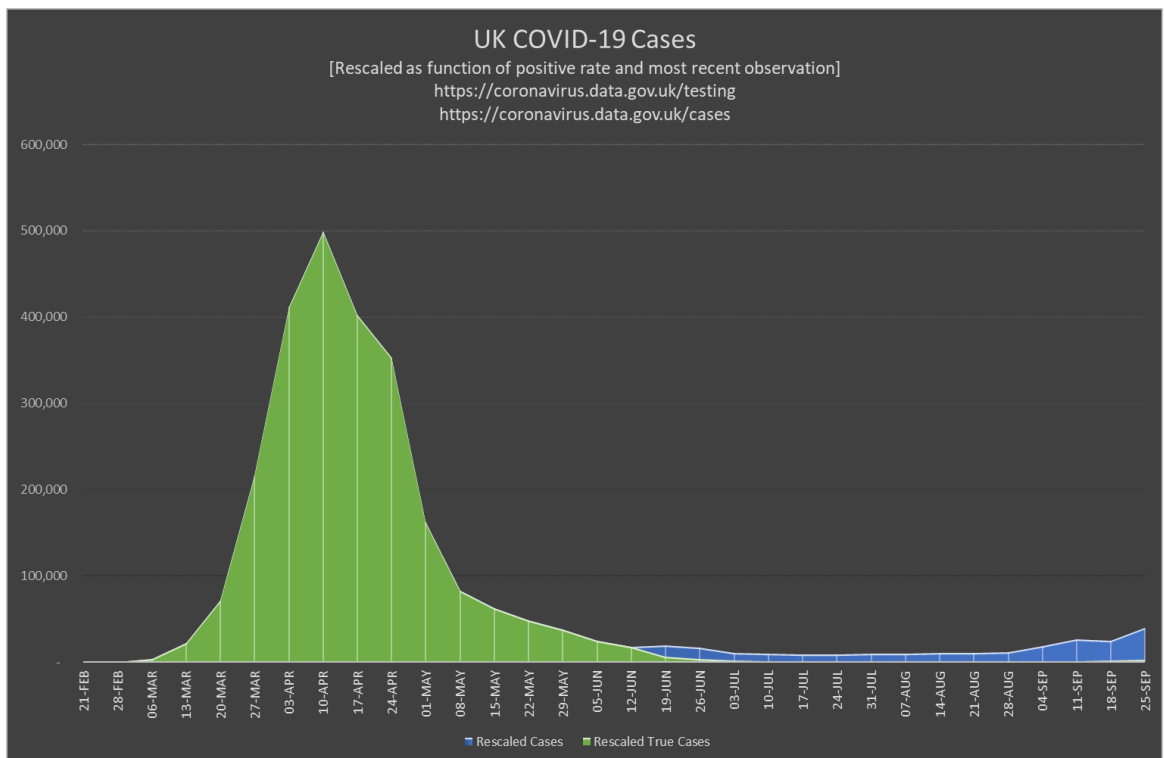[2] https://twitter.com/SkyNews/status/1308655561081225217?s=20
[3] https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveypilot/englandwalesandnorthernireland25september2020
[4] https://covid.joinzoe.com/data
[5] https://coronavirus.data.gov.uk/

UK COVID-19 Cases

Sources:
https://covid.joinzoe.com/data
https://coronavirus.data.gov.uk/testing
https://coronavirus.data.gov.uk/cases
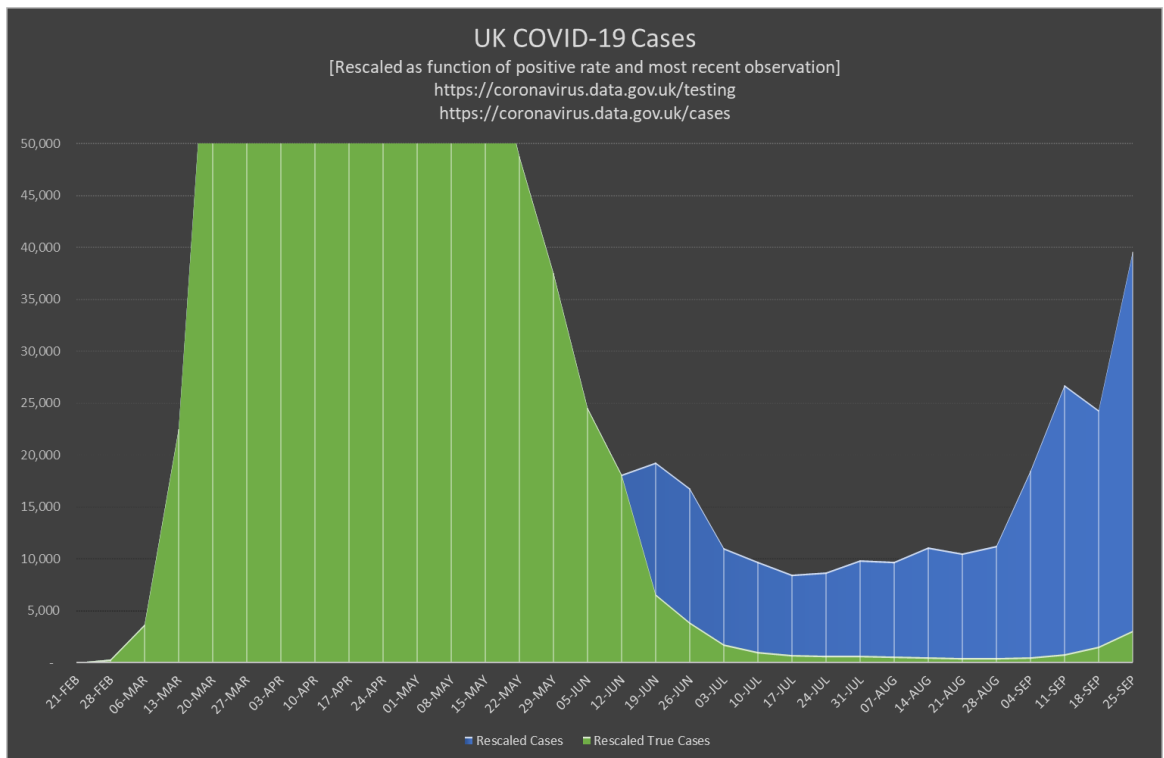
■ True Positives ■ False Positives

Why was no attempt made to put the recent cases into proper perspective with the real outbreak in April? Again, this is quite trivial to do so I would be surprised that there are no data scientists in government doing this? It can be done using the positivity rate and scaling over a fixed parameter, like the last observed number of cases.

UK COVID-19 Cases

[Rescaled as function of positive rate and most recent observation]
https://coronavirus.data.gov.uk/testing
https://coronavirus.data.gov.uk/cases

■ Rescaled Cases ■ Rescaled True Cases

As you can see, in proper context, recent real cases are too insignificant to discern.

So, if we zoom in, we can see indeed that cases are rising but from a very, very low relative base and nowhere near the same incline when all the false positives are included. Does this really justify further interventions?

UK COVID-19 Cases
[Rescaled as function of positive rate and most recent observation]
https://coronavirus.data.gov.uk/testing
https://coronavirus.data.gov.uk/cases

3. The CSO stated: *50,000 cases per day would be expected to lead a month later, so the middle of November say, to 200 plus deaths per day.*

   This implies a case fatality rate (CFR) of 0.4%. From what source did he get this estimate?

4. The CSO stated: *So as we see it, cases are increasing, hospitalisations are following.* This was later repeated by Prof. Chis Whitty, Chief Medical Officer (CMO): *This graph is a simple one, it simply shows the number of inpatient cases in England over the period from the first of August. And until that point in time, there had been a steady fall over a long period of time, right back from early April. And it then stabilised for a period and flattened out, but over the period since the first of September, you can see a steady, sustained rise in numbers with a doubling time, as with the cases, of probably seven or eight days.*

   What justification does he have for stating that hospitalisations are following? He did not present evidence of this. As it happens, it did look like hospitalizations were rising up to the period of his observation but certainly not in any dramatic fashion as he perhaps insinuated?

England COVID-19 Patients in Hospital
Source: https://coronavirus.data.gov.uk/healthcare
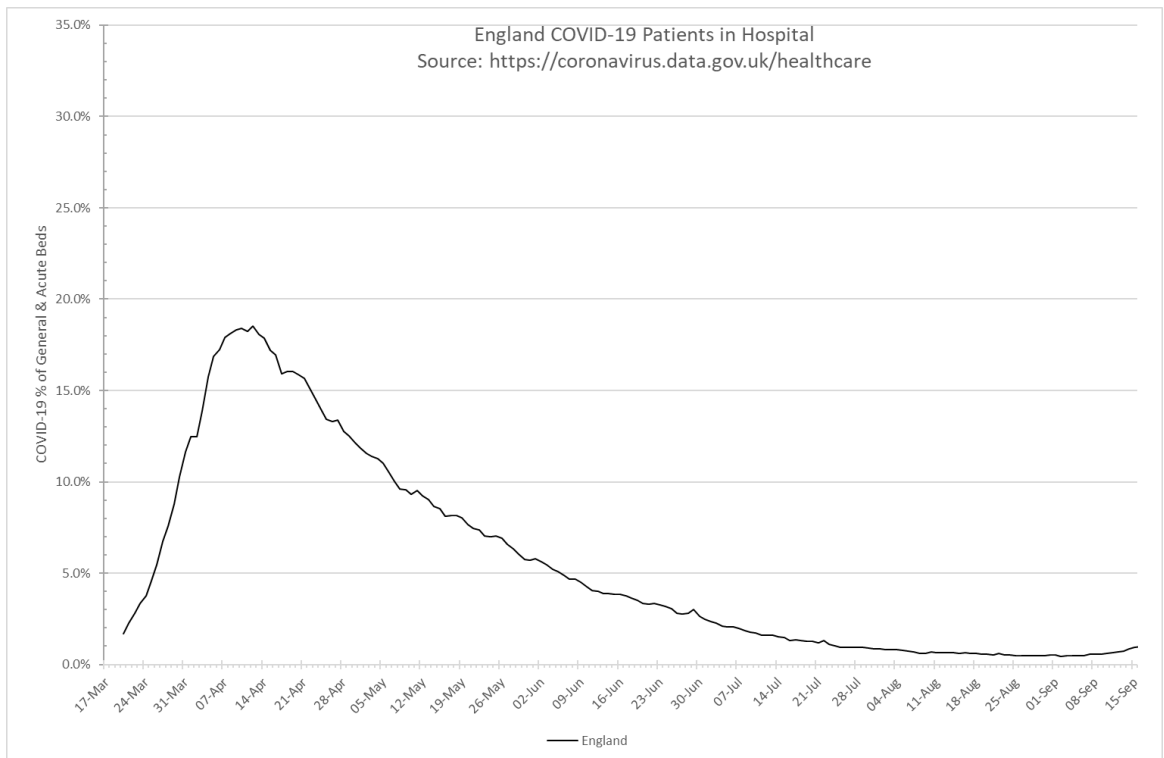
I wonder though, why he did not express the significant differences across the regions given that this announcement was an evident precursor to the implementation of further national interventions? Clearly, levels were only rising in the north.

England COVID-19 Patients in Hospital
Source: https://coronavirus.data.gov.uk/healthcare
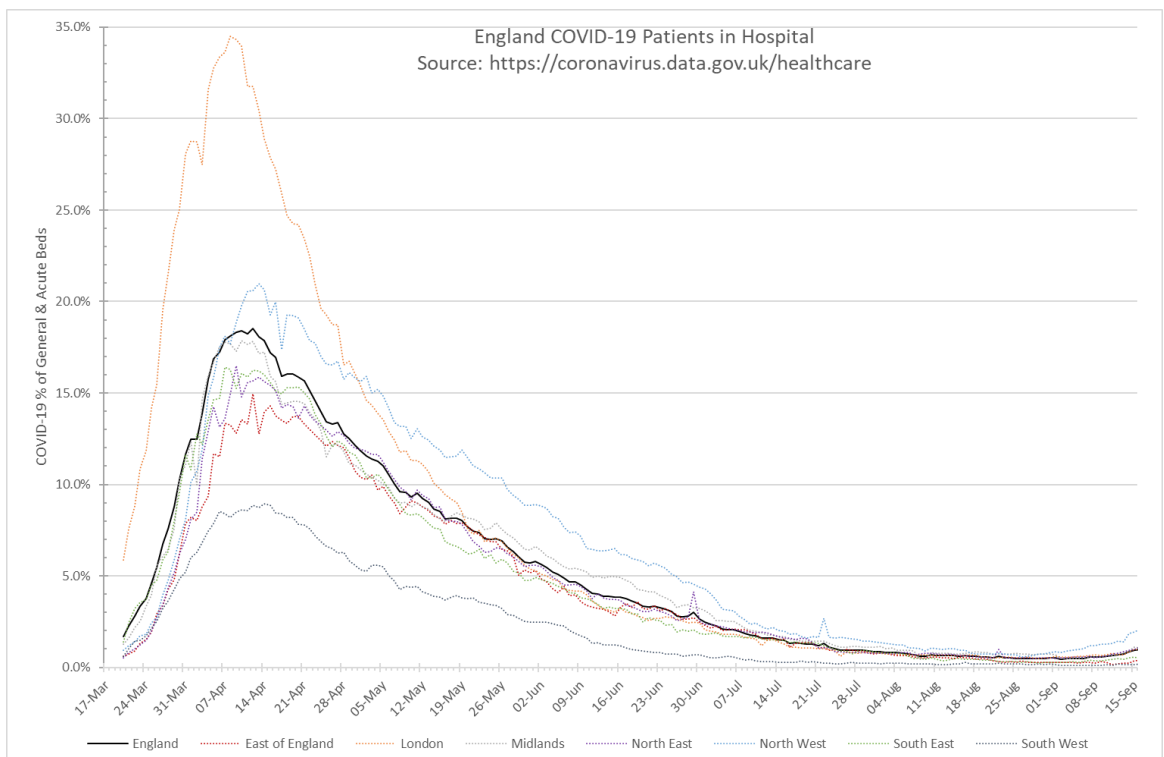
I must also wonder why no mention was made of the method for counting "COVID"

admissions. It clearly states on the PHE website[6] that a hospital case is someone who meets the following criteria: *requiring admission to hospital (a hospital practitioner has decided that admission to hospital is required with an expectation that the patient will need to stay at least one night); and have either clinical or radiological evidence of pneumonia; or acute respiratory distress syndrome; or influenza like illness (fever ≥37.8°C and at least one of the following respiratory symptoms, which must be of acute onset: persistent cough (with or without sputum), hoarseness, nasal discharge or congestion, shortness of breath, sore throat, wheezing, sneezing or a loss of, or change in, normal sense of taste or smell (anosmia) in isolation or in combination with any other symptoms.*

However, the data collected with respect to COVID admissions[7] has a somewhat different definition: *any patient admitted to the trust who has recently (ie in the last 14 days) tested positive for COVID-19 following a polymerase chain reaction (PCR) test.* I have confirmed with the Senior analytical Lead that this means a patient admitted for any reason whatsoever who has tested positive within 14 days prior to admission.

I am sure you can see then that the hospital admission data is as unreliable as the "case" data if the only determinant is the result of the PCR test which has been acknowledged by government to be misleading over 90% of the time? Isn't it an obvious thing to check, as the CMO suggested, "as with the cases"? The two data sets are subject to the same misinformation, are they not?

5. The CSO stated: *When people have an infection, the vast majority of people get an antibody response, and we know that some of those antibodies are so-called neutralising antibodies. They do indeed protect against the virus. We also know that they fade over time, and there are cases of people becoming re-infected.*

Why did he mention that there are cases of people becoming re-infected? I believe there are only six documented case of this in the entire world and it is unsure if these results are not due to the deficiencies of the PCR test[8]. So, what purpose does it serve to make this reference?

6. The CSO continued: *What we see is that something under eight per cent of the population have been infected as we measure the antibodies, so about eight per cent, so 3 million or so people, may have been infected and have antibodies. It means that the vast majority of us are not protected in any way and are susceptible to this disease. There may be other forms of protection that increase that number a little bit, other parts of the immune system, but it does mean the vast majority of the population remain susceptible, and therefore you'd expect spread throughout them.*

Why did he only mention antibody response in detail and downplay the other

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[6] https://www.gov.uk/government/publications/wuhan-novel-coronavirus-initial-investigation-of-possible-cases/investigation-and-initial-clinical-management-of-possible-cases-of-wuhan-novel-coronavirus-wn-cov-infection#criteria
[7] https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-hospital-activity/
[88] https://www.ecdc.europa.eu/sites/default/files/documents/Re-infection-and-viral-shedding-threat-assessment-brief.pdf

responses? Several independent studies have shown that T-cell immunity may be very significant. For example Nottingham University published in July that 50% of people may have pre-existing memory helper T-cells and 20% may have killer T-cells[9]. This is quite significantly not "a little bit"?

How did he get from 8% of the population to "3 million or so people"? There are around 68 million people in the UK. 8% of that is over 5.4 million.?

Why did he only make reference to the antibody figure of 8%, knowing that, in his own words, "they fade over time"? Even using the very same CFR of 0.4% that he used to estimate future potential deaths from cases, with around 42,000, this would suggest around 10.5 million people have been infected, i.e. more than 15% of the population.

When considered with the evidence around other immunity factors, isn't it more feasible that the "vast majority of us" are in fact protected, quite the opposite of what he suggested?
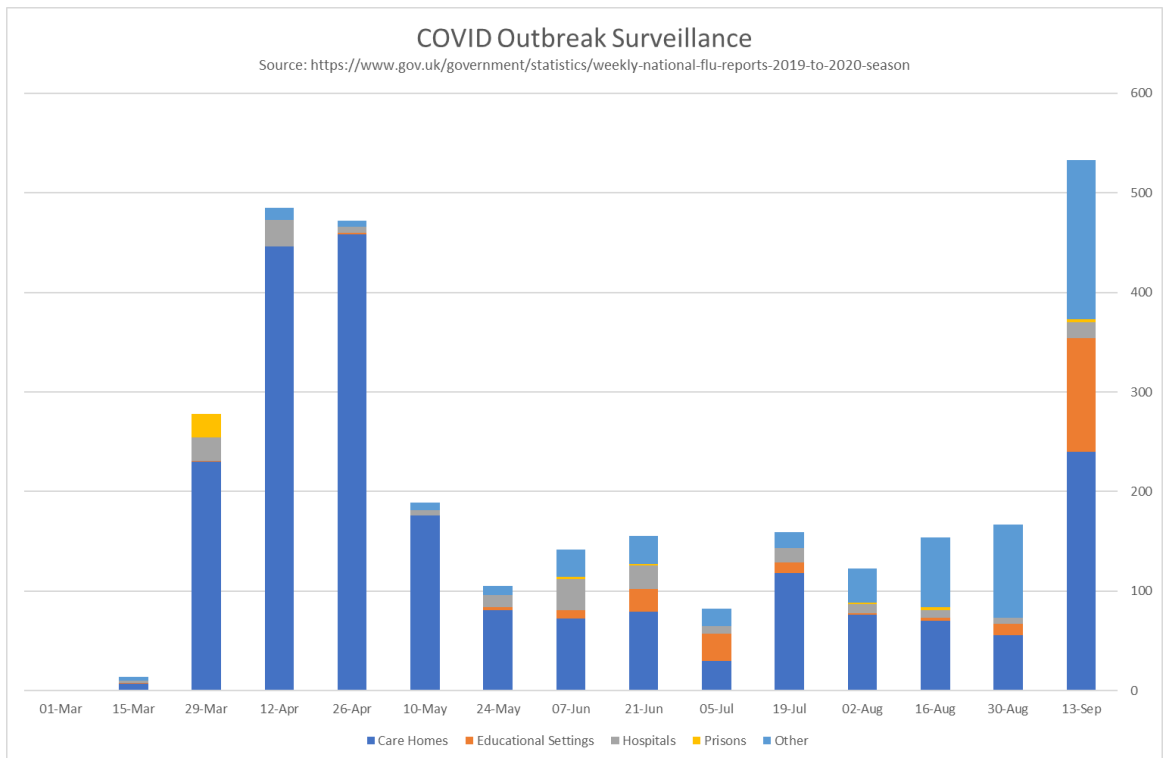
7. The CMO stated: *And a point we made right from the beginning is that for many people this remains a mild infection, but as you move up the ages, if you move into people who are more vulnerable, then the mortality rates, if people get this, rise to quite significant rates.*

   This is true and has been known since March. So, why does the government insist on measures designed to control the spread amongst younger, less susceptible population instead of focussing most of their effort on the susceptible?

   According to my own compilation of the weekly national flu reports,[10] 70% of all reported COVID outbreaks occurred in care homes.

[9] https://www.bmj.com/content/370/bmj.m3018
[10] https://www.gov.uk/government/statistics/weekly-national-flu-reports-2019-to-2020-season

COVID Outbreak Surveillance

Source: https://www.gov.uk/government/statistics/weekly-national-flu-reports-2019-to-2020-season

Care Homes   Educational Settings   Hospitals   Prisons   Other

According to the ONS[11], almost 30% of COVID deaths occurred in care homes. There are around 11,000 care homes with just over 400k residents[12]. This means, just over 0.5% of the population account for 70% of the outbreaks and 30% of the deaths. Why on earth is it not the first policy decision to address this rather than imposing unproven interventions on the other 99.5%?


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https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsregisteredweeklyinenglandandwalesprovisional/weekending28august2020
[12] https://www.mha.org.uk/news/policy-influencing/facts-stats/

**Figure 6: Over half of deaths involving COVID-19 that occurred in Week 35 were in hospital**

Number of deaths involving COVID-19 by place of occurrence, England and Wales, occurring up to 28 August 2020 and registered up to 5 September 2020
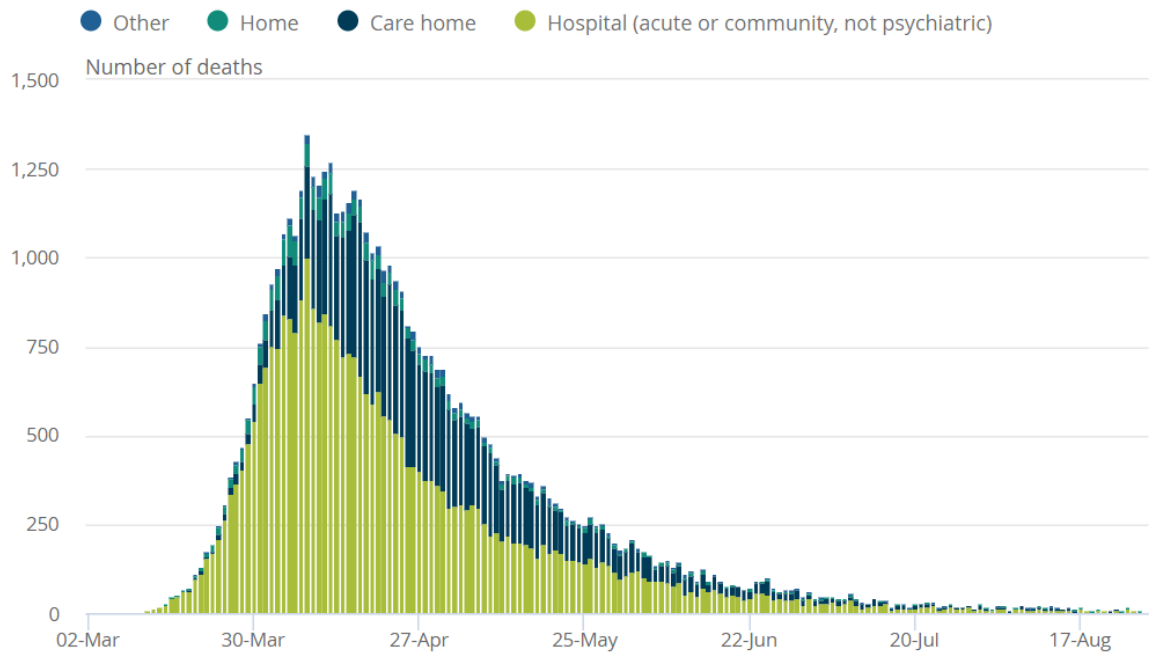
Moreover, what assessment has been done on the impact on other care home residents who have not died directly from COVID but in excess nevertheless in care homes during the same period?
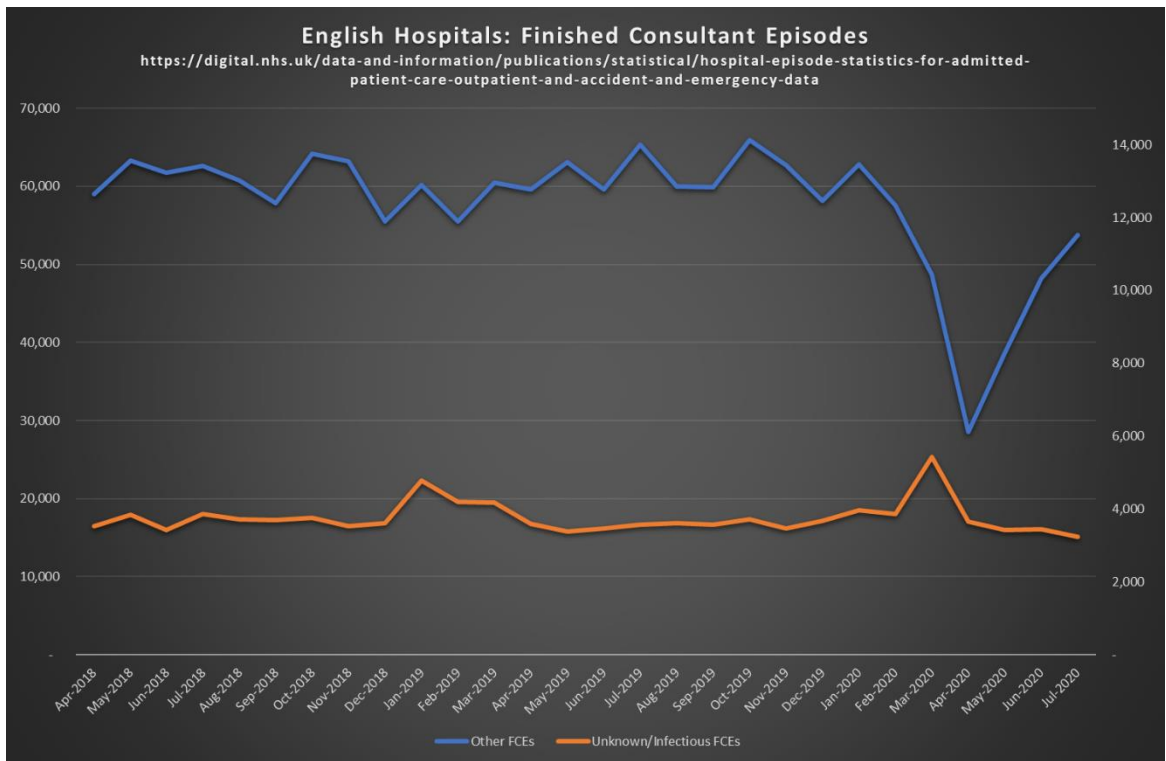
Figure 1: Since mid-April 2020, the number of deaths among care home residents has been decreasing

Number of deaths of care home residents from 28 December 2019 to 12 June 2020, registered up to 20 June 2020, England and Wales
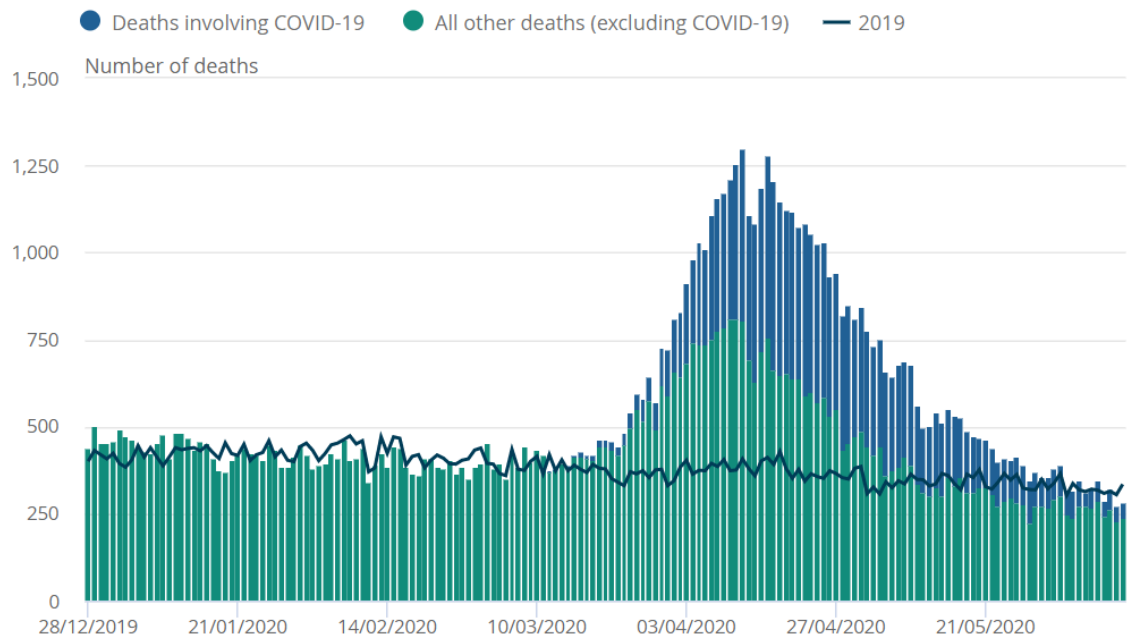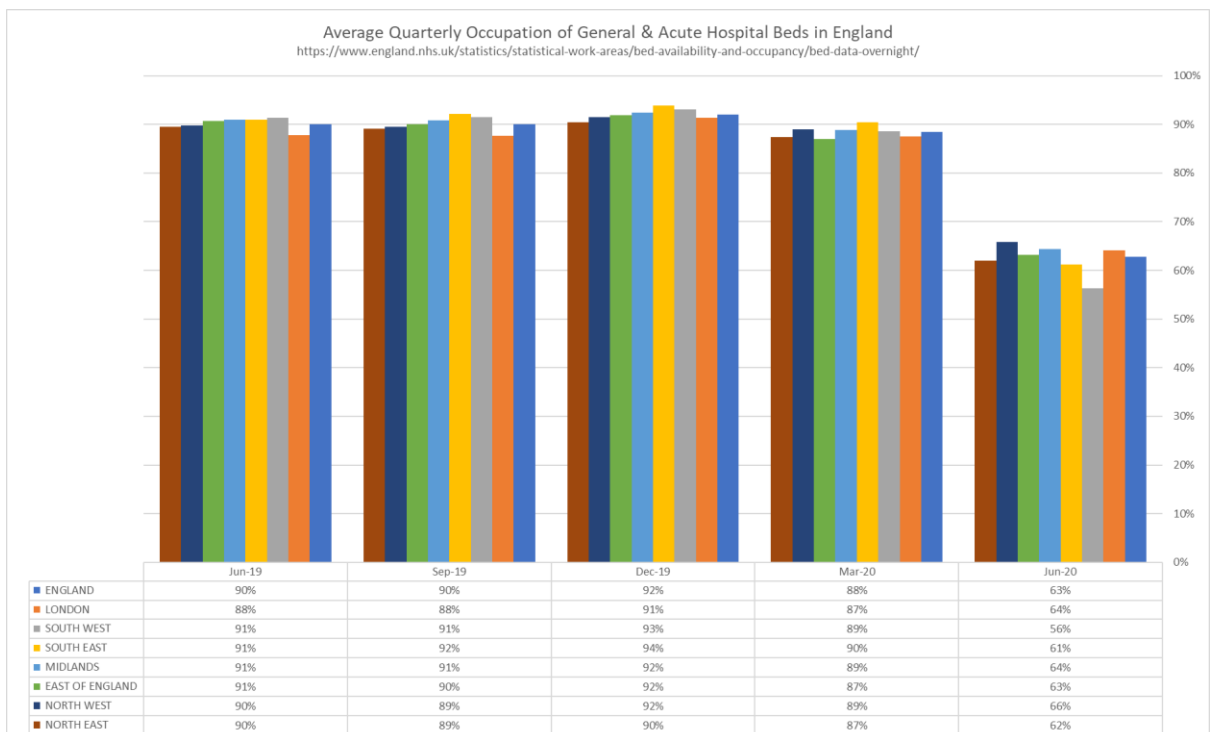

8. The CMO stated a couple of important risks of avoidable death would be *if the NHS emergency services were overwhelmed by a huge spike, and that is what the extraordinary efforts of the population allowed to prevent happening in the first wave we met. The third however is very important, and I think its importance should not be understated, which is if the NHS is having to spend a large proportion of its effort in trying to treat Covid cases because the numbers have gone up very, to a very high levels and trying to put in case, in place, large numbers of systems to try and reduce the risk of transmission in hospitals, it will lead to a reduction in treatment for other areas, in early diagnosis of disease, and in prevention programmes.*

I find this rather disingenuous. During the April epidemic, 2.8 million expected hospital consultations did not occur. What is the rationale for denying so many consultations just in case they might have to be denied due to COVID?

English Hospitals: Finished Consultant Episodes
https://digital.nhs.uk/data-and-information/publications/statistical/hospital-episode-statistics-for-admitted-patient-care-outpatient-and-accident-and-emergency-data

From March to June, general and acute hospital bed occupancy in England was 30 points lower than normal. Is the CMO seriously suggesting a repeat performance of this gross wrong decision?

Average Quarterly Occupation of General & Acute Hospital Beds in England
https://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/bed-data-overnight/

	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20
ENGLAND	90%	90%	92%	88%	63%
LONDON	88%	88%	91%	87%	64%
SOUTH WEST	91%	91%	93%	89%	56%
SOUTH EAST	91%	92%	94%	90%	61%
MIDLANDS	91%	91%	92%	89%	64%
EAST OF ENGLAND	91%	90%	92%	87%	63%
NORTH WEST	90%	89%	92%	89%	66%
NORTH EAST	90%	89%	90%	87%	62%

9. The CMO stated: *But on the other side, we also know that some of the things we've had to do are going to cause significant problems in the economy, big social impacts, impacts on mental health, and therefore ministers making decisions, and*

all of society, have to walk this very difficult balance. If we do too little, this virus will go out of control and we will get significant numbers of increased direct and indirect deaths, but if we go too far the other way, then we can cause damage to the economy which can feed through to unemployment, to poverty and to deprivation, all of which have long-term health effects. So we need always to keep these two sides in mind.

Where is the evidence of this balance? There is very little evidence of the damage caused by doing "too little" if we look at the case of Sweden. The Uppsala version[13] of the ICL model[14], predicted between 52k and 183k deaths and peak demand for ICU of between 30k and 35k beds. In the end, Sweden ICU demand peaked at just over 500 and mortality is still under 6,000. Notwithstanding any of the socio-economic differences that might affect the different outcomes in Sweden and the UK, is there really a case against doing too little?
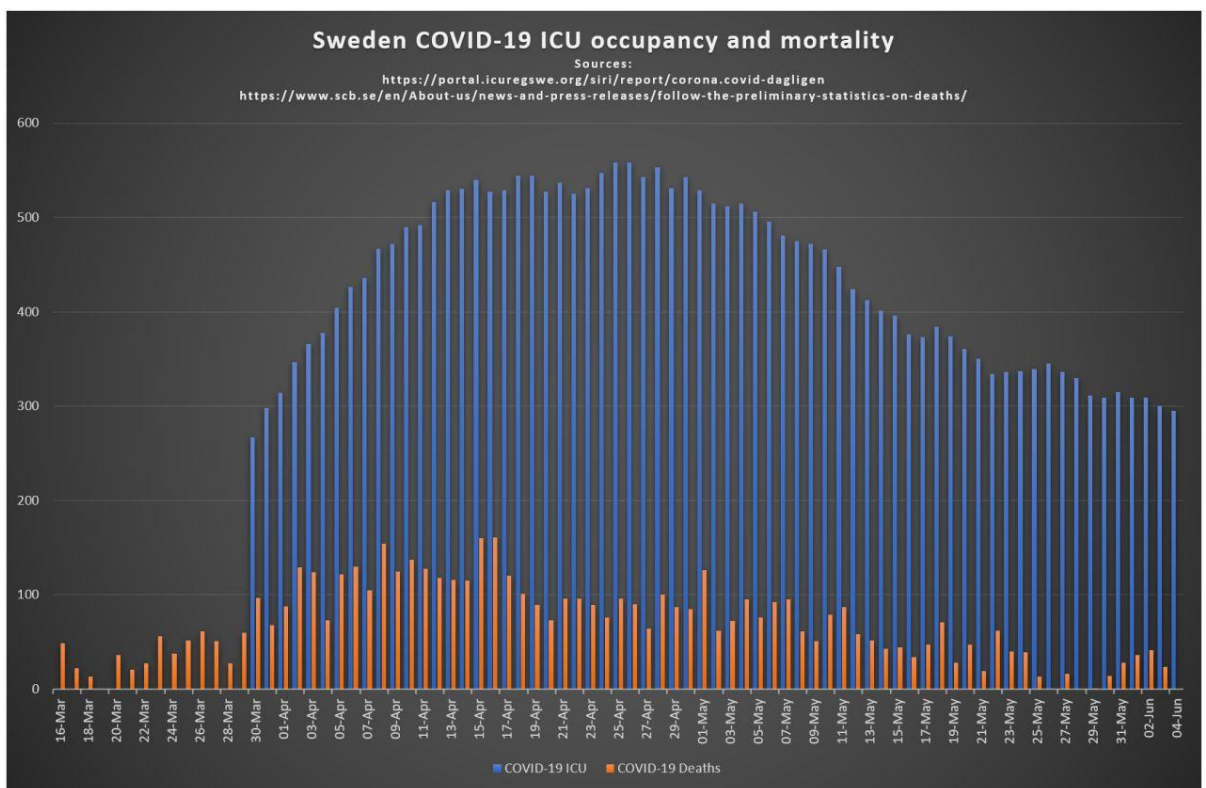

Conversely, in the UK, there is already evidence of going "too far the other way". There are the non-COVID excess deaths already mentioned above, the obvious negative consequences of 2.8 million fewer than expected hospital consultations as well as the quality of life and quantity of life years lost for a virus whose empirical impact in terms of death, relative to death from all other causes has reduced to completely insignificant levels.

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[13] https://www.medrxiv.org/content/10.1101/2020.04.11.20062133v1.full.pdf
[14] https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-NPI-modelling-16-03-2020.pdf

Figure 7: The number of deaths in the UK involving COVID-19 decreased in Week 35

Number of deaths registered by week, UK, week ending 13 March 2020 to week ending 28 August 2020
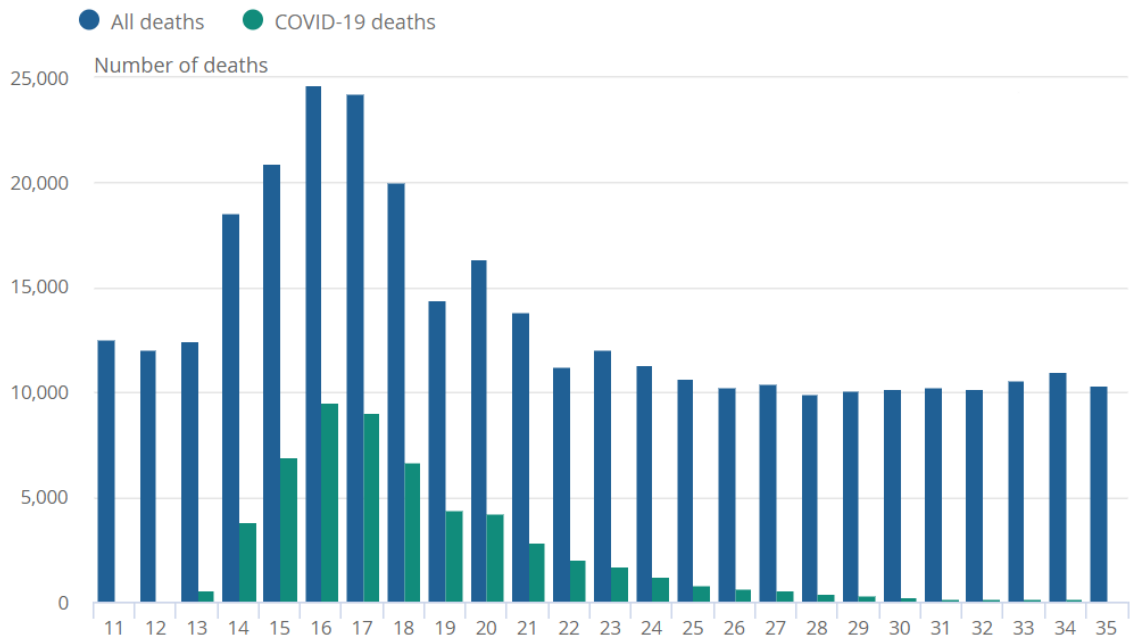
I simply cannot understand or accept any of the hypothetical rhetoric being presented by the CSO and CMO during this address to justify the continued interventions and the damage they are causing to every aspect of our society.

I believe the government needs to present a significantly higher body of evidence to demonstrate that there is a deadly virus still circulating in the UK that merits the current policy responses and a clear indication that the balance of consequences of those responses has been appropriately determined.

Kind regards

Joel Smalley
Resident of Hertford.