Annex A

Health and Wellbeing Overview and Scrutiny Report
Health and Adult Social Care System COVID-19 Response
Epidemiology of COVID-19

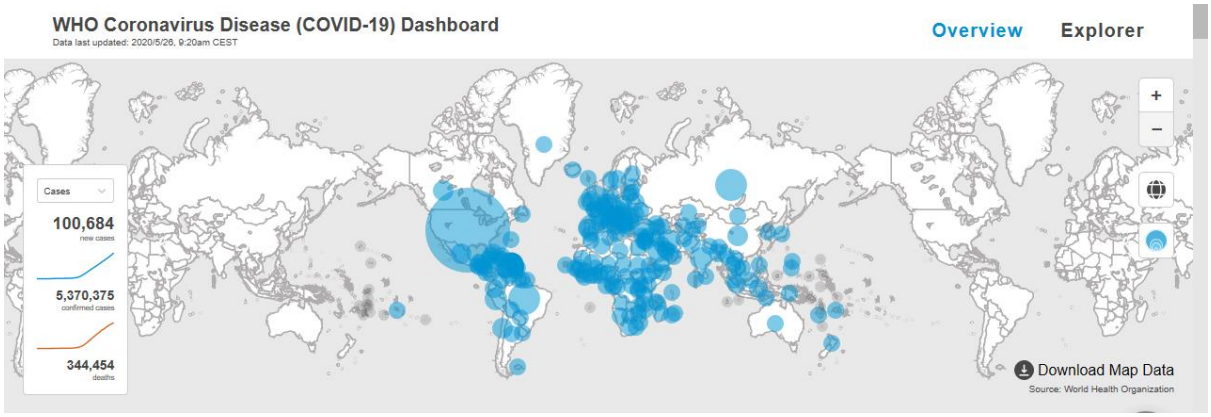
3.1 The World Health Organisation (WHO) were informed of a cluster of cases of pneumonia of unknown cause[1] detected in Wuhan City, Hubei Province, China on 31st December 2019. It was later announced that samples obtained and analysed from cases had identified a novel coronavirus[2] (12th January 2020). This virus is referred to as SARS-CoV-2, and the associated disease as COVID-19[3] (Named by WHO on 11th February 2020)

3.2 The source of the outbreak has yet to be determined. Preliminary investigations in China in January 2020 identified environmental samples positive for SARS-CoV-2 in Huanan Seafood Wholesale Market in Wuhan City, however, some laboratory-confirmed patients did not report visiting this market. A zoonotic source to the outbreak has not been identified yet, but investigations are ongoing.

Cases (global and national)

3.3 As of 25 May 2020 (10:00am CET), 5.37 million cases have been diagnosed globally, with more than 344,000 fatalities. In the 14 days to 25 May, more than 1.28 million cases were reported. [4]

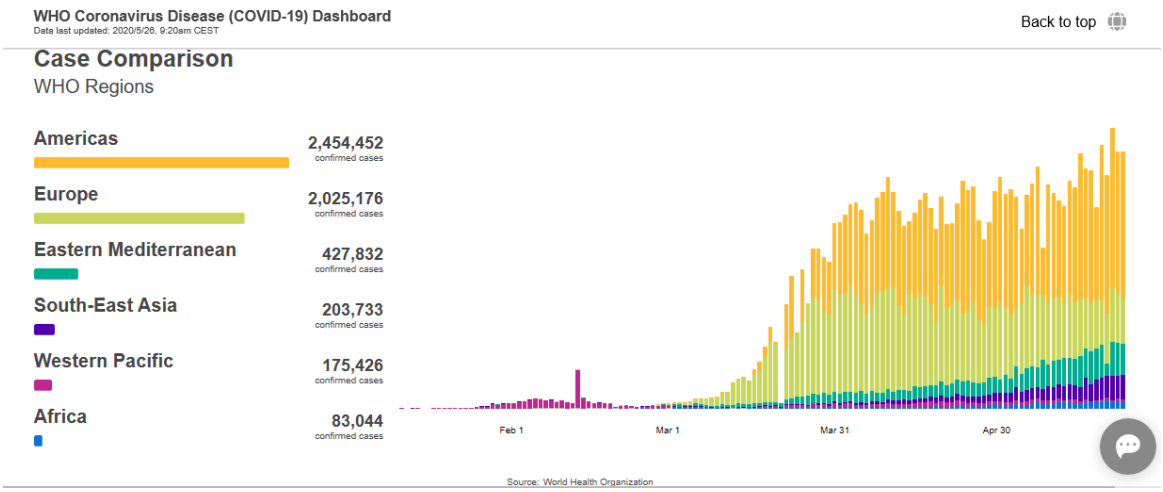
3.4 The WHO coronavirus dashboard has country by country information.[5] The figure below shows where most of the confirmed cases are prevalent.



3.5 While the number of confirmed cases is showing a decreasing trend in European countries due to policies put in place to minimise social interactions

[1] https://www.who.int/csr/don/05-january-2020-pneumonia-of-unkown-cause-china/en/
[2] https://www.who.int/csr/don/12-january-2020-novel-coronavirus-china/en/
[3] https://www.who.int/dg/speeches/detail/who-director-general-s-remarks-at-the-media-briefing-on-2019-ncov-on-11-february-2020
[4] https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncov-cases
[5] https://covid19.who.int/

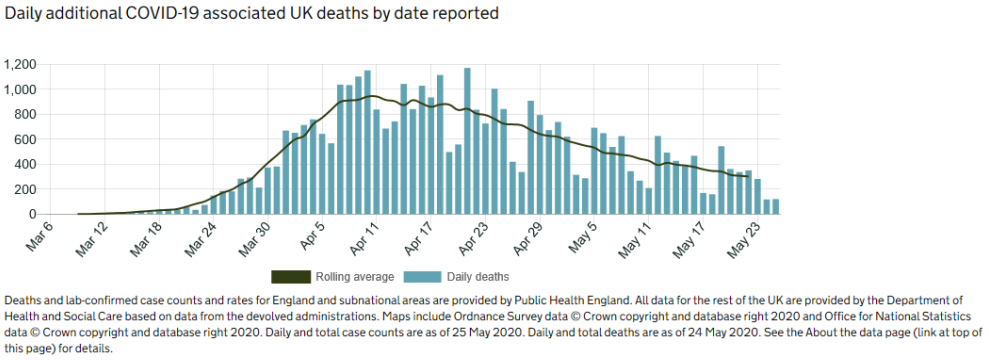
there is still an increasing trend in other parts of the world (The Americas, Eastern Mediterranean, South-East Asia and Africa).



3.6 WHO also publishes a daily international situation report.[6]. The total number of confirmed cases in the UK is published by the Department of Health and Social Care[7], and is available in a visual dashboard[8].

3.7 As of Monday 25th May 2020 there had been 261,184 confirmed cases in the UK (1,625 were confirmed on 25th May) and 36,914 COVID-19 associated deaths (121 on the 25th).

3.8 The death rate in the East of England is the 3rd lowest of the England regions, to date 221.8 per 100,000 population have died in the East of England. The number of deaths per day is now on the decline in England.



3.9 Unfortunately it is not currently possible to report on prevalence or incidence of the disease in England because we do not have adequate testing in place to do so. Confirmed cases relate mainly to those who have needed hospital care or who have died. It is estimated that a large percentage of infections are minor enough to be managed at home or are asymptomatic.

[6] https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/
[7] https://www.gov.uk/guidance/coronavirus-covid-19-information-for-the-public
[8] https://coronavirus.data.gov.uk/?_ga=2.224717342.5029029.1590485935-284020855.1590485935

3.10 However, The Intensive Care National Audit and Research Centre (ICNARC) are producing reports that do tell us about those people who require Intensive Care due to the disease. Comparing the characteristic of those in Intensive care to what we know about the population: Men; people of Asian ethnicity; those in our most deprived communities; and people who are overweight or obese are disproportionately affected. This does not mean that they are more likely to become infected but that they are more likely to be intensive care with an infection. [9] The latest versions of the report suggest that ethnicity, deprivation and overweight/obesity are linked (confounders) in their increased risk (Table 3 of 22nd May report).

Local trends

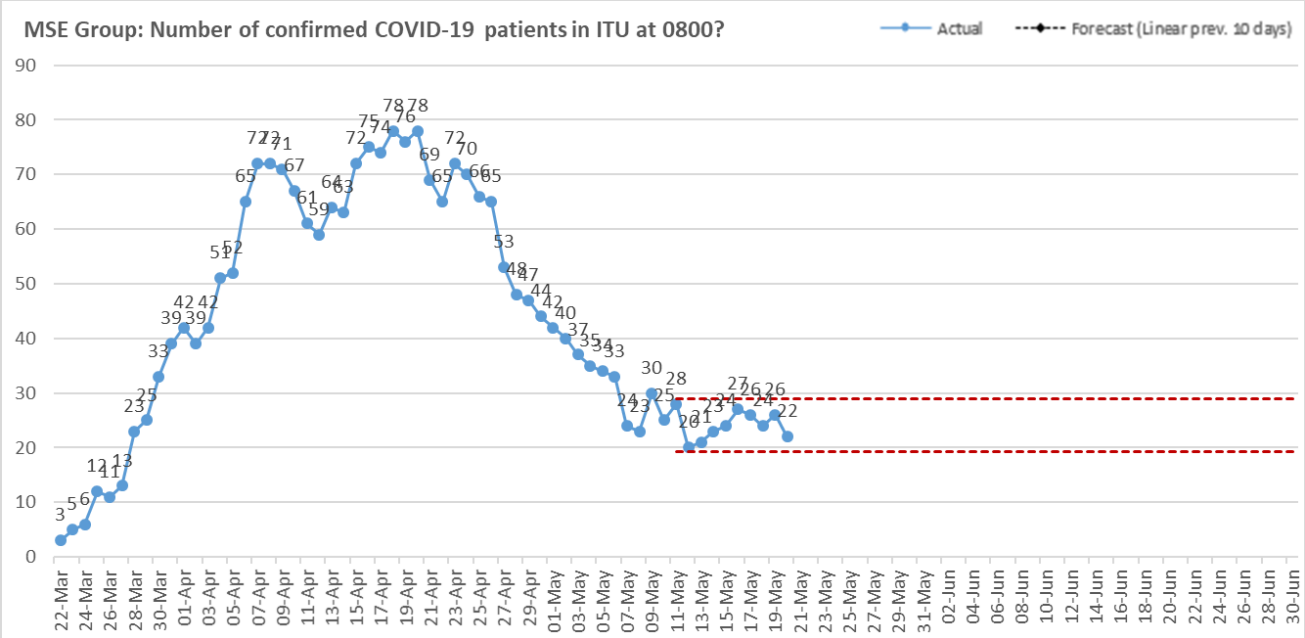
3.11 Locally it was decided that we should track trends based on the number of beds in use in Critical care in hospitals in MSE group. This is because there is a clear clinical threshold for the need to be in critical care whereas confirmed cases is poorly defined and hospital admission depends on more than the severity of the disease in each individual.

3.12 The figure below shows that during March there was a very steep upwards trend in the number of ITU beds in use this then plateaued/slowed in early – mid-April, peaking at 78 beds on around the 15th of April before showing a sharp decline. Since around the 7th may we appear to have plateaued again at between 20-30 ITU beds being in use across MSE group. This is being monitored on a daily basis.

3.13 Changes in the trend run approximately two to three weeks behind national policy changes due to the fact that the disease has an estimated average five day incubation period[10] before a person displays symptoms and local information suggests that before needing ITU most patients would have attempted to self-care for a week and then most would have spent some time in general and acute beds before being transferred to ITU. It is therefore important to note that recent relaxations to social isolation policies will not yet be impacting on data.

3.14 The current plateau suggests that around three weeks ago the local R value was around 1 where as previously it had been lower than 1 (the R value is explained in next section).

[9] https://www.icnarc.org/Our-Audit/Audits/Cmp/Reports
[10] https://www.acpjournals.org/doi/10.7326/M20-0504



Transmission and R value

3.15 According to current evidence, the COVID-19 virus is primarily transmitted between people through respiratory droplets and contact routes.

3.16 Human-to-human transmission is occurring extensively. Hence, Infection prevention and control guidance support precautions to prevent human-to-human transmission are appropriate for both suspected and confirmed cases.[11]

3.17 In addition to respiratory secretions, SARS-CoV-2 has been detected in blood, faeces and urine.

3.18 Transmission of COVID-19 is not generally airborne. Airborne transmission may be possible only in very specific circumstances and settings in which procedures or support treatments that generate aerosols are performed.

3.19 The R value tells us the rate of spread of a disease in the population. It specifically tells us for each person infected, how many more people do they infect. When the R is higher than 1 it means that for each person infected they will infect more than 1 more person so the number of cases in the population will increase exponentially, an R of 1 would mean that for every person infected they then infect one other person, this would mean that the incidence would remain constant, and an R of less than 1 would result in the incidence reducing.

3.20 Estimates suggested that the R_0 was somewhere between 2 and 3 initially but as of 26 May 2020, nationally it is between 0.5 and 1 and that there are regional differences.

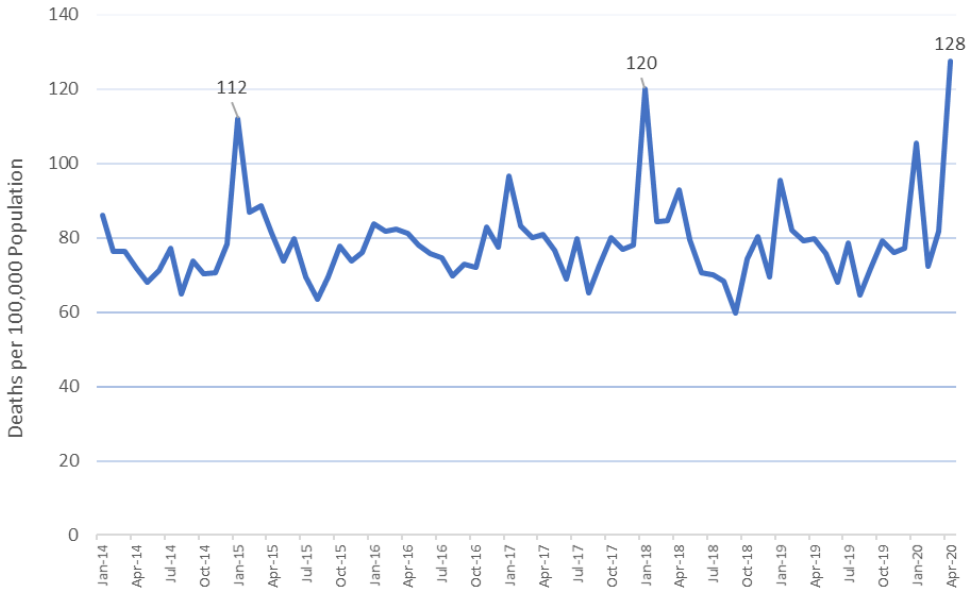
[11] https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control

3.21 Locally our current plateau in occupied beds in ITU suggest that our R increased from less than 1 to approximately 1 between 17th and 24th May.

Local Deaths Data

3.22 Using historical death data and the weekly deaths figures released in 2020 by ONS it is possible to plot mortality rates for the Mid and South Essex STP from January 2014 to April 2020.

MSE Crude Mortality Rate, per 100,000 Population: January 2014 to April 2020



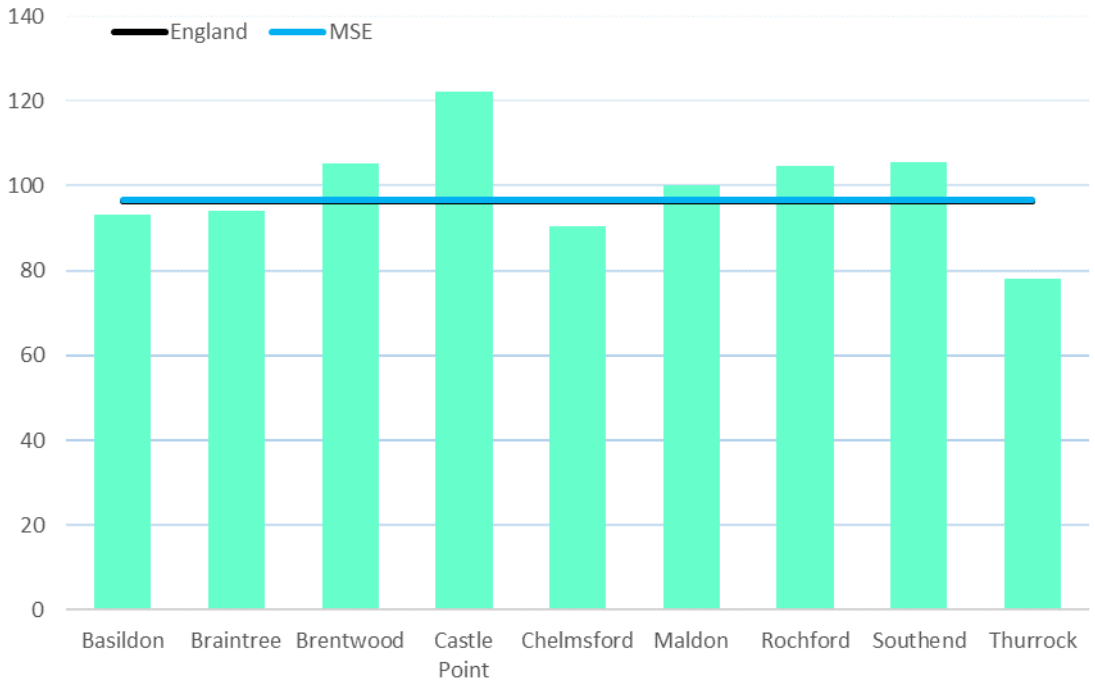
Source: ONS, PHE

3.23 When plotted from January 2014 to April 2020 we can see that the most recent estimated monthly mortality rate, for April 2020, is the highest figure throughout the period under analysis. With 128 deaths per 100,000 population, figures for April 2020 surpass those for all previous months since January 2014. The most recent figure is higher than that seen in both January 2015 and January 2018, when England experienced two fairly severe flu seasons.

3.24 For clarity, it is worth noting that April figures are an aggregation of ONS weekly data for weeks 15 to 18 inclusive and are therefore do not represent an exact match for April 1st to April 30th 2020. However, for the purposes of this analysis they represent a robust proxy.

Crude Mortality Rate, per 100,000 Population: January 2020 to April 2020 by Local Authority

Source: ONS, PHE



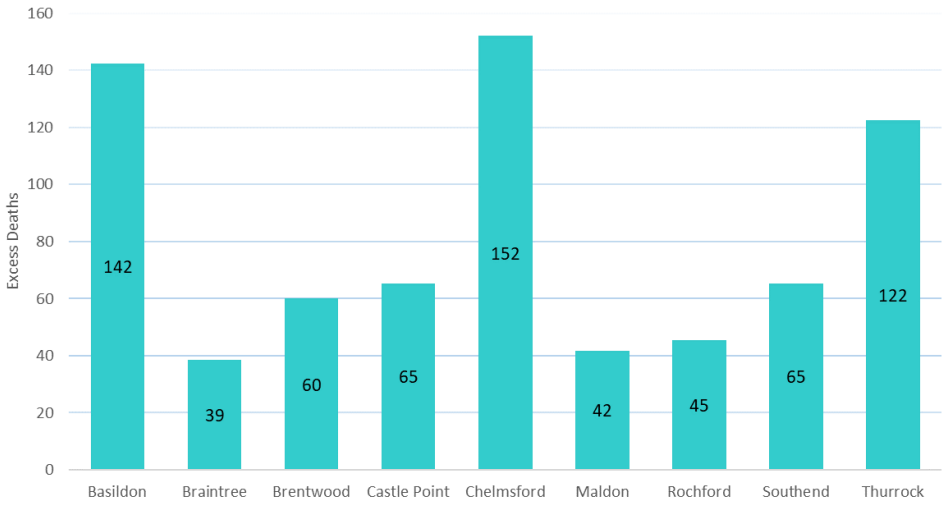
3.25 There is variation in mortality across the STP when adjusting for population size. Thurrock has the lowest crude mortality rate of 78 deaths per 100,000 population whilst Castle Point has the highest crude mortality rates at 122 deaths per 100,000 population.

3.26 What we have therefore seen from the figures above is that we are currently witnessing a dramatic increase in the level of mortality based on historical context across the STP, and that within the STP there is considerable variation in mortality between authorities.

3.27 Mortality data can also be shown in the form of excess deaths. This is a measure of the number of deaths being seen compared to the number of deaths we would expect to see. Across the constituent bodies of the STP there is a degree of variation in the absolute levels of excess deaths observed to date, and the components responsible for those excess deaths.

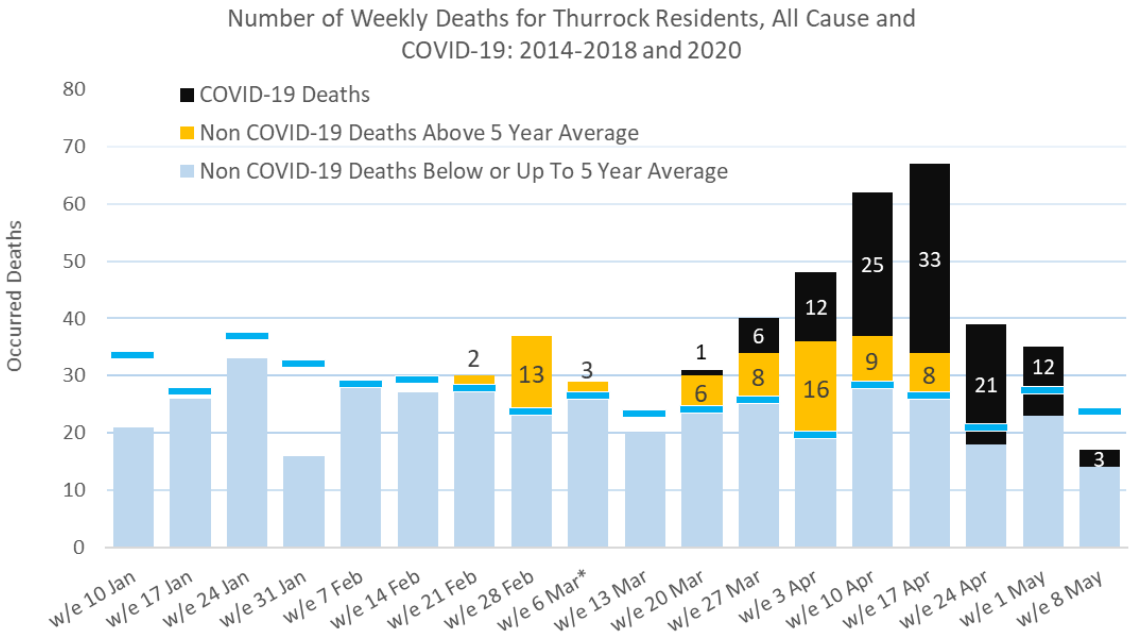
3.28 Below we can see the total number of excess deaths in 2020, as of week ending 8th May, by authority. These deaths are considered excess to 2014-2018 average figures for the same time period.

Total number of excess deaths, week ending 10th January 2020 to week ending 8th May 2020



Source: ONS, PHE

These figures show us that all authorities have seen an excess of deaths, but that Basildon, Chelmsford and Thurrock have seen the most excess deaths in Mid and South Essex to date. Given the relative population sizes of the authorities this is to be expected. However, Southend has seen a relatively small number of excess deaths when considering its population size.



Source: ONS, PHE (*based on leap year calendar)

Figure above shows the total number of deaths at Thurrock level. What this chart demonstrates is that in the first few weeks of the year, through to week ending 14th February, Thurrock saw low levels of deaths in a historical context.

3.29 From week ending 21st February the number of deaths rose above the level expected for the first time, before week ending 20th March signalling a consistent period of excess deaths lasting through to week ending 17th April.

3.30 The degree to which these excess deaths was based upon COVID-19 or Non COVID-19 deaths has changed over time. Deaths from the week ending 20th March through to week ending 17th April saw a significant number of Non COVID-19 related deaths, alongside COVID-19 deaths, whilst for the weeks ending 24th April and 1st May all excess deaths could be attributed to COVID-

19. This could be as a result of coding/data collection/testing issues or it could be a result of reduced access to other health services during this crisis. In due course we will receive data that allows us to break this down further to look at specific cause of death.

3.31 For the week ending 8th May data suggests no excess deaths occurred in Thurrock, however as the most recent data available this is more susceptible to retrospective amendment so should be viewed with some caution.

3.32 Deaths have exceeded the 2014 to 2018 average in 7 of the most recent 8 weeks in Thurrock, although, with the caveat above, in the most recent week death numbers had fallen below the 5 year average. The vast majority of the excess deaths have been attributed to COVID-19, however there are a sizeable number of deaths which are not COVID-19 related.

3.33 We can also see that in the most recent three weeks for which data is available, the number of Non COVID-19 excess deaths has reduced to zero, leaving COVID-19 deaths to bring figures up to, and above, the historic norm in week ending 24th April and 1st May, and closer to the historic norm in week ending 8th May.

3.34 One final note of caution, the presence of the two fairly severe flu seasons within the 5 year average period should also be considered when looking at these excess deaths in a historical context. It is likely that the occurrence of these flu deaths has increased the 5 year average number of deaths for the year's earlier weeks to a level that may be higher than would be expected if we were averaging over a longer period of time. The net consequence of this is that the difference between this year's observed deaths throughout January and those expected in January may not be as great as demonstrated. There may even have been some excess Non COVID-19 deaths in some districts. However, it is not possible to ascertain this with the data currently available.

3.35 As the current "lockdown" continues it is likely that we will continue to see an excess in mortality due to COVID-19 and non COVID-19 causes, however in the short-medium term, as the NHS begins to return to some form of normality it is hopeful that this will reduce. In the longer term it is likely that we will experience excess mortality as the impacts of the lockdown on the economy, and individuals mental and physical health manifest as longer term health conditions. It's quite possible that these will exceed the numbers seen by the disease itself. We do not have a way of estimating those impacts currently.