Luton

Item No:
6

Committee:	Health and Wellbeing Board			
Date of Meeting:	26 January 2021			
Subject:	Update on COVID-19 in Luton (incorporating update on the Health Protection Board)			
Report Author:	Lucy Hubber - Interim Director of Public Health			
Contact Officer:	Lucy Hubber - Interim Director of Public Health			
Implications:	Legal	☐	Community Safety	☐
	Equalities	☐	Environment	☐
	Financial	☐	Consultations	☐
	Staffing	☐	Other	☐
Wards Affected:	All			

Purpose

1. To update the Committee on the impact of the COVID-19 pandemic on the health of the population of Luton

Recommendation

2. To note the report

Background

3. This report will provide some context to the local COVID-19 response and consider how the health and wellbeing of the population of Luton has been impacted by the COVID-19 pandemic. It is important to pay respects to the families who have lost loved ones and to recognise the personal impact that this infection has had.

4. This report will focus directly on health and wellbeing services, and not consider the wider economic or social impacts of COVID-19 on the population, including benefits and rough sleepers.

Report

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Local Response

7. COVID-19 is a pandemic caused by a novel coronavirus, first identified in the Wuhan region of China in December 2019. As a new infection, the whole population are susceptible and there remains further research to identify the duration of any immunity or the development of effective treatments or vaccines.

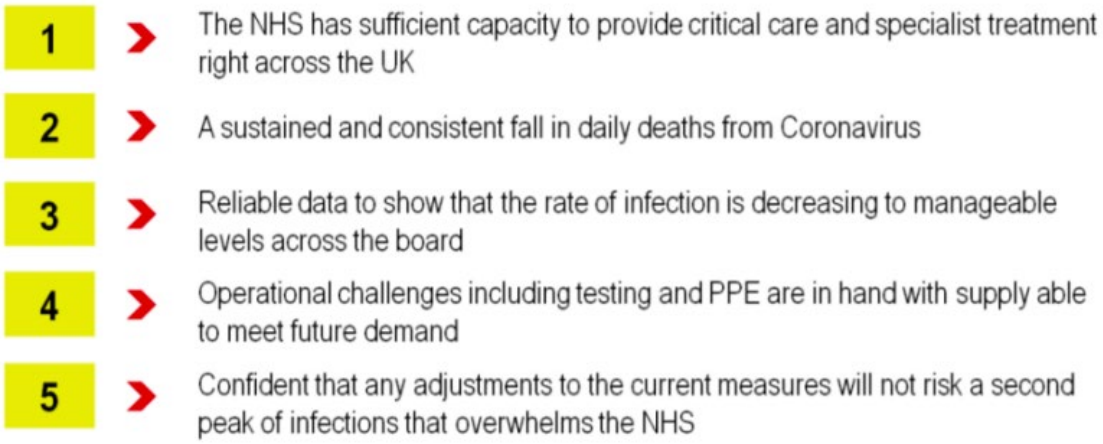
8. The infection can cause serious illness or death and particularly affects people of older age of with underlying health conditions. According to WHO, approximately 80% of infections are mild or asymptomatic, 15% are severe infection, requiring oxygen and 5% are critical infections, requiring ventilation. Approximately 3-4% of cases will die from COVID-19.

9. As outlined above, some people will have no or very mild symptoms. The case definition is currently:

    - new continuous cough or
    - high temperature or
    - a loss of, or change in, normal sense of taste or smell (anosmia)

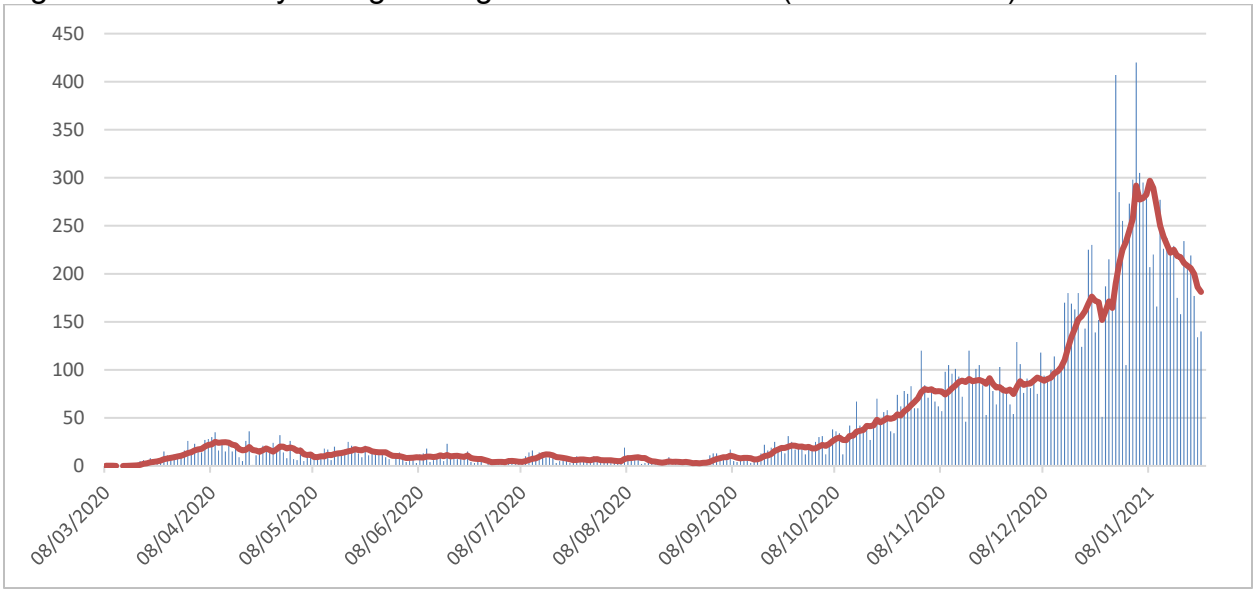
10. The UK government instituted 'lockdown' measures on 23 March 2020, which included 'stay at home', avoiding non-essential travel, closing of all non-essential businesses. The easing of the lockdown commenced from 15 May, when the government felt that the five tests had been met (see figure 1).

Figure 1: UK government five tests for adjusting the Lockdown



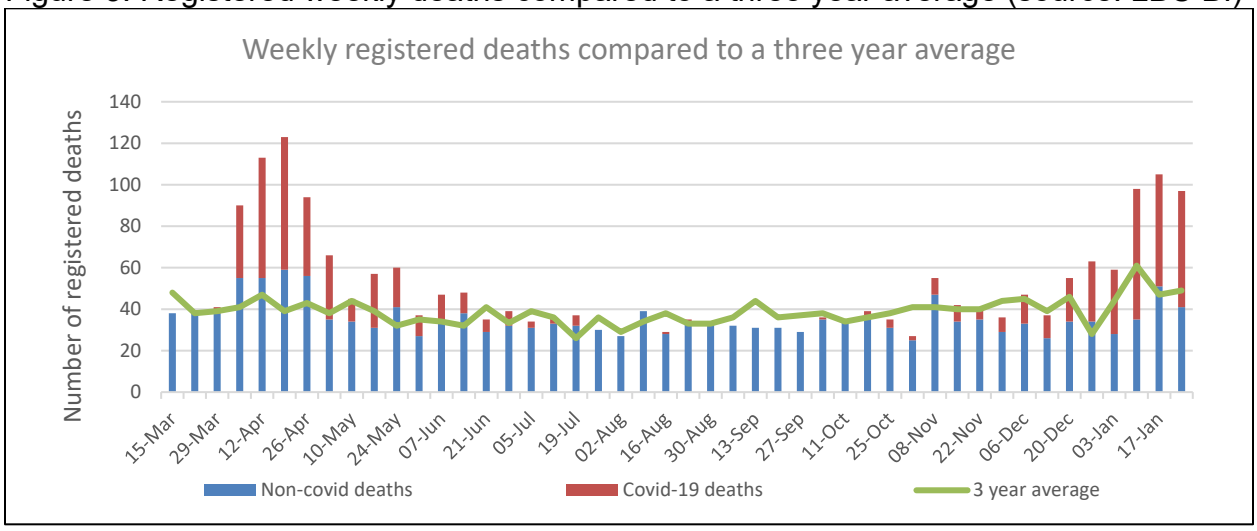
11. Luton experienced a first peak in cases in mid-April (figure 2), with a subsequent decline in weekly cases. Since September, we have seen a steady overall increase in case rates, leading to a significant increase during December 2020. In total, there have been 15,944 cases in Luton (as at 25/01/21), giving a cumulative rate of 7,483.6 per 100,000.

Figure 2: Seven-day rolling average - confirmed cases (source: LBC BI)



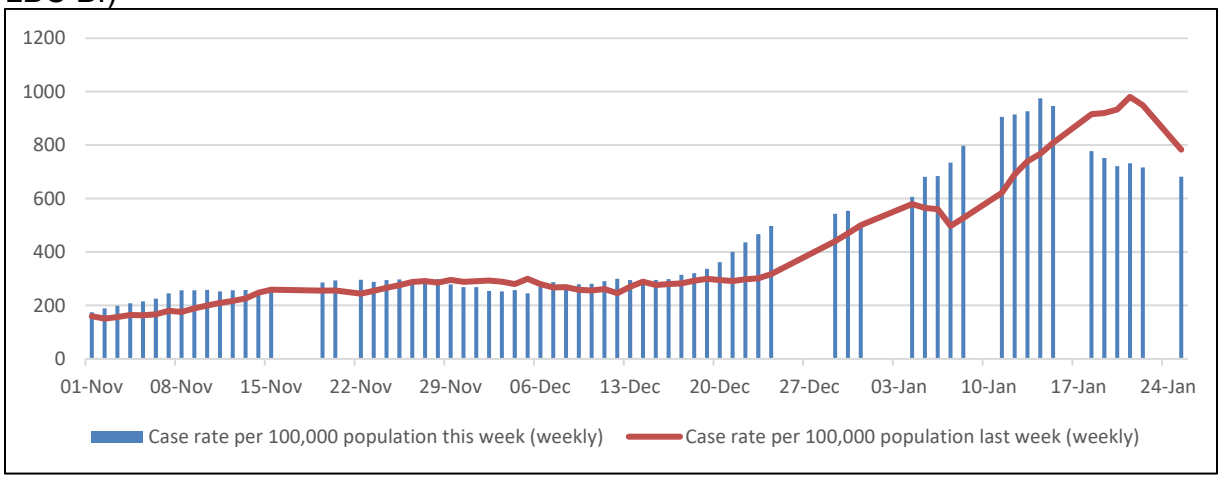
12. Figure 3 shows that deaths directly attributable to COVID-19 initially follow a similar pattern to cases, with a peak in mid-April and a subsequent decline. When all deaths registered at considered, there was a 200% increase against the three-year average at the highest point. The total deaths registered has now starting to increase above seasonal averages again.

Figure 3: Registered weekly deaths compared to a three year average (source: LBC BI)



13. Luton was placed into Tier 4 restrictions in late December as part of a wider geography with Bedford Borough Council, Central Bedfordshire Council and Milton Keynes Council. We entered national lockdown on 4th January 2021, which is just beginning to show effects after a period of rapid increase in case rates (figure 4).

Figure 4: Case rate per 100k population: Current week against previous week (source: LBC BI)



14. In June 2020, the HWB held an extraordinary meeting of the Board to discuss the emerging evidence suggesting the Covid-19 disproportionately affected some members of the community more than others. Further research at a national level has shown that the following are significant risk factors:

- Age
- Sex
- Ethnicity
- Deprivation
- Underlying co-morbidities

15. A quarterly report into these disparities will now be published and it shows that Luton follows the national picture. The report and a presentation of the findings is attached to this report. Of note for our population are the following findings:

    - The age-standardised COVID-19 mortality rate for males in Luton is significantly higher than the rate for males in Milton Keynes, England and East of England but is similar to those seen in Bedford and Central Bedfordshire.
    - There are disparities by ethnicity and people of Asian ethnicity are over-represented. While people of Asian ethnicity make up approximately 37% of Luton's population, they made up 55% of all COVID-19 cases. While people of white ethnicity make up approximately 38% of Luton's population, they made up only 25% of all COVID-19 cases
    - The hospital mortality rate from COVID-19 is highest among people of White British ethnicity (58% of all COVID-19 hospital deaths, compared to 36% of the total population), which may be due to a higher elderly population in this group
    - Throughout 2020, cases have been statistically over-represented in the more deprived deciles (deciles 2 and 3)

16. As part of the national Contain framework, Local Authorities are required to develop local outbreak control plans to support the national test, trace, contain and enable approach. The plan for Luton was agreed by the HWB on 26 June 2020 and published on the council website on 30 June 2020. Luton have taken a 'prevent, respond, recover' approach, focusing resources on supporting the community to take every measure to prevent transmission of COVID-19 and therefore prevent outbreaks. An outbreak management process has been established to identify, track and control outbreaks and clusters of cases. Support is available to both individuals and businesses to support recovery. Luton Council received £1.4m to support this activity, with a further £1.7m as part of lockdown.

17. A key element of the outbreak control plan is community engagement and a communication and engagement plan has been developed, building on the strong engagement approach taken to date. The council has worked closely with the community to provide updates and tailor communications. The Public

Health team have hosted a regular briefing for community and faith groups, developed localised advice guides (some of which have been co-produced with the community) and provided expert health protection advice to community facilities, including schools. Public Health supported the community-initiated extraordinary Health & Wellbeing Board and the production of responses to the questions asked by the community.

18. Luton Council have introduced COVID-19 Community Champions, where community members are able to sign up to receive updates and resources to support us in getting key messages out and hear about community priorities that we should be addressing. Once signed up as a champion, they will receive:

- regular updates from the council on the latest situation with coronavirus in Luton
- key messages and updates that need to be communicated through Luton's communities
- FAQs to help with myth-busting about COVID-19
- Suggested templates, video scripts, photo suggestions, social media post and other tools to assist with the dissemination of key messages
- frequent zoom calls where all champions can share ideas and provide feedback from the community to the council to help us improve our communication and messaging
- a single point of contact to discuss ideas, offer suggestions and ask questions

OUTBREAK MANAGEMENT RESPONSE

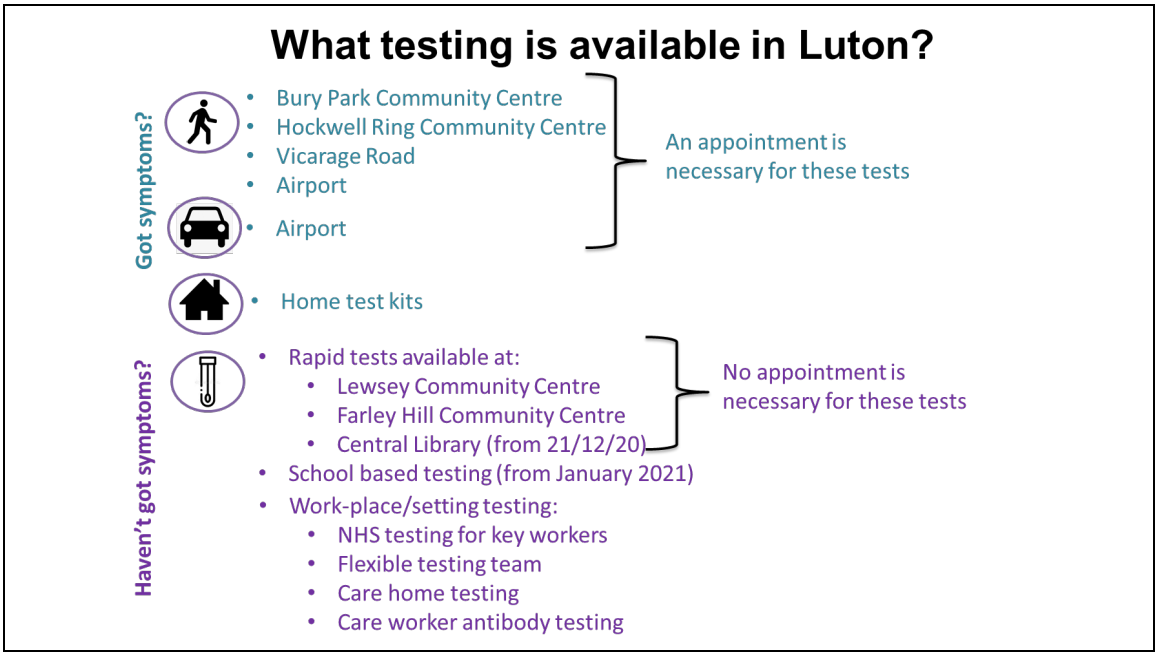
19. As part of the Local Outbreak Control Plan, Luton Council hosts a weekly Outbreak Management Cell, with participation from NHS partners, PHE and the police. This group meets weekly to review current data trends and notified outbreaks and agree and implement mitigating actions.

20. Currently, Luton has a weekly case rate (681.5 per 100,000), coupled with high positive test rate (18.3%) (25/01/2021). 7-day average testing of individuals tested per day per 100,000 population rates are at 579.7%.

21. Currently, Luton has a range of testing options (see box 1). National policy means that our ability to test the population asymptomatically using PCR tests has ceased. Luton now has a comprehensive rapid testing offer, across three asymptomatic testing stations and a dispersed delivery model across areas of high risk transmission. Work is underway to roll out mass rapid testing in education settings.

22. Additionally, Luton has led a national pilot to consider the effectiveness of proactive targeted testing in areas of high prevalence. One cycle of the pilot has been completed and the results are being compiled. A further roll out of the pilot is planned.

Box 1: Testing options in Luton (25/01/2021)



23. The contact tracing team commenced in early August. Luton is the third LA nationally to undertake following up index cases from NHS Test & Trace after 24 hours. We are also using this model to support outbreak management, reaching contacts in a timely and effective way.

24. When we started contact tracing, the completion rate for cases by the national team was 70%, below the 80% level when contact tracing is considered effective. Overall (the cumulative rate) is now at 86.5% and, through the work of the team, we are achieving 100% completion in many weeks. We have the highest completion rates in the East of England for cases.

25. Education settings have reopened for the spring term for children of key workers and vulnerable children. Secondary schools are standing up staff testing offers and preparing for mass testing of students when school open for face-to-face teaching. Single cases continue to be reported but no further outbreaks have been reported. The demand for schools places during this lockdown is noticeably higher that in the March 2020 lockdown, placing pressure on the system.

IMPLICATIONS

26. The Local Outbreak Control Plan sets out the clear approach that the local system will support to reduce and control the impact of COVID-19 on the population. The support and commitment of the local communities is critical in the achievement of this.

CONSULTATIONS

27. No new consultations have been undertaken.

APPENDICES

Appendix 1 - COVID-19 Disparities report, March to December 2020
Appendix 2 - COVID-19 Disparities presentation, March to December 2020

LIST OF BACKGROUND PAPERS
LOCAL GOVERNMENT ACT 1972, SECTION 100D

- COVID-19 bulletin no 4: community focus
- Presentation to HWBB 2 June 2020
- Answer summaries from HWBB 2 June 2020
- Contain Framework: Link here

Luton

Luton

COVID-19 Disparities report, March to December 2020

Produced by: Luton Council Information and Intelligence Team and Jane Robinson, Interim Public Health Analyst

Date: 22 January 2021

Background

Since the pandemic began there have been 3,092,041 confirmed cases of COVID-19 in England, including 81,379 deaths registered where COVID-19 was recorded on the death certificate.[1] The current mortality rate stands at 2.6% of confirmed cases.

As of 31 December, there had been 14,643 confirmed COVID-19 cases in Luton since the pandemic began.[1] As of 21 January, 342 deaths were registered where COVID-19 was recorded on the death certificate. In Luton the overall mortality rate has decreased from 38.3% in May 2020 to 2.2% currently.

In Luton, cases peaked during the first wave in April and then steadily decreased as lockdown took effect (figure 1). Mass testing was not available early in the pandemic; most testing was only occurring in hospitals until July. Cases remained relatively low until the end of September and then increased through the autumn and into the winter. The last week of December had the highest number of cases.

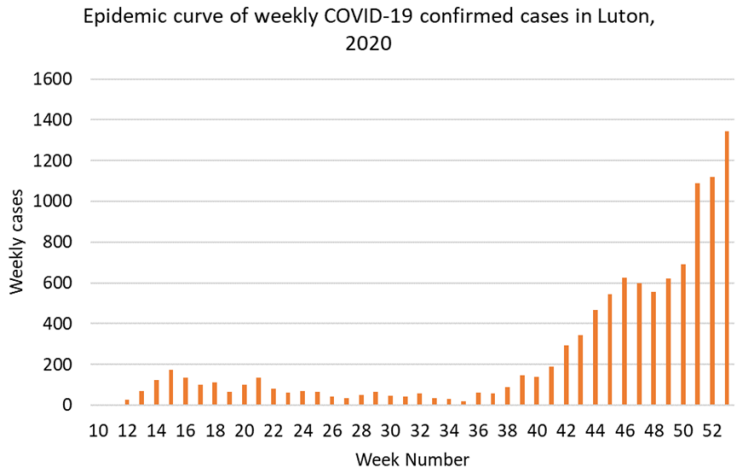


Figure 1 Epidemic curve of weekly COVID-19 confirmed cases in Luton, March 2020 to 18 Jan 2021

The number of hospitalised patients who tested positive for COVID-19 at the Luton and Dunstable (L&D) hospital peaked during the first wave in April with 480 hospitalisations (4.9% of all hospitalisations), and then drastically decreased during the third quarter (June to September). However hospitalisations increased again in quarter four as the cases increased (figure 2).

[1] https://coronavirus.data.gov.uk/

1 March to 31 December 2020 - Hospital Discharges

Quarters	Non Covid	Covid Admission	Total	% Covid
Q1*	4,651	39	4,690	0.8%
Q2	9,302	480	9,782	4.9%
Q3	13,475	50	13,525	0.4%
Q4	13,782	343	14,125	2.4%
Grand Total	41,210	912	42,122	2.2%

* March only

Figure 2 L&D hospitalisations from March to December 2020, by quarter

Hospital deaths from all causes peaked in quarter two, when 2.8% of all hospitalised patients died. COVID-19 related deaths partially contributed to the increase in hospital deaths during quarter two. During this time, there were 149 hospital deaths due to COVID-19 (31.0% of patients hospitalised for COVID-19).

Cumulatively, there have been 353 confirmed COVID-19 deaths in Luton. This includes deaths that occurred in hospital and in the community. In addition to registered COVID-19 deaths in Luton, other deaths in April far exceeded normal levels, but returned to baseline as the impact of lockdown took effect (figure 3). Excess deaths (deaths above the blue line representing the average number of deaths over a five year period) have been recorded throughout the pandemic. Consistent with national figures, excess deaths peaked in April.

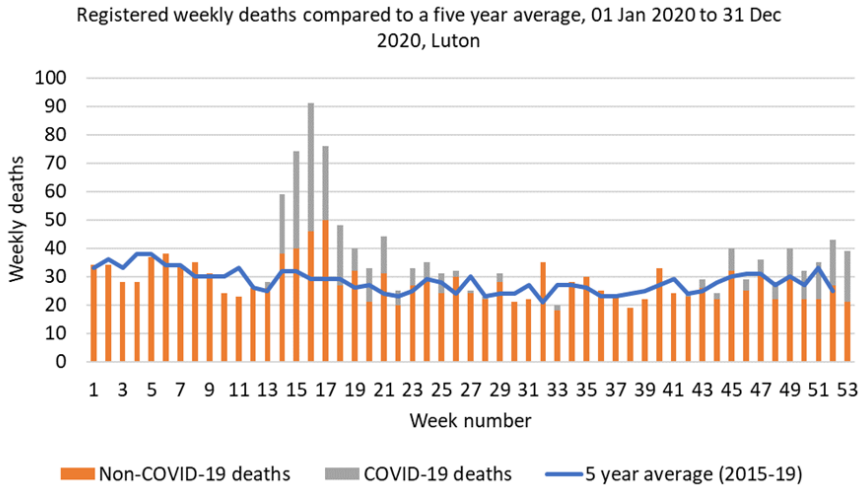


Figure 3 Registered weekly deaths in Luton compared to a five year average, Jan to Dec 2020

The number of excess deaths without COVID-19 mentioned on the certificate may be due to an increase in deaths from this cause during the period of the pandemic, but may also reflect under-reporting of deaths involving COVID-19.

Purpose:

To analyse disparities in COVID-19 cases, hospitalisations and deaths that occurred between March and December 2020 in Luton by risk factor: this includes age and sex, ethnicity, deprivation, Mosaic profile, care home status and underlying co-morbidities.

Data sets used:

This report uses data from the following sources:

SGSS laboratory reporting data on confirmed COVID-19 cases among Luton residents between March and 31 December 2020, provided by Public Health England.

Discharge data from Luton and Dunstable Hospital between March and 31 December 2020. This data includes all hospital discharges – including elective, non-elective and scheduled procedures and those that were "discharged" due to dying. Between March and 31 December 2020, there were a total of 42,111 Luton residents who were discharged from Luton and Dunstable Hospital, of which 912 individuals had a positive COVID-19 result.

Mortality data between 01 March and 24 December 2020 obtained from the Luton's Registrar's Office.

Cremation and burial data obtained from the Vale Crematorium.

Key Findings

- **Between the ages of 0 to 49, females are more likely to be hospitalised than males**. Between the ages of 20-29 years, females contributed to 79% of hospitalisations for COVID-19, compared to only making up 48% of the general population
- **Men are over-represented in hospital patients across all of the older age groups**, particularly the 60-79 age groups
- **In the oldest populations, people who are hospitalised with COVID-19 are more likely to die than other groups**. In people over the age of 80 years, 42,9% of those who were admitted due to COVID-19 subsequently died, compared to 7.3% of people over the age of 80 years dying from all causes.
- **Luton males are more likely to die of COVID-19 than Luton females**. In Luton, 64.9% of COVID-19-related deaths in 2020 were among males, compared to 51.5% at the national level.
- The **age-standardised COVID-19 mortality rate for males in Luton is significantly higher than the rate for males in Milton Keynes, England and East of England** but is similar to those seen in Bedford and Central Bedfordshire.
- **There are disparities by ethnicity and people of Asian ethnicity are over-represented**. While people of Asian ethnicity make up approximately 37% of Luton's population, they made up 55% of all COVID-19 cases. While people of white ethnicity make up approximately 38% of Luton's population, they made up only 25% of all COVID-19 cases
- The **hospital mortality rate from COVID-19 is highest among people of White British ethnicity** (58% of all COVID-19 hospital deaths, compared to 36% of the total population), which **may be due to a higher elderly population in this group**
- Throughout 2020, cases have been **statistically over-represented in the more deprived deciles** (deciles 2 and 3)
- **Urban Cohesion Mosaic group is over-represented across a number of COVID-19 measures**. Throughout 2020, cases, COVID-19-linked hospital discharges and discharges reported as deaths have been statistically over-represented in the Urban Cohesion Mosaic group. Discharges and discharges reported as deaths were also statistically over-represented in the Vintage Value group, though this is based on smaller numbers.
- **Half of Luton residents who had COVID-19 listed as a contributing factor in their death also had multiple co-morbidities**. 34% had a single co-morbidity. The most common co-morbidity was hypertension, followed by diabetes.

Analysis of COVID-19 risk factors

Age/Sex

Age is one of the most important risk factors for how serious a COVID-19 infection is for someone. Sex and gender interact to influence everyone's health outcomes. In previous coronavirus epidemics, on average males had worse clinical outcomes due to severe acute respiratory virus (SARS) in Hong Kong and a higher risk of dying from Middle East Respiratory Syndrome (MERS).[2] There are many possible reasons why, including biology and immune system differences, presence of pre-existing conditions, and men typically engaging in more risky behaviours than females.[2]

In Luton, the majority of confirmed COVID-19 cases are between 20 and 49 years of age (figure 4). This is consistent with what is being seen nationally, however there is also a spike in female cases in the 80+ age group nationally that is not as pronounced in Luton.

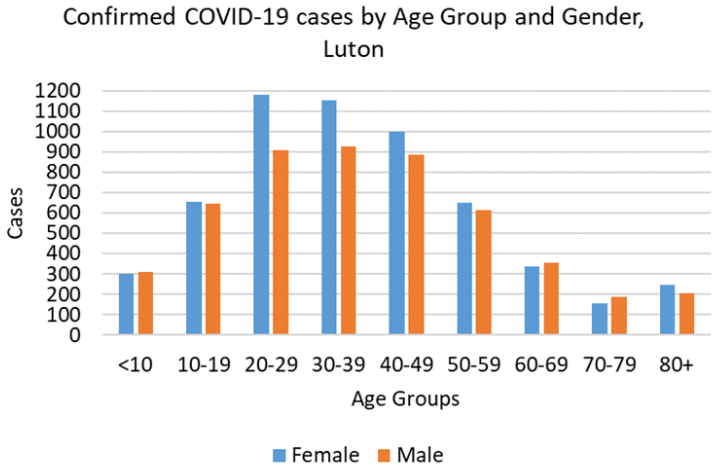


Figure 4 Distribution of confirmed COVID-19 cases by age group and gender in Luton

Using mid-2019 population estimates from ONS, Luton's population consists of 50.8% males and 49.2% females. In Luton, 53.0% of all COVID-19 cases have been among females (figure 5). While the data in the table below appears to show that quarter one had the greatest difference between male and female cases, this is based on very low numbers and so is unreliable.

	Female cases	Male cases
Qtr 1*	35.3%	64.7%
Qtr 2	56.6%	42.9%
Qtr 3	53.2%	46.5%
Qtr 4	52.5%	47.2%
Total	53.0%	46.7%

*only includes March

Figure 5 Gender breakdown of confirmed COVID-19 cases in Luton between March and December 2020

Figure 6 below shows the proportion of COVID-19 hospital discharges for each age group by gender. The data show that Luton men are more likely to be hospitalised with COVID-19 than women, consistent with national trends. However, between the ages of 20-29 years, females contributed to 79% of hospitalisations for COVID-19, compared to only making up 48% of the

[2] https://blogs.bmj.com/bmjgh/2020/03/24/sex-gender-and-covid-19-disaggregated-data-and-health-disparities/

general population for that age range. Men are over-represented in hospital patients across all of the older age groups, particularly the 60-79 age groups.

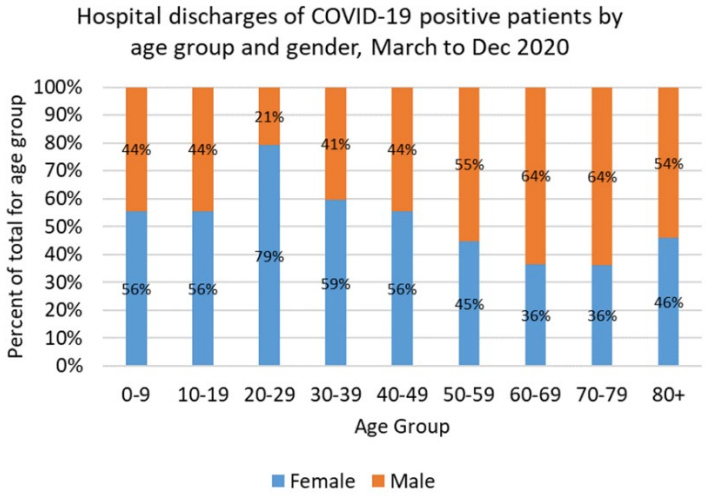


Figure 6 Proportion of L&D hospital discharges of COVID-19 patients for each age group, by gender

Men were responsible for a higher proportion of hospital discharges in people over 50 years old, while contributing to a smaller proportion of the overall Luton population for people over 50 years.

Once hospitalised with COVID-19, the proportion of people with COVID-19 who died increased with age (figure 7). In people over the age of 80 years, 42,9% of those who were admitted due to COVID-19 subsequently died, compared to 7.3% of hospitalised patients over the age of 80 years who died from all causes. Age groups 40-49, 50-59, 60-69 and 70-79 had proportionally more deaths from COVID-19 than from all causes.

1 March to 31 December 2020 - Hospital Discharges Covid Positive

Age Group	Discharged	Died	Total	% Died
0-9	<10	0	<10	0.0%
10-19	<10	0	<10	0.0%
20-29	42	<10	43	<5.0%
30-39	69	0	69	0.0%
40-49	92	<10	99	<10.0%
50-59	120	14	134	10.4%
60-69	87	34	121	28.1%
70-79	97	58	155	37.4%
80+	156	117	273	42.9%
Grand Total	681	231	912	

Figure 7 COVID-19 hospital discharges and deaths by age group

In Luton, over the last seven years proportionally more men than women have died; 51% male and 49% female. The data show that this has been relatively consistent since 2013 with the exception of 2015. For all-cause mortality in 2020 51.5% of deaths were in males and 48.6% were in females. However for deaths where COVID-19 was mentioned, 64.9% were in males (figure 8). There is a clear disparity in the mortality of COVID-19 between males and females, especially given that we know more females have COVID-19.

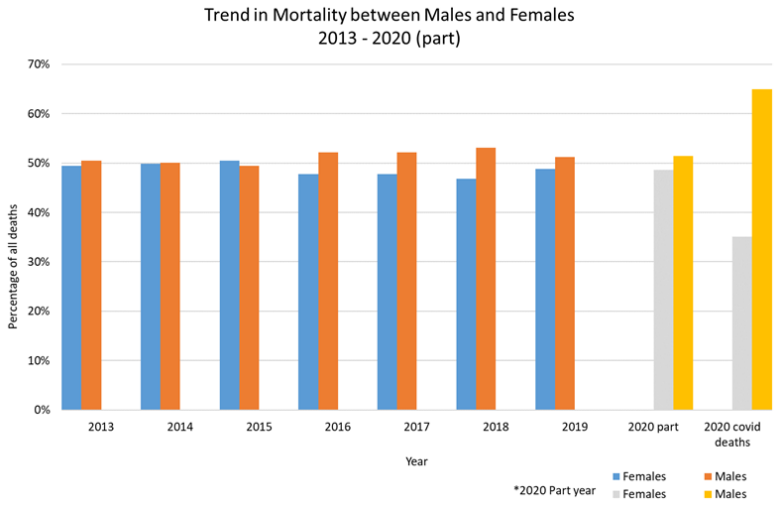


Figure 8 Trend in mortality from 2013 to 2020 in Luton, by gender

If we look at the mortality data by gender and when the death occurred, we once again see more deaths in males than females in all quarters in 2020 apart from quarter three for all causes (figure 9). In this quarter there were less than 10 deaths associated with COVID-19, so the percentages are unreliable due to small numbers. Each quarter shows that more men died than women from COVID-19 in Luton. Globally, COVID-19 positive hospital patients who were male were found to have almost three times the odds of requiring ITU admission and higher odds of death compared to females.[3]

All deaths

	Percentage	
Age Group	F	M
Qtr1	45%	55%
Qtr2	48%	52%
Qtr3	52%	48%
Qtr4	49%	51%

COVID-19 deaths

	Percentage	
Age Group	F	M
Qtr1	28%	72%
Qtr2	38%	62%
Qtr3*	20%	80%
Qtr4	31%	69%

*There were very small numbers of COVID-19 deaths in quarter 3 so the percentages are unreliable

Figure 9 Comparison of deaths due to all causes (left) and deaths where COVID-19 was a contributing factor (right) by gender for each quarter in 2020

Age-specific mortality is a useful way of seeing if there are differences in mortality after adjusting for age. The chart below compares the age-specific mortality rates for all causes of mortality (right) and COVID-19 (left) for males and females between March and December 2020 in Luton (figure 10). As age increases, the age-specific mortality rate also increases for both males and females. People over the age of 60 have increased risk of dying from COVID-19 when compared to younger age groups. The mortality rate for males increases at an earlier (60-69 years for males as opposed to 70-79 years for females) and steeper rate than females.

[3] https://www.nature.com/articles/s41467-020-19741-6

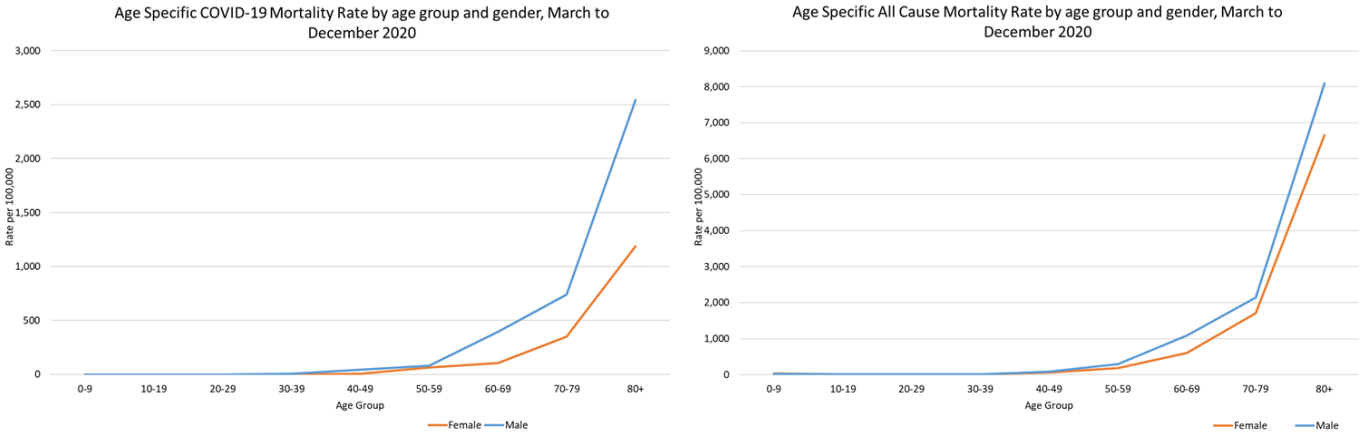


Figure 10 Age-specific mortality rates for deaths due to COVID-19 and all causes, by gender

For people over 80 years of age, the age-specific mortality rate is very high: 1,187.7 deaths per 100,000 people for females and 2,543.1 deaths per 100,000 people for males.

The chart on the right shows the age-specific mortality rate for all-deaths, by gender. It shows that while mortality increases quickly in people over 60 years old, the rates for males and females are relatively comparable.

Ethnicity

National data shows that - at a population level - there are higher rates of COVID-19 in areas with high rates of Black and Minority Ethnic (BME) populations.[4] Case rates are also high in urban areas where lots of people are exposed to each other, and urban areas also tend to have higher BME populations.

It is agreed that there are several possible reasons why there are disproportionate numbers of deaths within BAME groups, and it is still unknown whether it is some or all of the following:

- Risks specific to BAME individuals like genetic factors or vitamin D deficiency
- Reflecting the fact that BAME populations are more likely to do jobs with exposure to other people, more likely to have income deprivation, more likely to live in multi-generational houses and more likely to have other health conditions
- Structural inequalities that make it harder to BAME people to stay safe, like feeling less able to ask for PPE

Nationally, after adjusting for age, males and females from all ethnic minority groups (except females of Chinese ethnic background) were at greater risk of death involving COVID-19 than the White ethnic group.[5] The rate of death involving COVID-19 was 3.8 times greater for Black African males and 2.9 times greater for Black African females than the White ethnic group.[5] After adjusting for geography and socio-economic factors, the estimated risk of death reduced for ethnic minority groups relative to the White population, but significant differences remained, confirming that statistically significant raised rates of death remain for minority ethnic groups once other factors are accounted for.[5]

There are challenges to understanding the normal ethnic makeup within Luton because the data we have (2011 census data) is nearly 10 years old and our population has changed notably during

[4] https://lginform.local.gov.uk/reports/view/lga-research/covid-19-case-tracker

[5] https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/updatingethniccontrastsindeathsinvolvingthecoronaviruscovid19englandandwales/deathsoccurring2marchto28july2020

this time. To account for this, we have used 2011 Census population data and other sources to project what the current population may actually look like in Luton.

COVID-19 mainly affects the older population, and we know that this population is much more likely to be White British. Luton also has higher rates of overcrowded households, dense populations and people who travel to work by train. All these factors are higher in areas with high rates of COVID-19.

Within Luton, 55.1% of all confirmed COVID-19 cases between March and December 2020 were of Asian ethnicity (figure 11). Using the projected population estimates, people of Asian ethnicity only make up 36.6% of the total population within Luton. While people of white ethnicity make up approximately 38.1% of Luton's population, they made up only 24.6% of all COVID-19 cases.

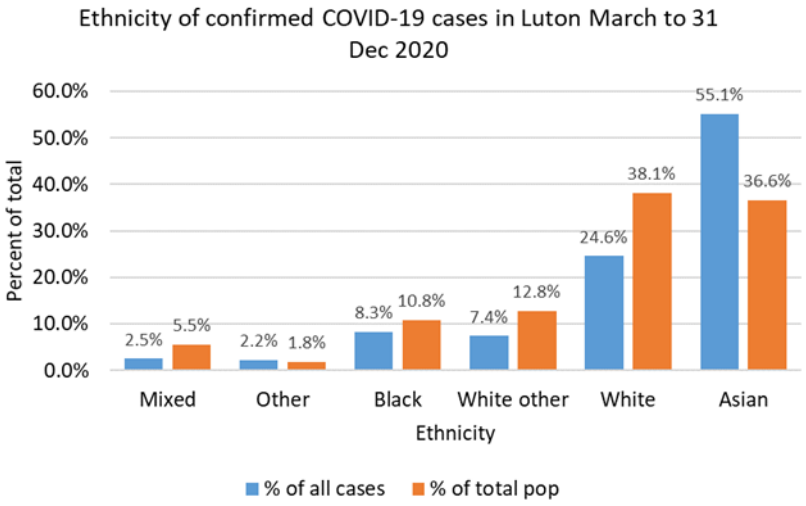


Figure 11 Breakdown of confirmed COVID-19 cases in Luton by ethnicity

Over the year, the proportion of cases in people of White, Black and "Other" ethnicities decreased, while the proportion of cases in people of Asian ethnicities increased (figure 12).

	Qtr 1	Qtr 2	Qtr 3	Qtr 4
Mixed	1.0%	1.3%	1.3%	2.3%
Other	3.9%	3.0%	1.6%	1.6%
Black	14.7%	8.7%	5.2%	6.6%
White British	44.1%	34.2%	21.2%	25.4%
Other White	9.8%	5.4%	7.3%	6.1%
Asian	24.5%	34.6%	50.8%	47.3%

Figure 12 Breakdown of confirmed COVID-19 cases by ethnicity and quarter

When we break down the Asian ethnicity group even further, we can see that the majority of groups are evenly represented among cases when compared to their proportion of the total population (figure 13). The Pakistani ethnic group is slightly over-represented when cases are compared to the total population (55.5% of Asian cases compared to 50.5% of the Asian population within Luton).

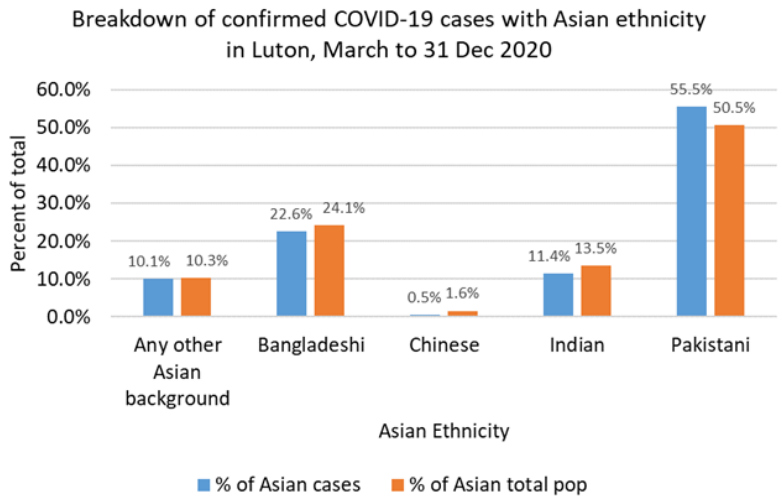


Figure 13 Breakdown of confirmed COVID-19 cases among people with Asian ethnicity in Luton

Across all the ethnic groups, there are more positive cases in females than there are in males. People in the 20-29 and 30-39 age groups reported similarly higher positive cases, accounting for 19.5% and 19.4% respectively in both females and males across the ethnic groups.

As can be seen above, there are higher proportions of cases in Luton BME populations than would be expected given our estimate of the population proportions. This may reflect the risks to BME populations. The White British ethnic group had the highest number of hospital discharges at the beginning of the pandemic and started to show a downward trend in the start of October. Despite this decrease, they continue to have the highest number of hospital discharges as of 31 December 2020 with 1764 discharges. Hospital discharges among people with a positive COVID-19 test were generally higher among males across all ethnic groups, with the highest number in the White British ethnic group.

The table below is ordered by deaths and compares the proportions within each ethnic group across a range of populations (figure 14). It shows higher proportions of COVID-19 cases in BME communities when compared to the Luton population and the estimated age 50+ population who are most affected by the virus. One group that does seem to be at increased risk of being a confirmed case in Luton is people of Pakistani ethnicity.

Some of the numbers involved are very small, so it is not possible to look at them by specific ethnic groups. These proportions should be considered with caution. The Pakistani ethnic group is the only BME group that does not have very small numbers, and therefore it has been included in the table.

Ethnicity	COVID-19 Hospital deaths	COVID-19 hospital discharges	COVID-19 cases	Luton population	Est. 50+ population (based on 2011 Census and other updated sources)
White British	**58%**	**47%**	25%	38%	60%
BME (non-White British)	42%	53%	**75%**	64%	40%
Asian	25%	34%	**55%**	37%	19%
Pakistani	14%	20%	**31%**	18%	8%
Other	1%	1%	2%	2%	1%
Black	7%	8%	8%	11%	10%
White Other	8%	8%	7%	13%	9%
Mixed	0%	1%	3%	6%	1%

Figure 14 Proportion of COVID-19 hospital deaths, discharges and cases by ethnicity, compared to the Luton population and estimated over 50 years population

The White British hospital discharge and mortality rate is highest and this may be due to a higher elderly population in this group.

Deprivation

The Index of Multiple Deprivation combines a number of indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score for each small area in England.[6] This allows each area to be ranked relative to one another according to their level of deprivation.

National data shows that – at a population level – coronavirus has had a proportionally higher impact on the most deprived areas of England. Between April and July 2020, the mortality rate in the least deprived areas (decile 10) in England was less than half of the mortality rate in the most deprived areas.[7]

Looking across geographies, the data showed that areas that had a number of cities or towns had a higher mortality rate involving COVID-19 than other rural or urban classifications. These areas also make up a larger proportion of the most deprived areas than other classifications.

Nationally, we know that deprivation is linked to the likelihood of dying from COVID-19. An inadequate income can cause poor health because it is more difficult to:

- Avoid stress and feel in control which can have damaging consequences for long-term health
- Get access to the resources you need for a healthy life (e.g. housing)
- Adopt and maintain healthy behaviours
- Feel supported by a financial safety net

Luton is currently ranked the 70th most deprived out of 317 local authorities, with four output areas in the top 10% most deprived (figure 15).[8] These are in Northwell, South and two in Farley.

6 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833959/IoD2019_Infographic.pdf

7 https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsinvolvingcovid19bylocalareasanddeprivation/latest

8 https://www.luton.gov.uk/Environment/Lists/LutonDocuments/PDF/Planning/Observatory/2019-indices-of-multiple-deprivation-in-luton.pdf

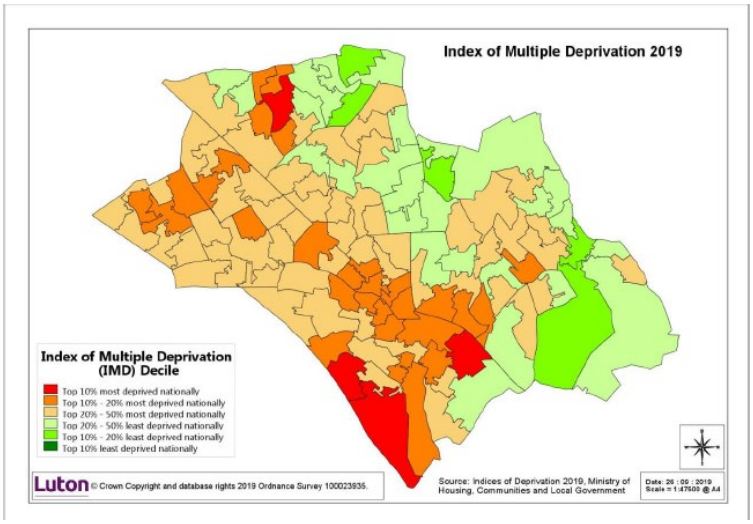


Figure 15 Map of Luton showing the indices of multiple deprivation for each LSOA, 2019

Throughout 2020, confirmed COVID-19 cases have been statistically over-represented in the more deprived deciles (deciles two and three) (figure 16). There is statistically significant under-representation in less deprived groups, although the majority of the Luton population falls into deciles two through five and actual numbers in other groups are small.

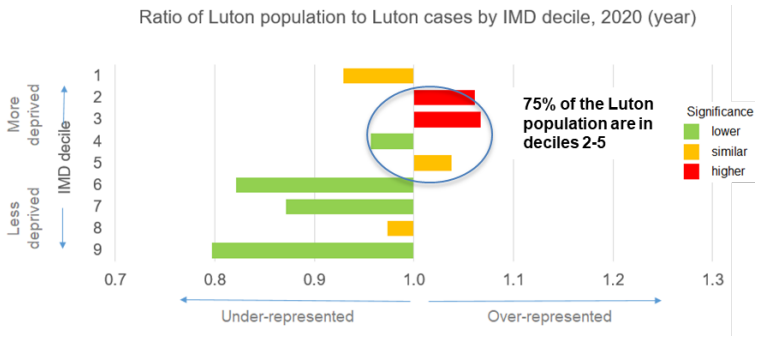


Figure 16 Ratio of Luton population to confirmed COVID-19 cases in Luton by IMD decile, 2020

When looking at the ratio chart above it is important not to be distracted by the largest bars, which may illustrate the greatest degree of difference in representation, but are based on low populations.

The greatest difference in representation is in the least deprived decile (decile nine, which is in the top 20% least deprived nationally), but this group makes up under 4% of the Luton population. Three quarters of the Luton population (78%) falls into the second to fifth deciles, which is really where the story about cases in Luton is told.

There is statistically significant under-representation of cases in deciles four, six and seven and also in decile nine. The over-representation in deciles two and three is statistically higher when compared with the Luton population in this decile.

When looking at the cases data throughout the year, there is over-representation in decile two across most quarters, but decile three is more over-represented in the more recent cases and in quarter four, where numbers are larger (figure 17).

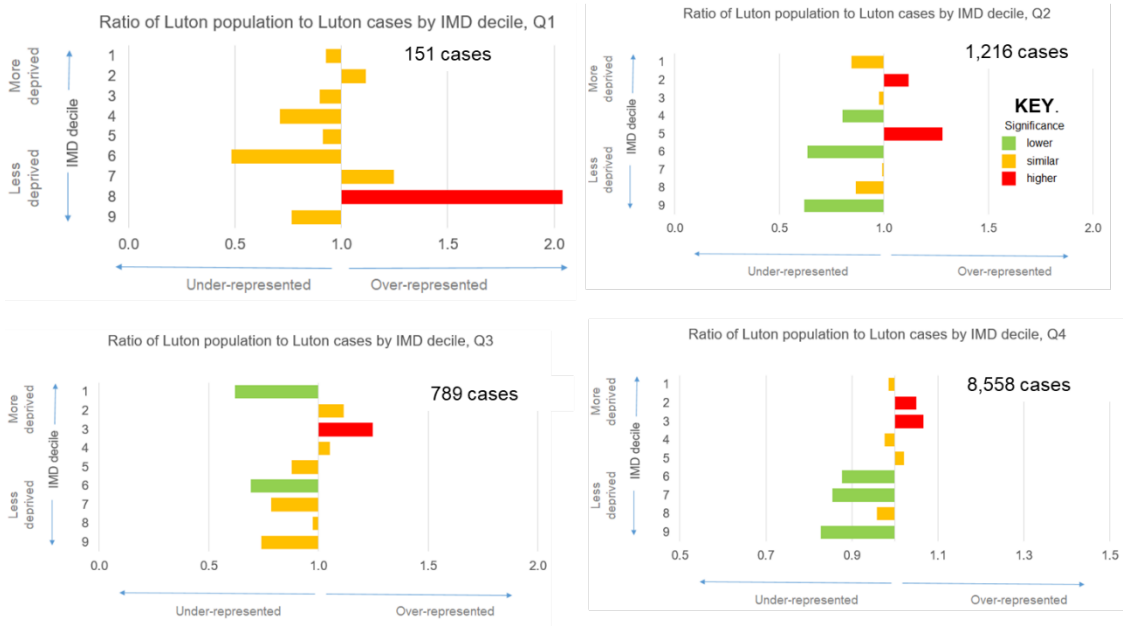


Figure 17 Ratio of Luton population to confirmed COVID-19 cases in Luton by IMD decile for each quarter, 2020

For Luton residents with COVID-19-linked hospital discharges, decile two is statistically over-represented and it also has the highest number of discharges (figure 18). Although the least deprived decile (decile nine) shows as being statistically under-represented, it represents just four per cent of the Luton population. When looking at COVID-19-linked hospital discharges by quarter, decile two was no longer statistically over-represented. Decile eight is statistically over-represented in quarters one and two, but based on low numbers and a low Luton population.

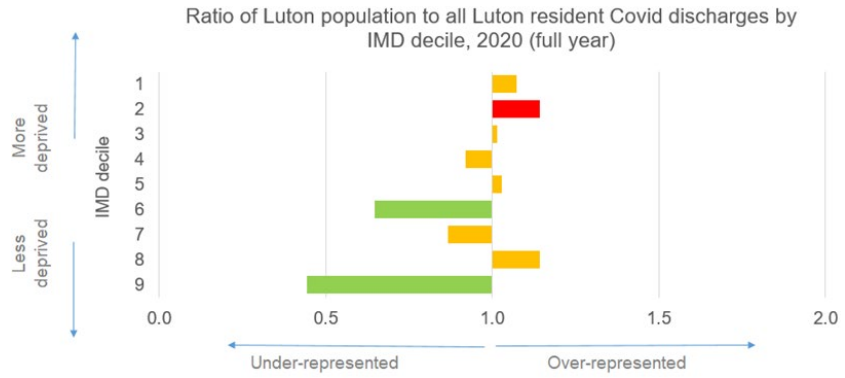


Figure 18 Ratio of Luton population to Luton residents with COVID-19-linked hospital discharges by IMD decile, 2020

For Luton residents with COVID-19-linked hospital discharges recorded as deaths, no group is over-represented in terms of IMD deciles, but deprivation deciles two and five have the highest numbers. When looking at the same data throughout the year, there is over-representation in decile eight in quarters one and two, but only 6% of the Luton population are in that decile. Decile two is over-represented in quarters three and four.

MOSAIC profile

Mosaic Public Sector is an Experian-produced public sector classification system used by the council, which allows us to generalise about populations living in Luton which means that we can use it to understand a bit more about the populations who are more affected by COVID-19 and how best to communicate with them.

Mosaic segments our population into 15 different classification which allow us to understand the characteristics, trends and preferences of our population. Broadly speaking, these range from well off individuals in Group A to poorer people living in more deprived areas in Group O.

Living in an inter-generational household has also been put forward as a potential COVID-19 risk factor - due to increased social contact. We also know that this may bring protection for vulnerable individuals during COVID-19 if they are already living with and being cared for by families

In Luton in 2020, the Mosaic group Urban Cohesion has had notably more confirmed COVID-19 cases than other Mosaic groups and over-representation in this group is statistically significant (figures 19 and 20). Urban cohesion is made up of residents who are settled extended families and older people with a strong sense of identity.

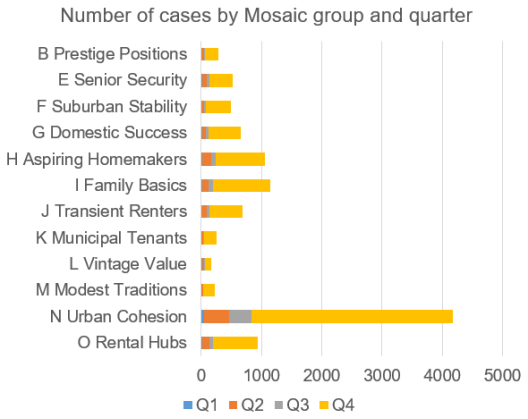


Figure 19 Number of confirmed COVID-19 cases in Luton by Mosaic group and quarter, 2020

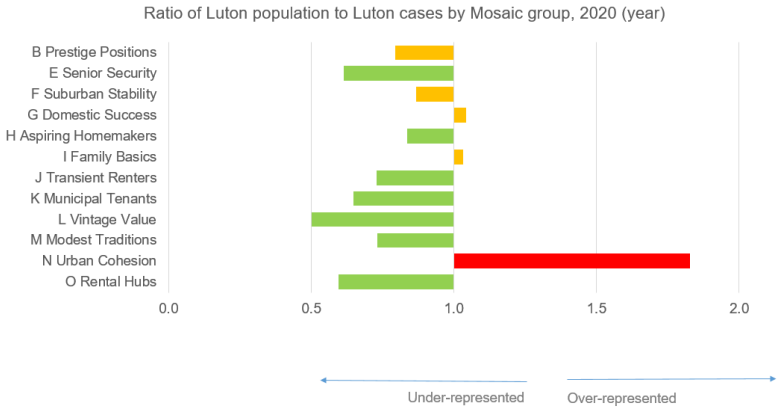


Figure 20 Ratio of Luton population to Luton confirmed COVID-19 cases by Mosaic group, 2020

This over-representation was consistent across most of the quarters in 2020, with it being statistically significant in quarters 2, 3 and 4. The group “Rental Hubs” is statistically under-represented throughout.

Similar to cases, the mosaic group Urban Cohesion statistically over-represented for Luton residents with COVID-19-linked hospital discharges (figure 21) as well as COVID-19-linked hospital discharges that were recorded as deaths (figure 22). Vintage-value was also over-represented for both types of discharges, but is based on lower numbers. People in the vintage-value category are elderly people who mostly live along, either in social or private housing. This over-representation of both urban cohesion and vintage-value was seen across all four quarters of 2020.

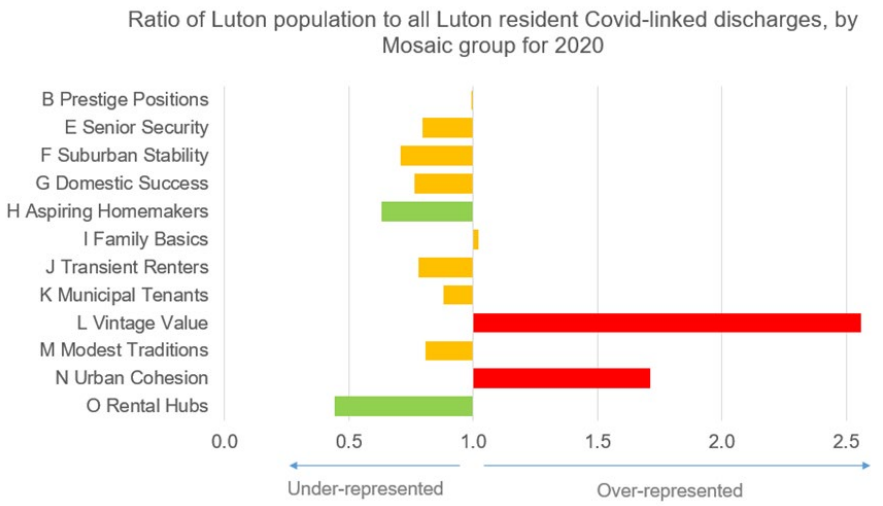


Figure 21 Ratio of Luton population to Luton residents with COVID-19-linked hospital discharges by Mosaic group, 2020

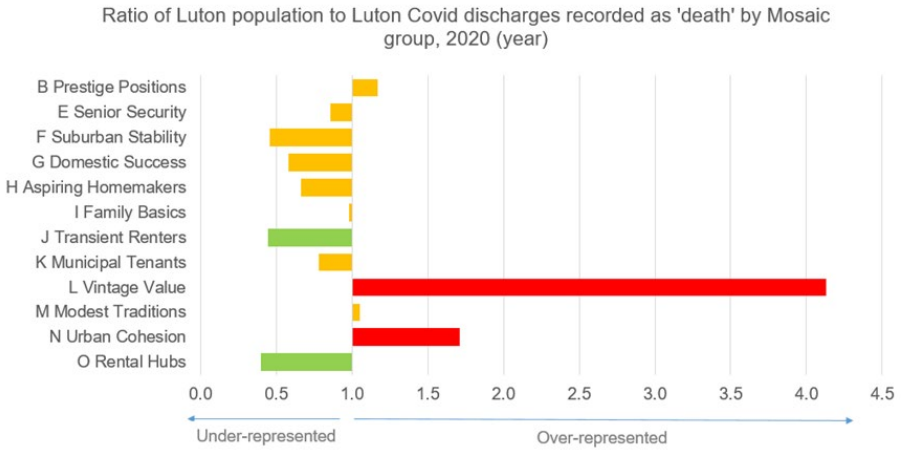


Figure 22 Ratio of Luton population to Luton residents with COVID-19-linked hospital discharges recorded as deaths by Mosaic group, 2020

Underlying co-morbidities

In 2020, Public Health England published a report that certain co-morbidities were more commonly reported on death certificates that mentioned COVID-19 than on all cause death certificates. These include diabetes, hypertensive diseases, and chronic obstructive pulmonary disease.[9]

Using death certificate data from the Luton Registrar, 50% of Luton residents who died and had COVID-19 listed on the death certificate had multiple underlying conditions. 34% had a single underlying condition listed. Hypertension was listed in almost 40% of those with an underlying condition listed and diabetes in over 30%. Around a fifth of all Luton residents who died from COVID-19 had ischaemic heart disease or COPD.

Care Homes

Care home residency of people who have died has been recorded by the Registrar's Office. This has been used to look at the potential disparities of people living in a care home and dying from COVID-19. However, the fact that people are in a care home may be a confounding issue with these data as potentially they're more likely to die from any cause due to other factors associated with old age. In 2020, there were less COVID-19 deaths in care home residents than all deaths

9 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908434/Disparities_in_the_risk_and_outcomes_of_COVID_August_2020_update.pdf

(figure 20). It is not possible to calculate the proportion of care home residents who died from COVID-19 without access to occupancy data.

Recommendations for future work/reporting

The data from the Registrar's Office is not complete. The data flow from the Registrar's Office should be continued and we will need to ensure the data through to the end of December so that we can complete this reporting.

Investigate the use of the Primary Care Mortality Database as a source of future mortality data. It will contain more information including the person's postcode at time of death. Postcode would enable us to have some further insight in to the disparities of COVID-19.

If we are to use care home as an indicator of disability we would ideally have an average number of beds available in Luton care homes and if available an annual census of occupancy.

The mortality data received from the Registrar do not show ethnic group and this would be a really important potential disparity. It would be advantageous to obtain this information.

Investigate occupation of confirmed COVID-19 cases to identify the impact of public-facing employment.

Our estimation of the ethnic breakdown in Luton will improve once the 2020 Census has been completed.

Understanding COVID-19 disparities in Luton

26 January 2021

Jennifer Wilburn

What this report includes

The aim is to provide information relating to COVID-19 cases and deaths in the context of the Luton community. Detail is subject to change as new information comes to light. The nature of the crisis means that, nationally and locally, we are dealing with information that is complex and uncertain.

This report includes:

Analysis of cases, hospitalisation and death data relating to cases and covering the following:

- Deaths for 2020 compared to deaths in earlier years
- Changes over time
- Age
- Sex
- Ethnicity
- Disproportionality
- Geography – including MOSAIC analysis

Key Findings

- **Between the ages of 0 to 29, females are more likely to be hospitalised than males**. Between the ages of 20-29 years, females contributed to 79% of hospitalisations for COVID-19, compared to only making up 48% of the general population
- **Men are over-represented in hospital patients across all of the older age groups**, particularly the 60-79 age groups
- **In the oldest populations, people who are hospitalised with COVID-19 are more likely to die than other groups**. In people over the age of 80 years, 42,9% of those who were admitted due to COVID-19 subsequently died, compared to 7.3% of people over the age of 80 years dying from all causes.
- **Luton males are more likely to die of COVID-19 than Luton females**. In Luton, 64.9% of COVID-19-related deaths in 2020 were among males, compared to 51.5% at the national level.
- The **age-standardised COVID-19 mortality rate for males in Luton is significantly higher than the rate for males in Milton Keynes, England and East of England** but is similar to those seen in Bedford and Central Bedfordshire.
- **There are disparities by ethnicity and people of Asian ethnicity are over-represented**. While people of Asian ethnicity make up approximately 37% of Luton's population, they made up 55% of all COVID-19 cases. While people of white ethnicity make up approximately 38% of Luton's population, they made up only 25% of all COVID-19 cases
- The **hospital mortality rate from COVID-19 is highest among people of White British ethnicity** (58% of all COVID-19 hospital deaths, compared to 36% of the total population), which **may be due to a higher elderly population in this group**
- Throughout 2020, cases have been **statistically over-represented in the more deprived deciles** (deciles 2 and 3)
- **Urban Cohesion Mosaic group is over-represented across a number of COVID-19 measures**. Throughout 2020, cases, COVID-19-linked hospital discharges and discharges reported as deaths have been statistically over-represented in the Urban Cohesion Mosaic group. Discharges and discharges reported as deaths were also statistically over-represented in the Vintage Value group, though this is based on smaller numbers.
- **Half of Luton residents who had COVID-19 listed as a contributing factor in their death also had multiple co-morbidities**. 34% had a single co-morbidity. The most common co-morbidity was hypertension, followed by diabetes.

Headline figures (21 Jan 2021)

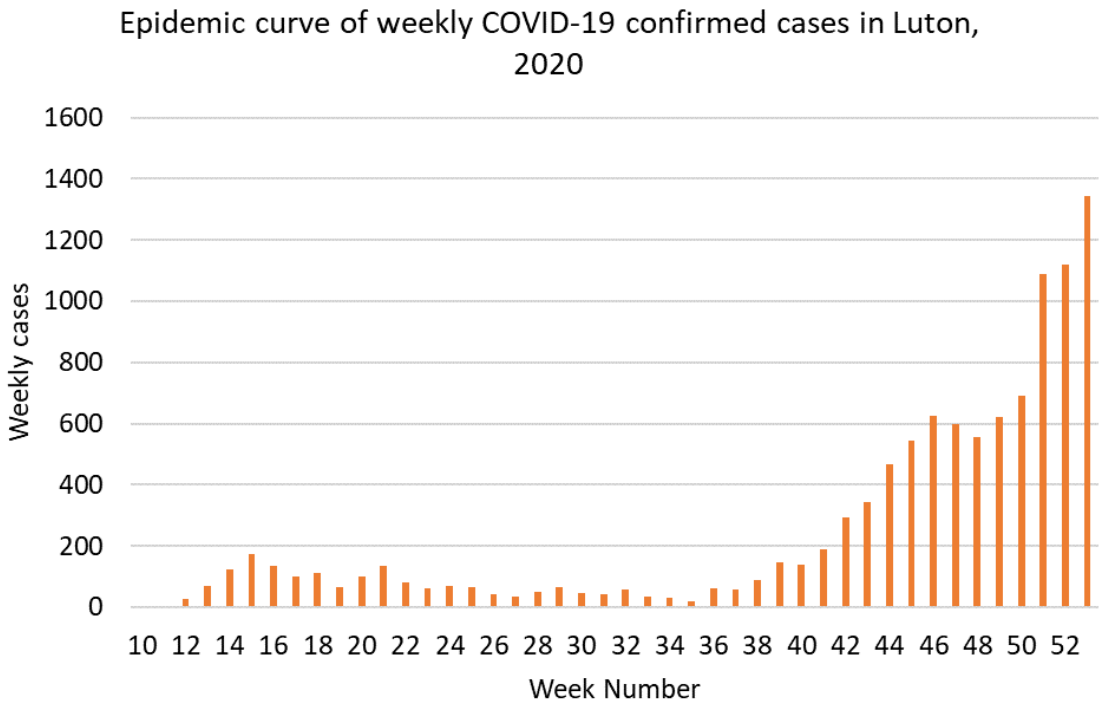
National figures:

- 3,092,041 confirmed cases of COVID-19
- 81,379 deaths registered where COVID-19 was recorded on the death certificate
- An overall death rate of 2.6% of confirmed cases of COVID-19 (compared to 14.5% as of 12 May 2020)
- A case rate of 5,493.4 per 100,000 population

Luton figures:

- 15,204 confirmed cases of COVID-19
- 342 deaths registered where COVID-19 was recorded on the death certificate
- 231 COVID-19 deaths of Luton residents at the L&D hospital
- An overall death rate of 2.2% of confirmed cases of COVID-19 (compared to 38.2% as of 12 May 2020)
- A cumulative case rate of 7,136.3 per 100,000 population

COVID-19 confirmed cases in Luton between 04 March and 31 December 2020



As of 31 December, there had been 14,643 confirmed COVID-19 cases since the pandemic began.

Mass testing was not available early in the pandemic. Most testing was only occurring in hospitals until July.

Cases peaked during the first wave in April and then steadily decreased as lockdown took effect.

Cases remained relatively low until the end of September and then increased through the autumn and into the winter. The last week of December had the highest number of cases.

Hospitalised patients who tested positive for COVID-19 peaked in quarter two, during the first wave, but started to increase again in quarter four

The hospitalisation data we have is based on discharge data from L&D hospital and only includes people who were either hospitalised and then discharged or who died in hospital.

1 March to 31 December 2020 - Hospital Discharges

Quarters	Non Covid	Covid Admission	Total	% Covid
Q1*	4,651	39	4,690	0.8%
Q2	9,302	480	9,782	4.9%
Q3	13,475	50	13,525	0.4%
Q4	13,782	343	14,125	2.4%
Grand Total	41,210	912	42,122	2.2%

* March only

The discharge data shows that while hospitalisations for all reasons have increased throughout the year, the number of hospitalised patients who tested positive for COVID-19 peaked during the first wave in quarter two. 4.9% of all hospitalisations were due to COVID-19 in quarter two.

As cases started to increase in late September, the number of hospitalised patients who tested positive for COVID-19 also started to increase again.

Hospital discharges

1 March to 31 December 2020 - Hospital Discharges All

Quarters	Discharged	Died	Total	% Died
Q1*	4,624	66	4,690	1.4%
Q2	9,508	274	9,782	2.8%
Q3	13,399	126	13,525	0.9%
Q4	13,922	203	14,125	1.4%
Grand Total	41,453	669	42,122	1.6%

* March only

1 March to 31 December 2020 - Hospital Discharges Covid Positive

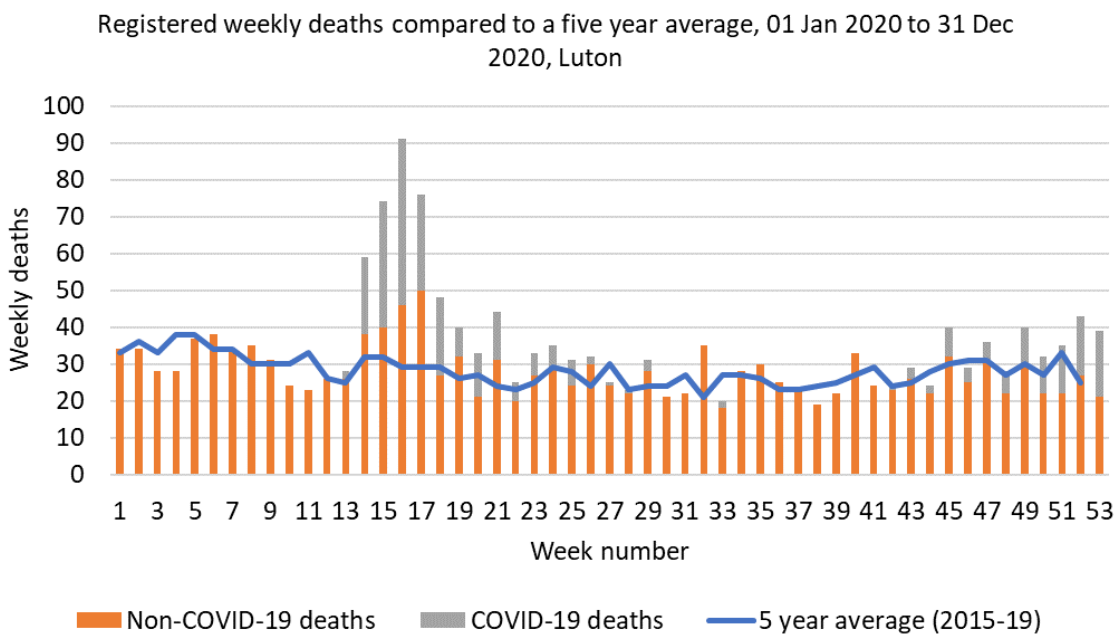
Quarters	Discharged	Died	Total	% Died
Q1*	25	14	39	35.9%
Q2	331	149	480	31.0%
Q3	47	<10	50	<10%
Q4	278	65	343	19.0%
Grand Total	681	231	912	25.3%

* March only

Hospital deaths from all causes peaked in quarter two, when 2.8% of all hospitalised patients died.

COVID-19 related deaths partially contributed to the increase in hospital deaths during quarter two. During the first wave, there were 149 hospital deaths due to COVID-19. Numbers have decreased since then.

Excess deaths were reported during the first wave



Cumulatively, there have been 353 confirmed covid-19 deaths in Luton, including those that occurred in hospital and the community.

In addition to registered COVID-19 deaths in Luton, other deaths in April far exceeded normal levels, but returned to baseline as the impact of lockdown took effect.

Excess deaths (deaths above the blue line representing the average number of deaths over a five year period) have been recorded throughout the pandemic. Consistent with national figures, excess deaths peaked in April.

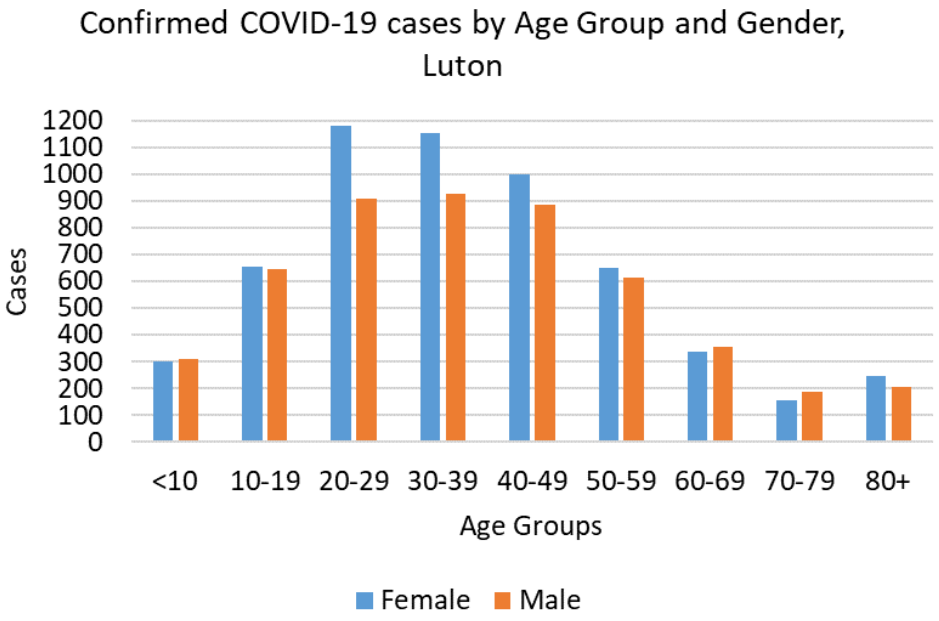
The number of excess deaths without COVID-19 mentioned on the certificate may be due to an increase in deaths from this cause during the period of the pandemic, but may also reflect under-reporting of deaths involving COVID-19

Risk factors for severe COVID-19 infection and mortality

- Age
- Sex
- Ethnicity
- Deprivation
- Underlying medical conditions
- Poverty and crowding – MOSAIC profile
- Certain occupations

Age and gender

Cases breakdown by age and gender



Age is one of the most important risk factors for how serious a COVID-19 infection is for someone.

In Luton, the majority of cases are between 20 and 49 years of age. This is consistent with what is being seen nationally, however there is also a spike in female cases in the 80+ age group nationally that is not so pronounced in Luton.

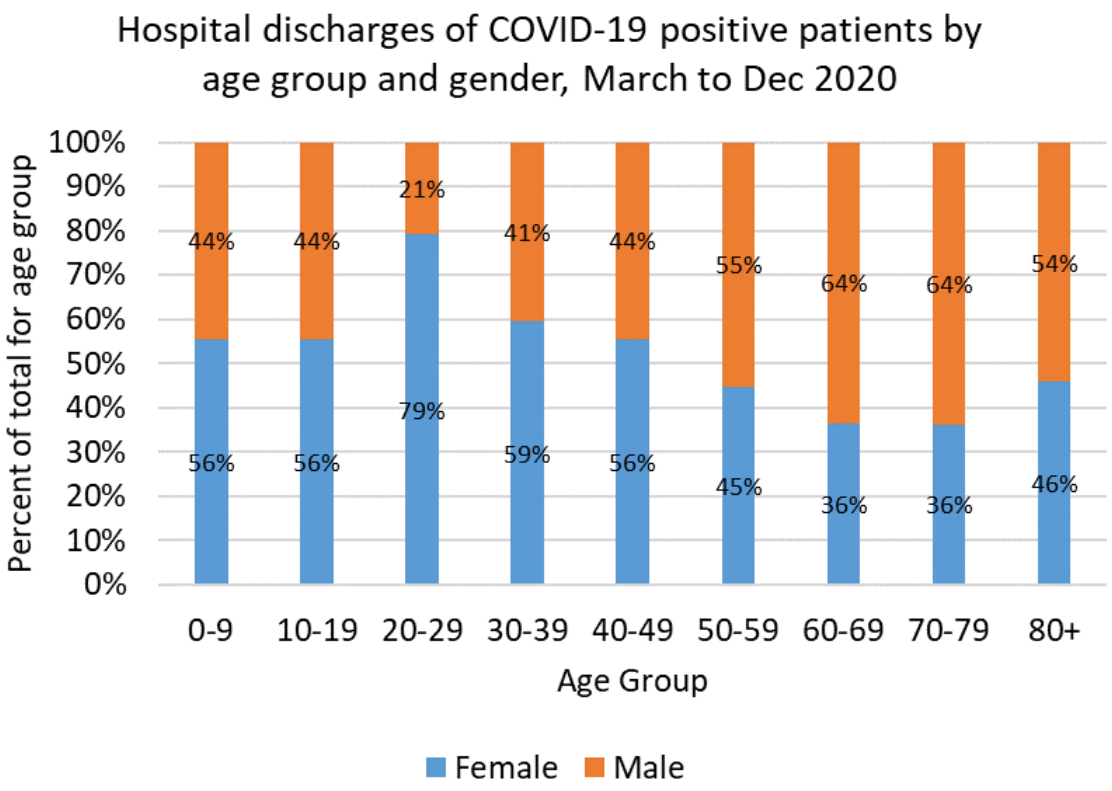
In Luton, 53.0% of all COVID-19 cases have been among females. While the data appears to show that quarter one had the greatest difference between male and female cases, this is based on very low numbers and so is unreliable.

	Female cases	Male cases
Qtr 1*	35.3%	64.7%
Qtr 2	56.6%	42.9%
Qtr 3	53.2%	46.5%
Qtr 4	52.5%	47.2%
Total	53.0%	46.7%

*only includes March

Figures may not add up to 100% due to missing values

Hospital discharges breakdown by age and sex



The chart to the left shows the proportion of hospitalisations due to COVID-19 for each age group, by gender.

As nationally, **Luton men are more likely to be hospitalised for COVID-19 than women**.

However, between the ages of 20-29 years, females contributed to 79% of hospitalisations for COVID-19, compared to only making up 48% of the general population. There were 34 hospital discharges among COVID-19 confirmed females, compared to less than 10 among males.

Men are over-represented in hospital patients across all of the older age groups, particularly the **60-79 age groups**.

Men were responsible for a higher proportion of hospitalisations in people over 50 years old, while contributing to a smaller proportion of the overall Luton population for people over 50 years.

Sex and gender interact to influence everyone's health outcomes. In previous coronavirus epidemics, on average males had worse clinical outcomes due to SARS in Hong Kong and a higher risk of dying from MERS.

There are many possible reasons why, including biology and immune system differences, presence of pre-existing conditions, and engaging in more risky behaviours.

Hospital deaths breakdown by age group

1 March to 31 December 2020 - Hospital Discharges All

Age Group	Discharged	Died	Total	% Died
0-9	5,637	18	5,655	<1.0%
10-19	1,912	<10	1,914	<1.0%
20-29	6,013	<10	6,016	<1.0%
30-39	7,286	<10	7,288	<1.0%
40-49	3,901	16	3,917	<1.0%
50-59	4,078	43	4,121	1.0%
60-69	4,212	96	4,308	2.2%
70-79	4,186	155	4,341	3.6%
80+	4,228	334	4,562	7.3%
Grand Total	41,453	669	42,122	

1 March to 31 December 2020 - Hospital Discharges Covid Positive

Age Group	Discharged	Died	Total	% Died
0-9	<10	0	<10	0.0%
10-19	<10	0	<10	0.0%
20-29	42	<10	43	<5.0%
30-39	69	0	69	0.0%
40-49	92	<10	99	<10.0%
50-59	120	14	134	10.4%
60-69	87	34	121	28.1%
70-79	97	58	155	37.4%
80+	156	117	273	42.9%
Grand Total	681	231	912	

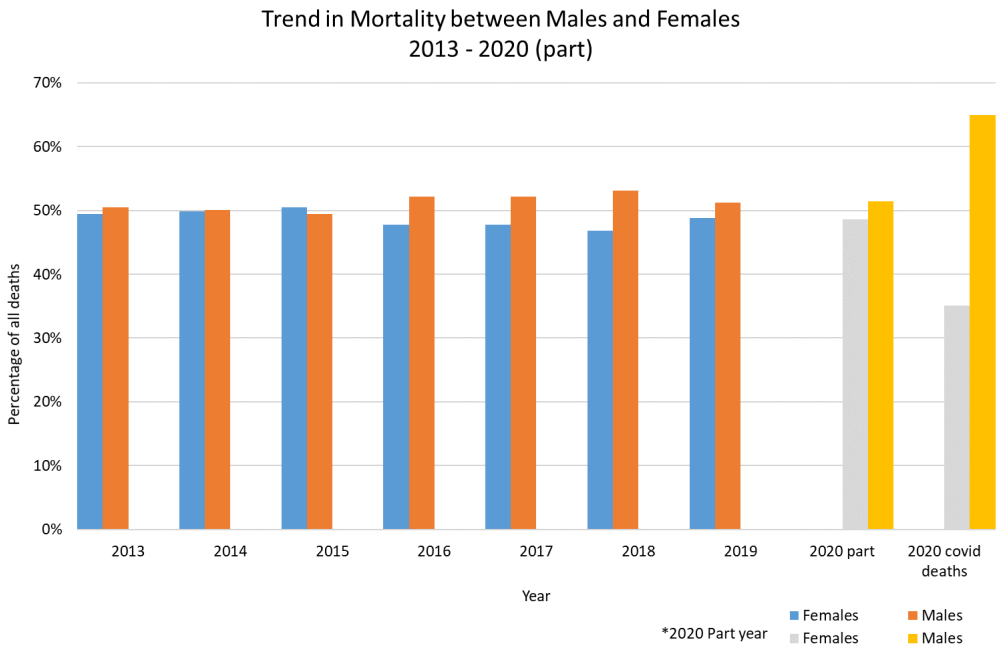
The top table to the left shows the percentage of people who died in hospital due to all causes between March and 31 December 2020.

The bottom table to the left shows the percentage of people who died in hospital and had COVID-19 on their death certificate.

Consistent with deaths due to all causes, the **likelihood of dying after being admitted to hospital with COVID-19 increased with age**, but to a greater extent.

In people over the age of 80 years, 42,9% of those who were admitted due to COVID-19 subsequently died, compared to 7.3% of people over the age of 80 years dying from all causes.

Mortality trends by sex



Between 2016 and 2019, 52% of all deaths (in the hospital and community) were among males.

Between March and December 2020, **64.9% of COVID-19-related deaths were among males**. This difference was consistent across all four quarters in 2020, ranging from 62% to 80% of covid-19 deaths among males.

The difference in proportions between males and females for COVID-19 mortality is higher than national figures, where 51.5% of COVID-19-related deaths were among males in 2020 as of 10 November.

Globally, COVID-19 positive hospital patients who were male were found to have almost three times the odds of requiring ITU admission and higher odds of death compared to females.

All deaths

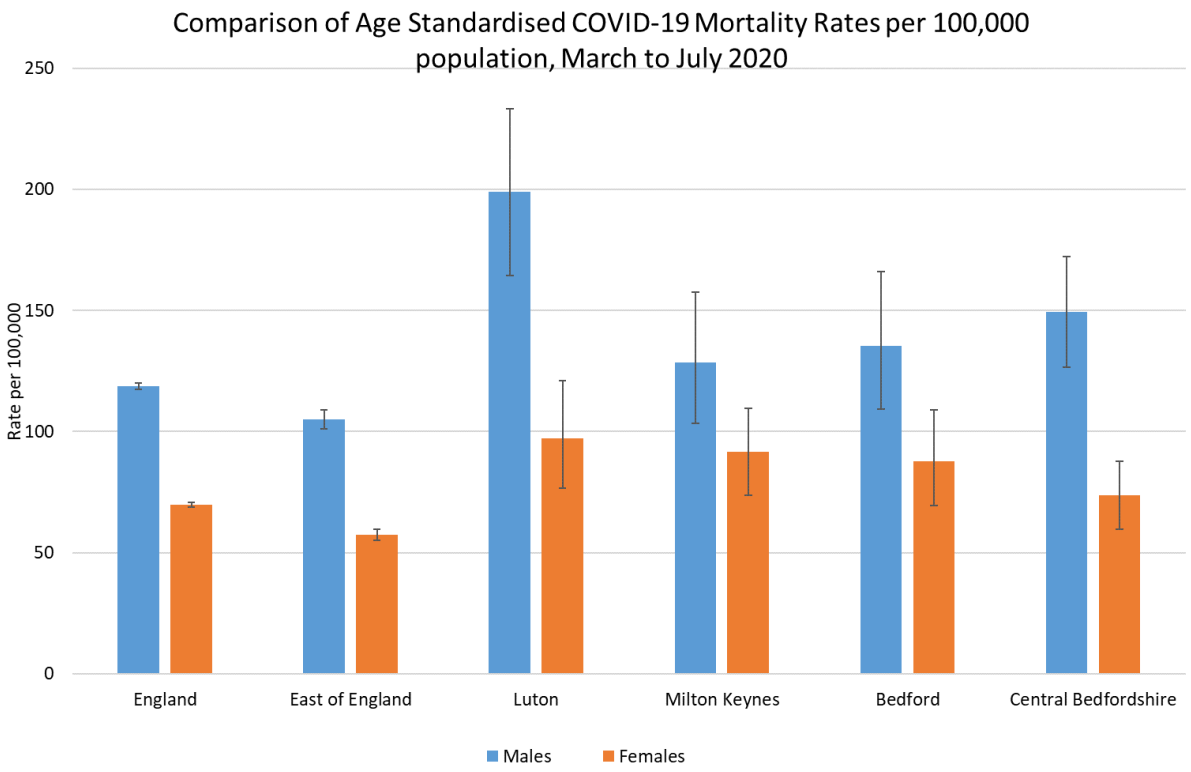
	Percentage	
Age Group	F	M
Qtr1	45%	55%
Qtr2	48%	52%
Qtr3	52%	48%
Qtr4	49%	51%

COVID-19 deaths

	Percentage	
Age Group	F	M
Qtr1	28%	72%
Qtr2	38%	62%
Qtr3*	20%	80%
Qtr4	31%	69%

*There were very small numbers of COVID-19 deaths in quarter 3 so the percentages are unreliable

Comparison of age-standardised mortality rates due to COVID-19



This chart shows the age-standardised mortality rate for deaths due to all-causes and COVID-19 specifically, by gender.

The error bars show whether the rates are significantly different from the other comparison areas (e.g., if the bars do not overlap then they are significantly different).

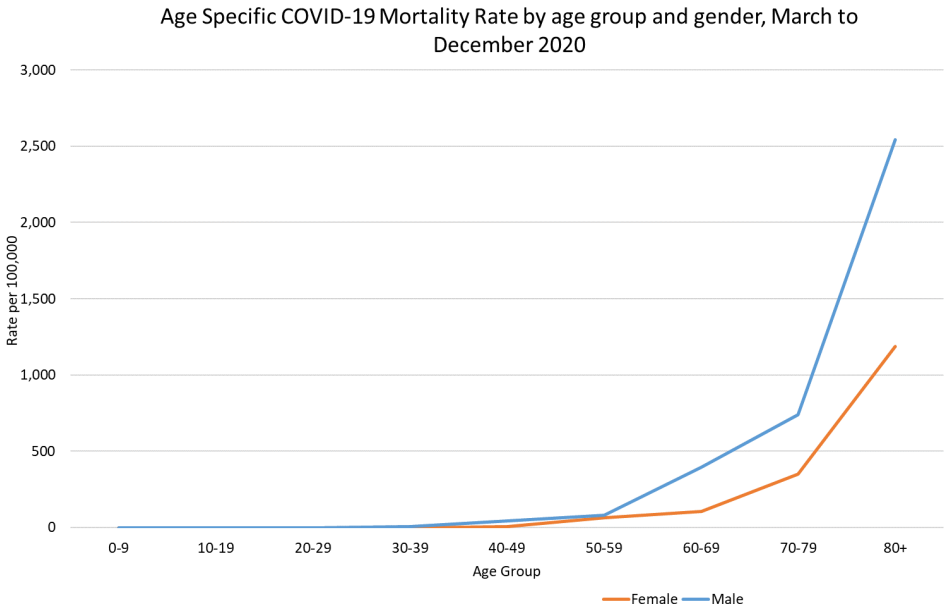
Within Luton, the COVID-19 mortality rate for males is statistically significantly higher than females.

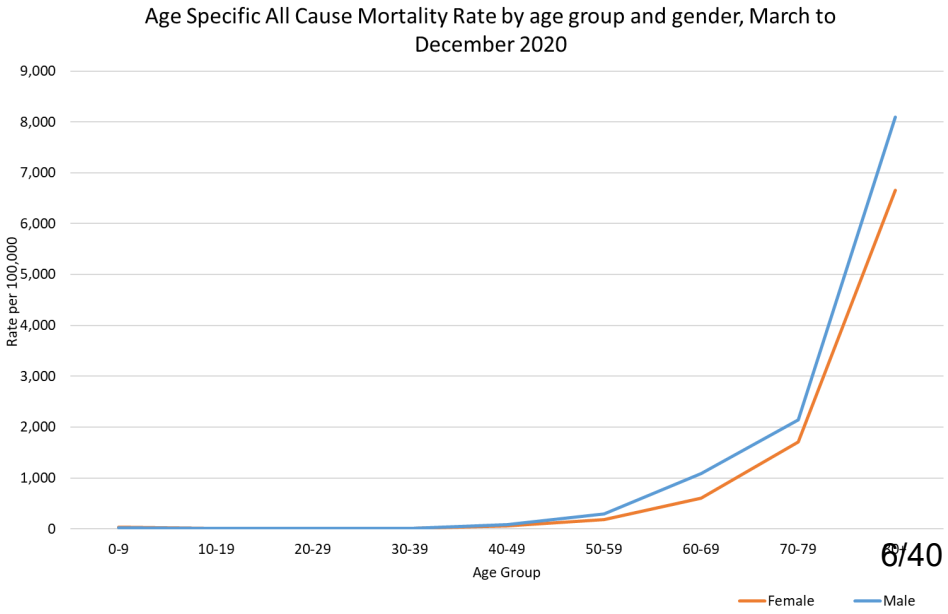
When comparing Luton to other local authorities, the **COVID-19 mortality rate for males is significantly higher than the rate for males in Milton Keynes, England and East of England but is similar to those seen in Bedford and Central Bedfordshire**.

While the COVID-19 mortality rate for females in Luton is similar to those seen in the other three local authorities, it is statistically significantly worse than East of England and England.

Age-specific mortality rates by sex

Appendix 2





This chart shows the age-specific mortality rate for deaths due to COVID-19 for males and females, by age group.

As age increases, the age-specific mortality rate also increases for both males and females. People over the age of 60 have increased risk of dying from COVID-19 when compared to younger age groups.

The mortality rate for males increases at an earlier and steeper rate than females.

For people over 80 years of age, the age-specific mortality rate is very high: 1,187.7 deaths per 100,000 people for females and 2,543.1 deaths per 100,000 people for males.

The bottom chart shows the age-specific mortality rate for all-deaths, by gender. It shows that while mortality increases quickly in people over 60 years old, the rates for males and females are relatively comparable.

Ethnicity

Ethnicity and COVID-19

Appendix 2

National data shows that - at a population level - there are higher rates of COVID-19 in areas with high rates of Black and Minority Ethnic (BME) populations.

Case rates are also high in urban areas where lots of people are exposed to each other, and urban areas also tend to have higher BME populations

It is agreed that there are several possible reasons why there are disproportionate numbers of deaths within BME groups, and we do NOT know whether it is some or all of the following:

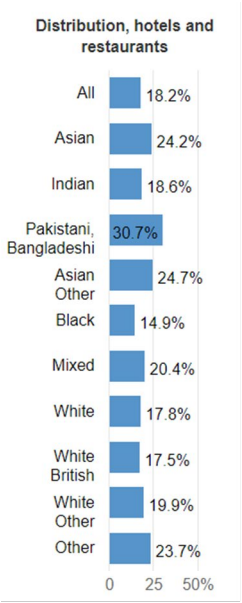
- Risks specific to BAME individuals like genetic factors or vitamin D deficiency
- Reflecting the fact that BAME populations are more likely to do jobs with exposure to other people, more likely to have income deprivation, more likely to live in multi-generational houses and more likely to have other health conditions
- Structural inequalities that make it harder to BAME people to stay safe, like feeling less able to ask for PPE

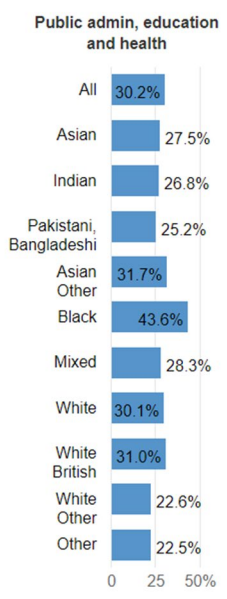
Employment by ethnicity and sector

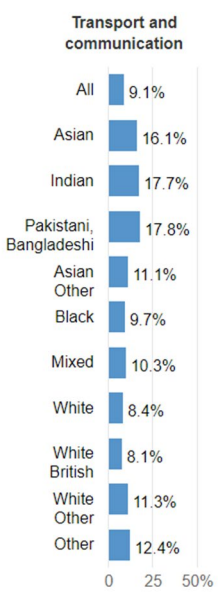
Appendix 2

Key finding from the Annual Population Survey (2018) shows:

- People of Pakistani / Bangladeshi ethnicity are most likely to be employed in the distribution, hotels and restaurants sector – 30.7% of all people recorded as Pakistani or Bangladeshi work in this sector
- People of Black ethnicity are particularly likely to be employed in the public administration, education and health sector – 43.6% of all people recorded as Black ethnicity work in this sector
- People of Pakistani / Bangladeshi and Indian ethnicity are most likely to be employed in the transport and communication sector – 17.8% of all people recorded as Pakistani / Bangladeshi and 17.7% of all people recorded as Indian ethnicity work in this sector.







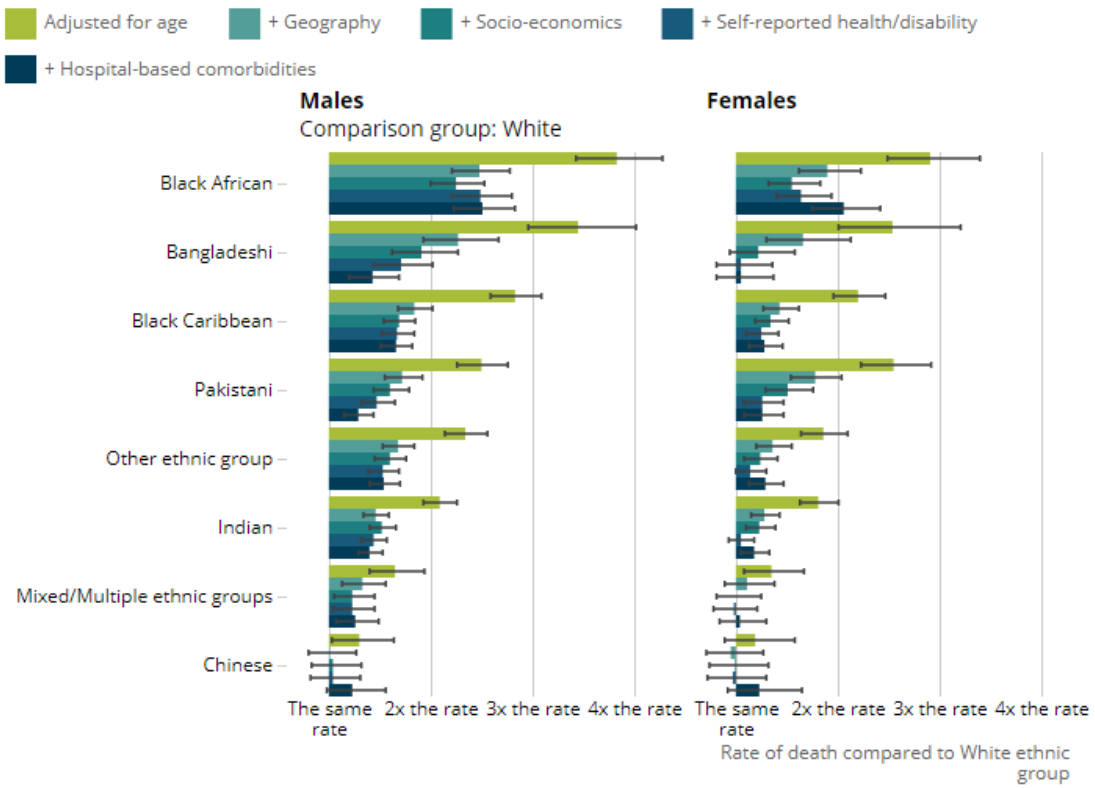
The diagram shows the three sectors most likely to have employees with public facing roles.

Some of these public facing roles may be at higher risk, but it is important to consider the positive effects of lockdown for people working in restaurants and some retail employment.

The table below shows the totals by ethnicity of the population working in the three sectors likely to have public facing roles and suggests that people of Pakistani, Bangladeshi or Black ethnic groups are most likely to work in these roles

	All	Indian	Pakistani, Bangladeshi	Black	Mixed	White	Other
Likely public-facing employment (Distribution, hotels and restaurants, Public administration, education & health, Transport & communication)	58%	63%	74%	68%	59%	56%	59%

Nationally, after accounting for where people live and social and economic factors, the difference in the risk of death due to COVID-19 lessens but is still higher in BME populations

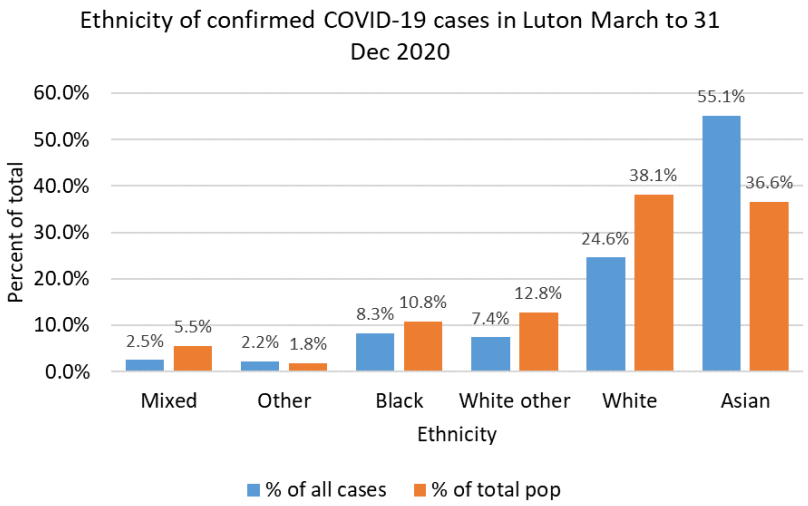


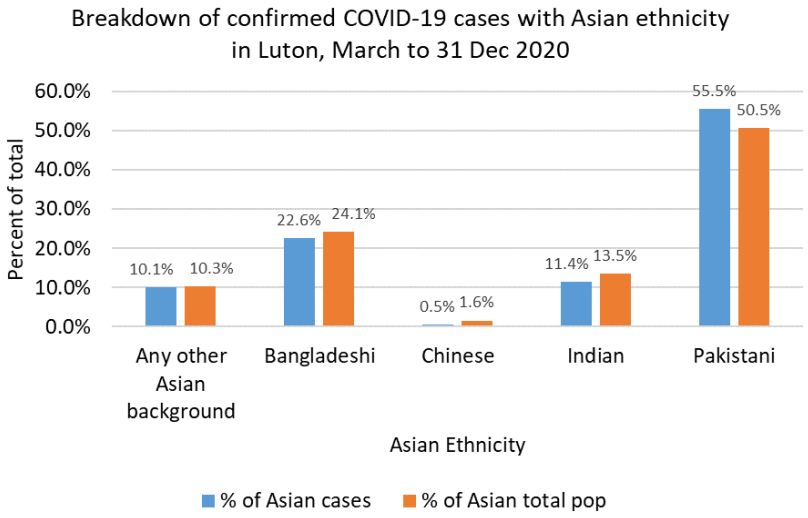
Nationally, after adjusting for age, males and females from all ethnic minority groups (except females of Chinese ethnic background) were at greater risk of death involving COVID-19 than the White ethnic group.

The rate of death involving COVID-19 was 3.8 times greater for Black African males and 2.9 times greater for Black African females than the White ethnic group.

After adjusting for geography and socio-economic factors, the estimated risk of death reduces for ethnic minority groups relative to the White population, but significant differences remain.

55.1% of all confirmed COVID-19 cases in Luton are of Asian ethnicity, compared to only making up 36.6% of the Luton population





This chart shows the disparity in COVID-19 cases in terms of ethnicity.

While **people of Asian ethnicity make up approximately 37% of Luton's population, they made up 55% of all COVID-19 cases**.

Similarly, while people of white ethnicity make up approximately 38% of Luton's population, they made up only 25% of all COVID-19 cases. Over the year, the proportion of cases in people of White British, Other White, Black and "Other" ethnicities decreased, while Asian ethnicities increased.

	Qtr 1	Qtr 2	Qtr 3	Qtr 4
Mixed	1.0%	1.3%	1.3%	2.3%
Other	3.9%	3.0%	1.6%	1.6%
Black	14.7%	8.7%	5.2%	6.6%
White British	44.1%	34.2%	21.2%	25.4%
Other White	9.8%	5.4%	7.3%	6.1%
Asian	24.5%	34.6%	50.8%	47.3%

When we break down the Asian ethnicity group even further, we can see that the majority of groups are evenly represented among cases when compared to their proportion of the total population, although the Pakistani ethnic group is slightly over-represented when cases are compared to the total population.

BME in Luton and COVID-19

However, there are higher proportions of cases in Luton BME populations than would be expected given our estimate of the population proportions. This may reflect the risks to BME populations.

One group that does seem to be at increased risk in Luton is people of Pakistani ethnicity.

The White British hospital discharge and mortality rate from COVID-19 is highest and may be due to a higher elderly population in this group.

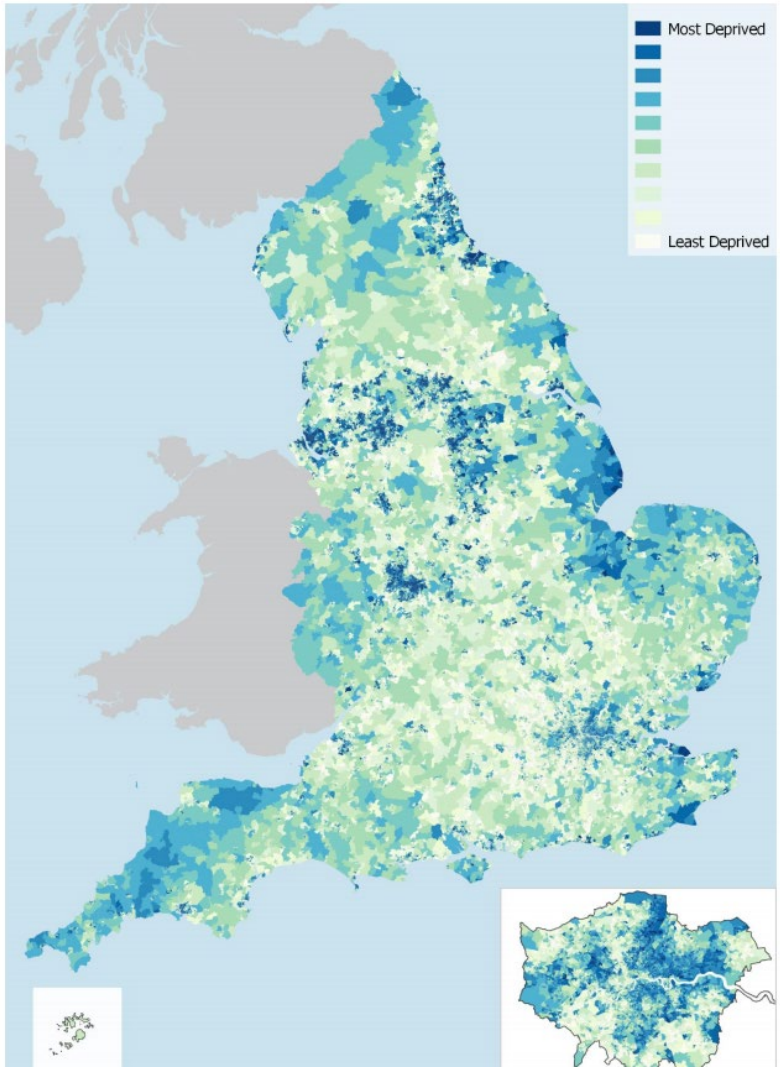
Ethnicity	COVID-19 Hospital deaths	COVID-19 hospital discharges	COVID-19 cases	Luton population	Est. 50+ population (based on 2011 Census and other updated sources)
White British	**58%**	**47%**	25%	38%	60%
BME (non-White British)	42%	53%	**75%**	64%	40%
Asian	25%	34%	**55%**	37%	19%
Pakistani	14%	20%	**31%**	18%	8%
Other	1%	1%	2%	2%	1%
Black	7%	8%	8%	11%	10%
White Other	8%	8%	7%	13%	9%
Mixed	0%	1%	3%	6%	1%

Percentages may not sum to 100 due rounding

Deprivation

Indices of deprivation

Appendix 2



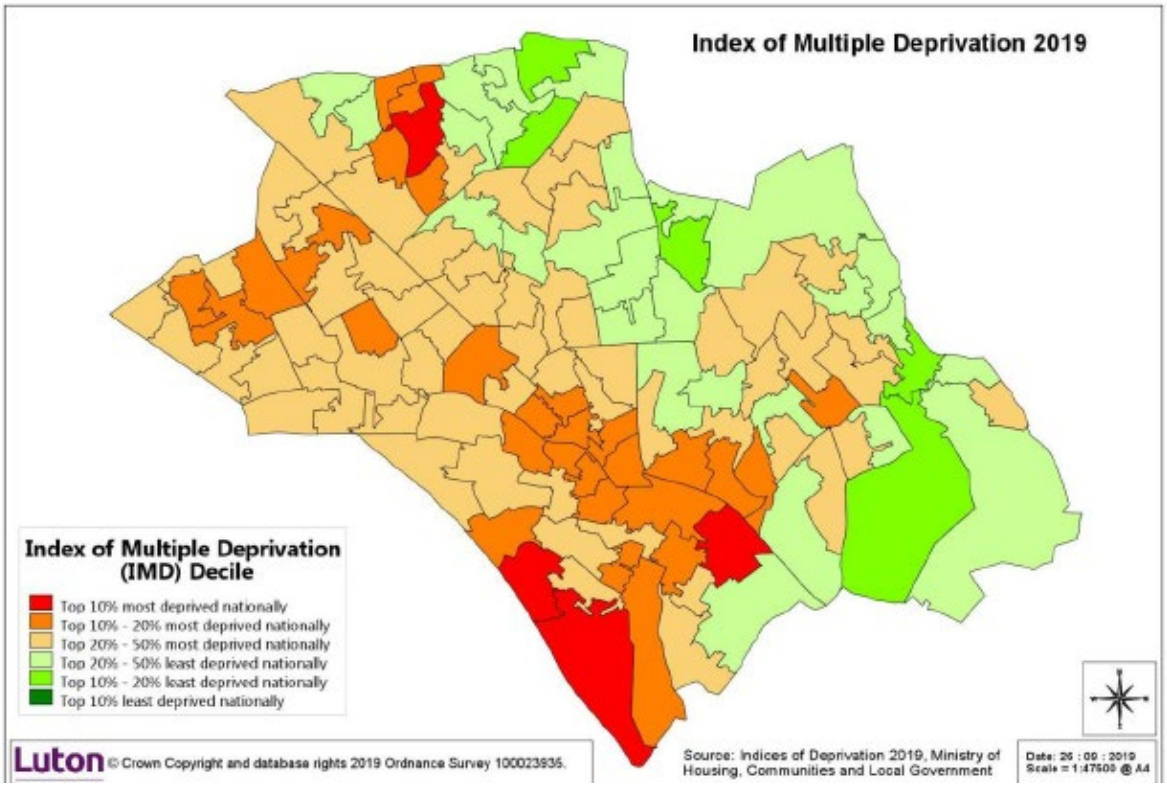
The Index of Multiple Deprivation (IMD) combines a number of indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score for each small area in England. This allows each area to be ranked relative to one another according to their level of deprivation.

National data shows that – at a population level – coronavirus has had a proportionally higher impact on the most deprived areas of England. Between April and July 2020, the mortality rate in the least deprived areas (decile ten) in England was less than half of the mortality rate in the most deprived areas.

Looking across geographies, the data showed that urban conurbations areas had a higher mortality rate involving COVID-19 than other rural or urban classifications. These areas also make up a larger proportion of the most deprived areas than other classifications.

Deprivation in Luton

Luton is currently ranked the 70th most deprived out of 317 local authorities



The map shows where Luton has four output areas in the top 10% most deprived. These are in Northwell, South and two in Farley.

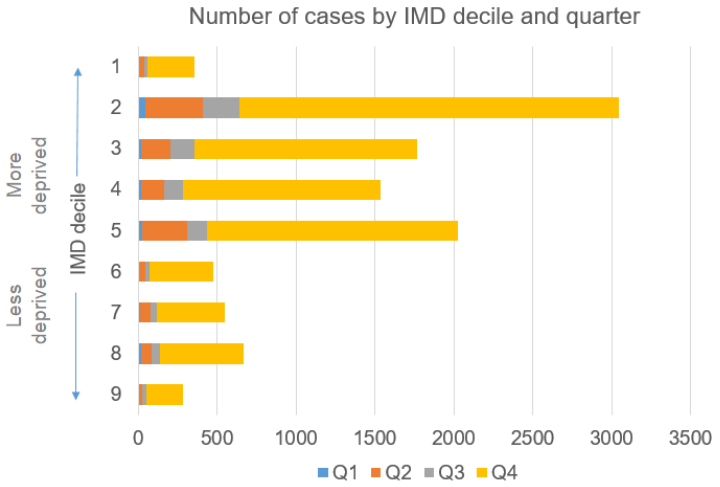
Throughout 2020, cases have been statistically over-represented in more deprived deciles (deciles two and three).

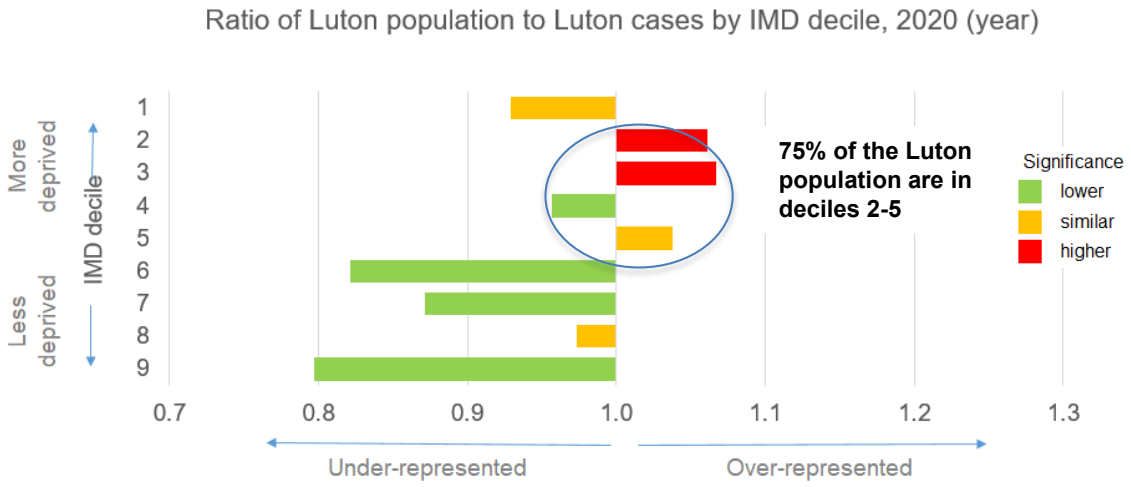
When looking at the ratio chart, shown on the right, it is important not to be distracted by the largest bars, which may illustrate the greatest degree of difference in representation, but are based on low populations.

The greatest difference in representation is in the least deprived decile (decile nine, which is in the top 20% least deprived nationally), but this group makes up under 4% of the Luton population.

Three quarters of the Luton population falls into the second to fifth deciles, which is really where the story about cases in Luton is told. 78% of the Luton cases fall into the second to fifth deciles during 2020.

There is statistically significant under-representation of cases in deciles four, six and seven and also in decile nine, which is the least deprived IMD group in Luton. The over-representation in deciles two and three is statistically higher when compared with the Luton population in this decile. Deciles two to three may consist of those working in lower paid, public facing jobs and are more likely to be intergenerational.





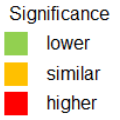
This slide shows the number of cases alongside over / under-representation in relation to the national Index of Multiple Deprivation (IMD). Decile one is the 10% most deprived and decile ten is the 10% least deprived nationally. Luton does not have any areas the top 10% least deprived so decile nine indicates areas in the 20% least deprived nationally.

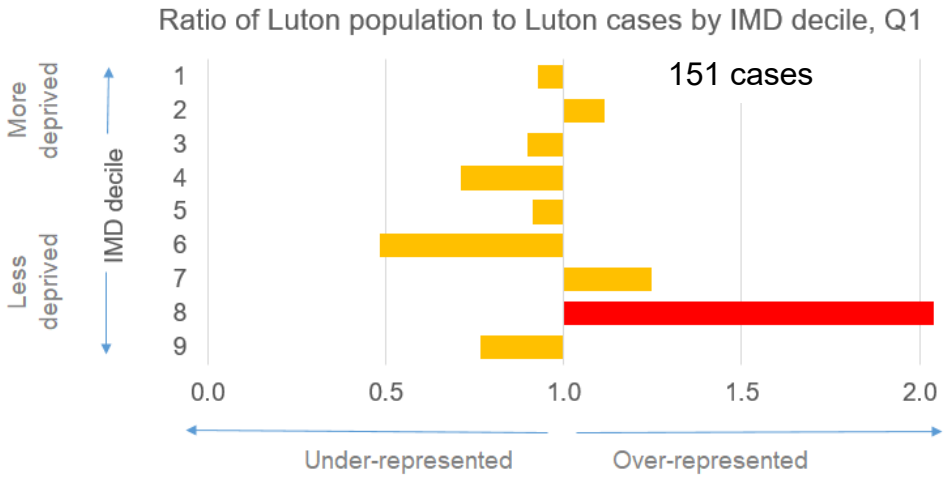
IMD by quarter for confirmed COVID-19 cases in Luton

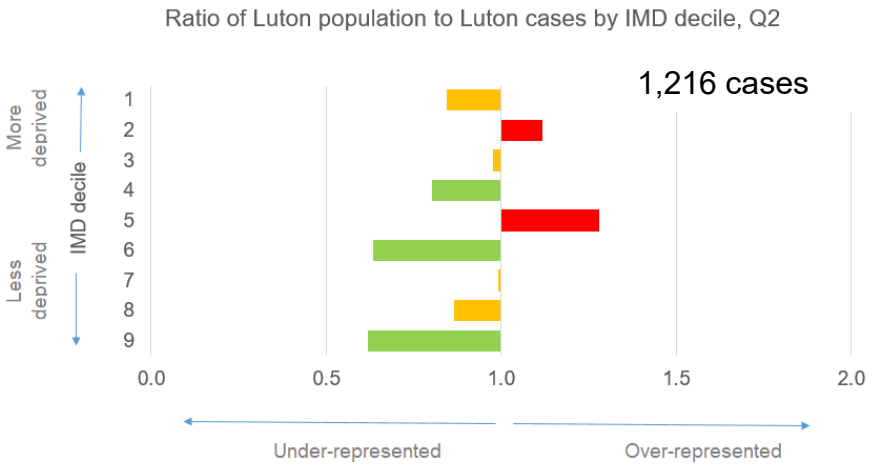
Appendix 2

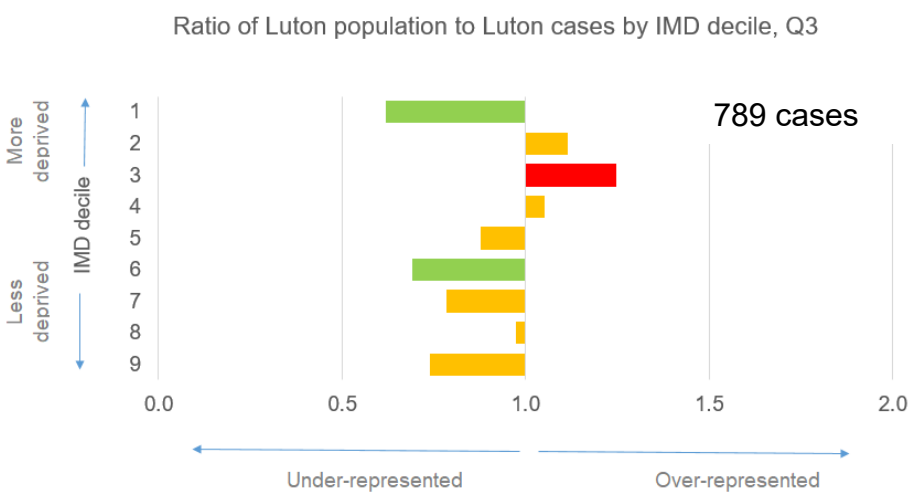
Cases are much lower in Q1 and Q3, although Q1 is from the time when testing was generally only for very ill people. There is over-representation in decile two across most quarters, but decile three is more over-represented in the more recent cases and in Q4, where numbers are larger.

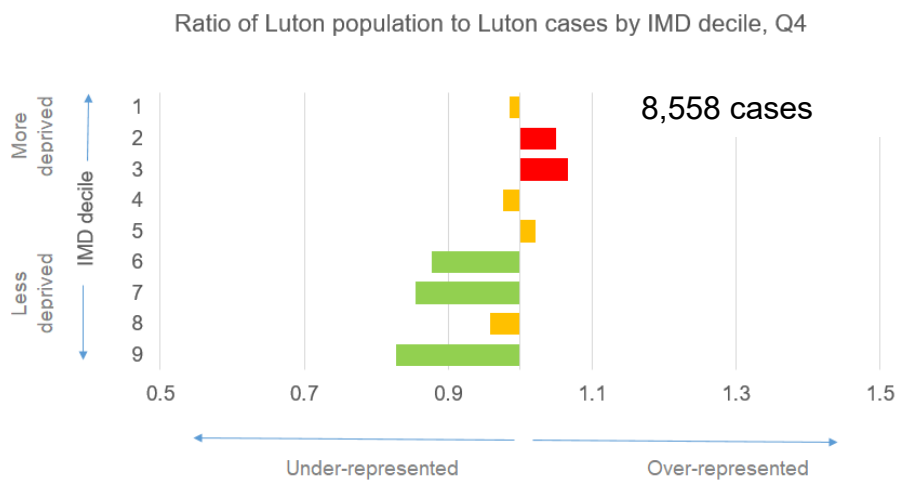
KEY.







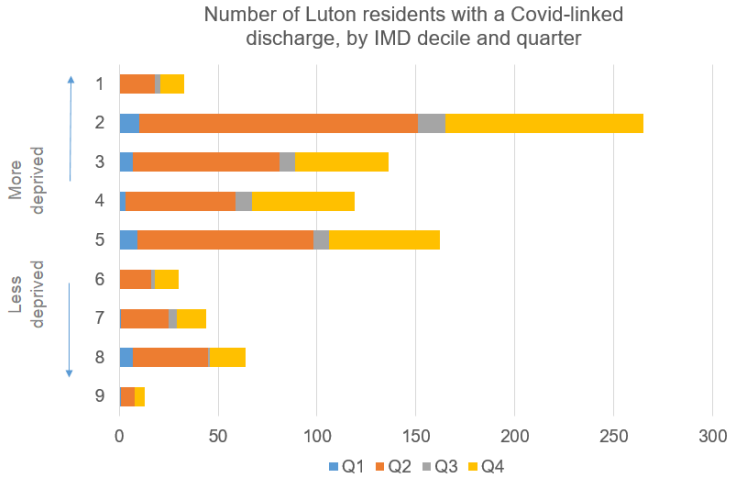


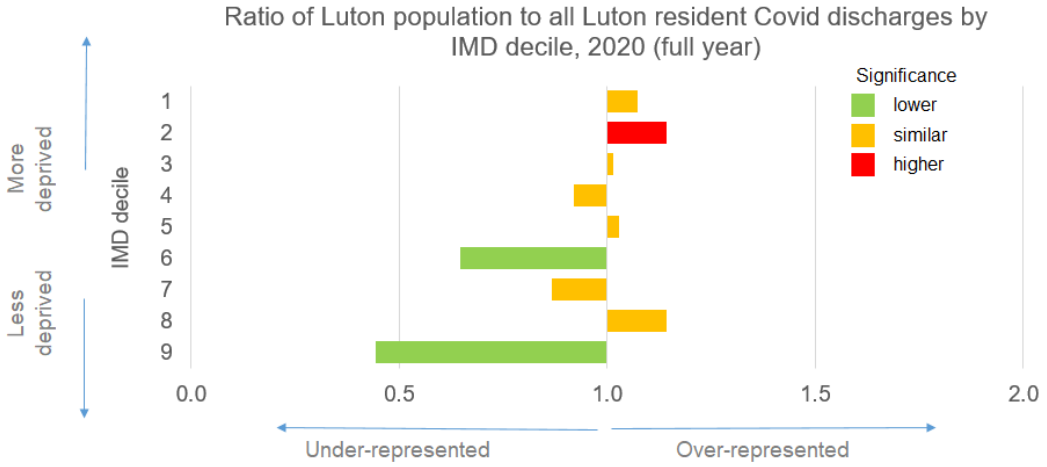


For Luton residents with COVID-19-linked hospital discharges, decile two is statistically over-represented and it also has the highest number of discharges.

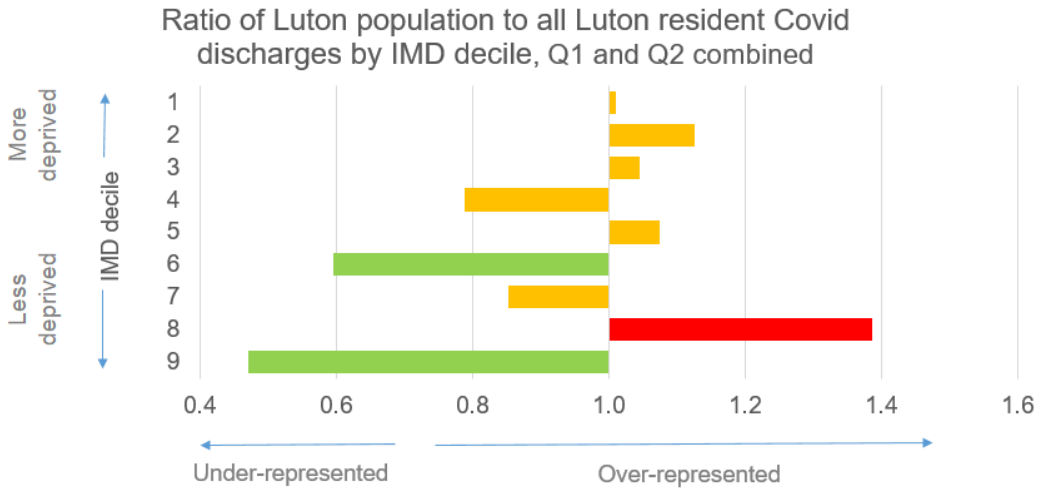
These charts show data for Luton residents with COVID-19-linked hospital discharges. Decile two is statistically over-represented and has the highest number of discharges. Although the least deprived decile shows as being statistically under-represented, it represents just four per cent of the Luton population.

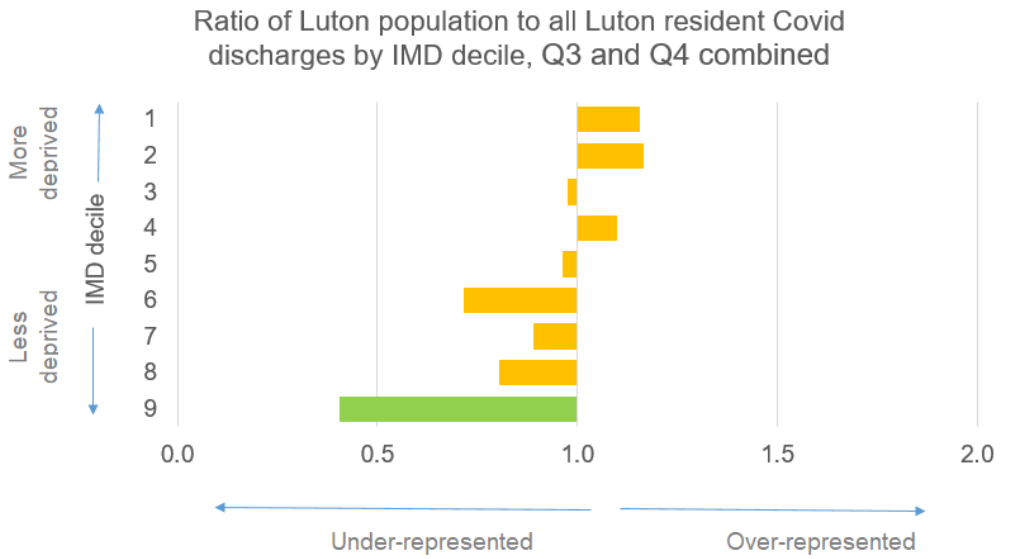
In terms of numbers, most of the Luton residents with COVID-19-linked hospital discharges were from decile two, followed by decile five.





IMD by quarter for Luton residents with COVID-19-linked hospital discharges





KEY.

Significance
- lower
- similar
- higher

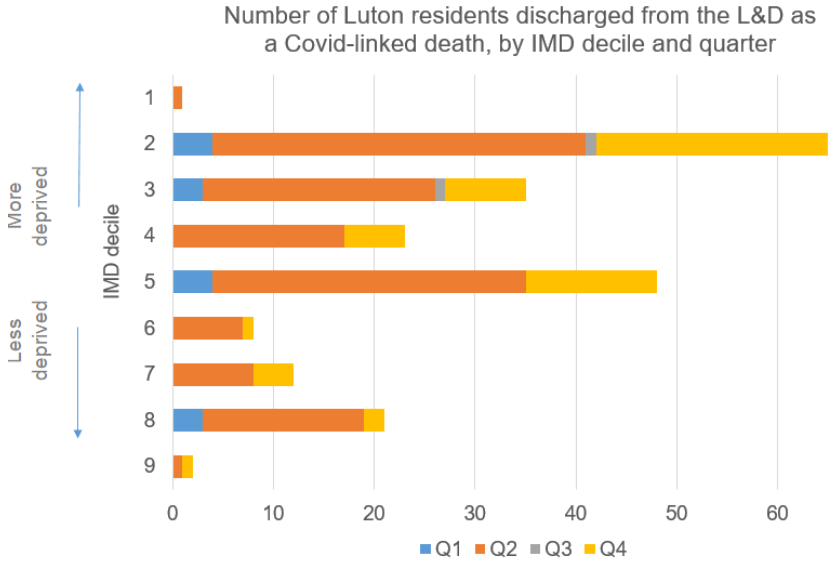
Numbers are particularly low in quarters one and three so we have combined quarters one and two and quarters three and four.

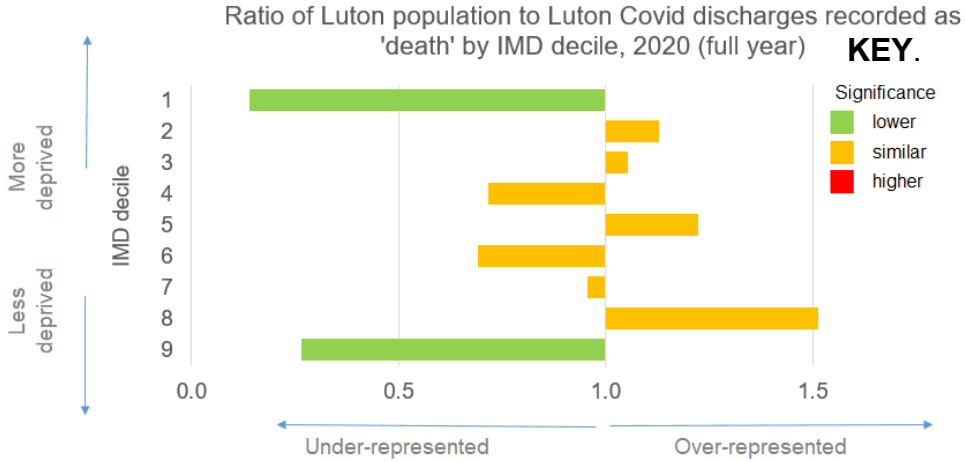
Decile eight is statistically over-represented in quarters one and two, but based on low numbers and a low Luton population.

For Luton residents with COVID-19-linked hospital discharges recorded as deaths, no group is over-represented in terms of IMD deciles, but deprivation deciles two and five have the highest numbers.

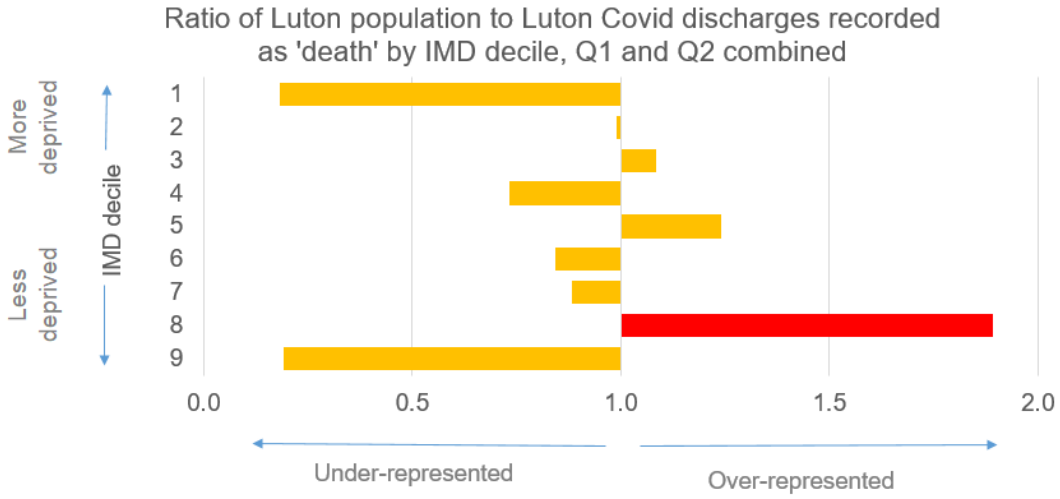
These charts show data for Luton residents with COVID-19-linked hospital discharges recorded as deaths. Bearing in mind that three quarters of the Luton population sits within deciles two through five, there is little local evidence of over-representation or under-representation. Although the most deprived and least deprived deciles both show as being statistically under-represented, each represents just four per cent of the Luton population.

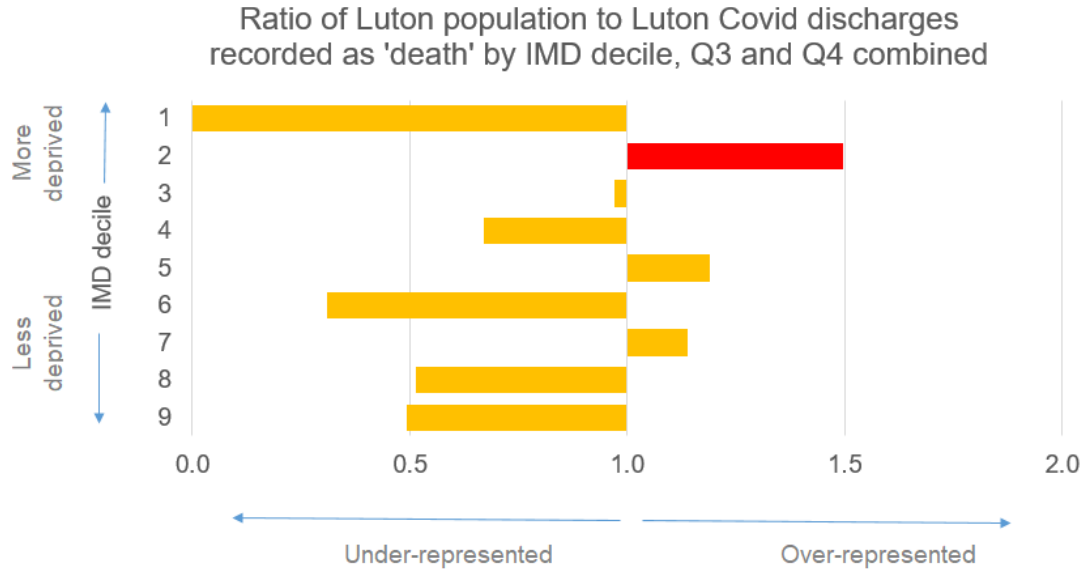
In terms of numbers, most of the Luton residents with COVID-19-linked hospital discharges were from decile two, followed by decile five.





IMD by quarter for Luton residents with COVID-19-linked hospital discharges recorded as deaths





Numbers are low, especially in quarter three when there was just one discharge recorded as a death. For this reason, we have combined quarters one and two and quarters three and four.

Decile eight is statistically over-represented in quarters one and two, but again, this is based on a Luton population group that is very low. Just 6% of the Luton population are in this decile.

In quarters three and four, decile two is over-represented. This decile is the 10% to 20% most deprived and 27% of the Luton population are in this decile.

KEY.

Significance
- lower
- similar
- higher

MOSAIC profile

How can Mosaic help?

Appendix 2

Mosaic Public Sector is an Experian-produced public sector classification system used by the council, which allows us to generalise about populations living in Luton which means that we can use it to understand a bit more about the populations who are more affected by COVID-19 and how best to communicate with them.

Mosaic segments our population into 15 different classification groups (listed below) which allow us to understand the characteristics, behaviours, trends and preferences of our population. Broadly speaking, these range from well of individuals in Group A to poorer people living in more deprived areas in Group O.

Mosaic uses over 400 data elements. As well as Experian data and other market research, Mosaic is linked to a number of specific public sector data sources from criminal justice, education, the environment and health, as well as central and local government.

Mosaic is an indication of the types of households that live in an area, but it is also a particular snapshot in time (produced annually). The composition of Luton households may have changed from the time of reporting. For this work, and because we only have data at a postcode level, Mosaic has been used to describe the most common group in each postcode area and therefore will not align exactly with the households that have cases.

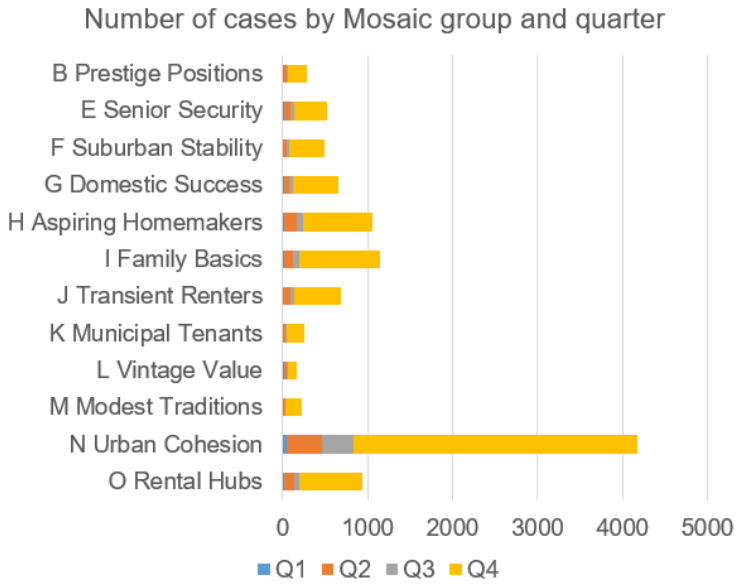
Group / Type	Group / Type Name	One-Line Description
A	City Prosperity	High status city dwellers living in central locations and pursuing careers with high rewards
B	Prestige Positions	Established families in large detached homes living upmarket lifestyles
C	Country Living	Well-off owners in rural locations enjoying the benefits of country life
D	Rural Reality	Householders living in less expensive homes in village communities
E	Senior Security	Elderly people with assets who are enjoying a comfortable retirement
F	Suburban Stability	Mature suburban owners living settled lives in mid-range housing
G	Domestic Success	Thriving families who are busy bringing up children and following careers
H	Aspiring Homemakers	Younger households settling down in housing priced within their means
I	Family Basics	Families with limited resources who budget to make ends meet
J	Transient Renters	Single people renting low cost homes for the short term
K	Municipal Tenants	Urban residents renting high density housing from social landlords
L	Vintage Value	Elderly people with limited pension income, mostly living alone
M	Modest Traditions	Mature homeowners of value homes enjoying stable lifestyles
N	Urban Cohesion	Residents of settled urban communities with a strong sense of identity
O	Rental Hubs	Educated young people privately renting in urban neighbourhoods

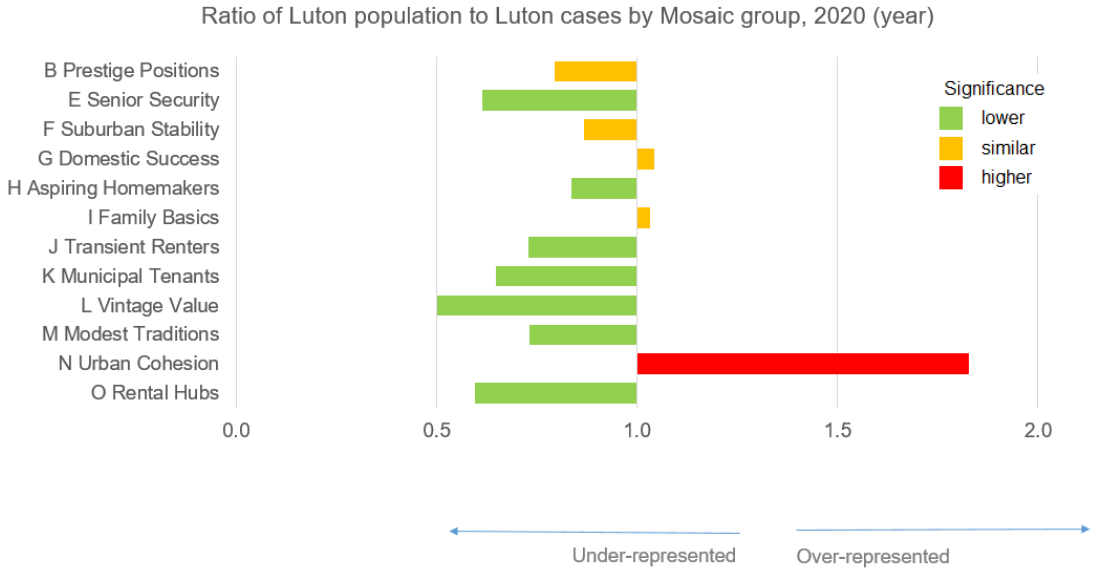
Mosaic 2020 shows a more current view of Luton households which has resulted in a change in the proportions in each group and also in the overall order in which they appear. This is based Mosaic's calculation of household ranking across a range of measures including age, income, housing, no of children, technology etc.

Luton

The Mosaic group Urban Cohesion has had notably more cases than other Mosaic groups and over-representation in this group is statistically significant.

Cases are notably higher in the Urban Cohesion Mosaic group, in terms of numbers and over-representation. The length of the bars in the ratio chart shows the extent of the over / under-representation. The shading represents statistical significance.





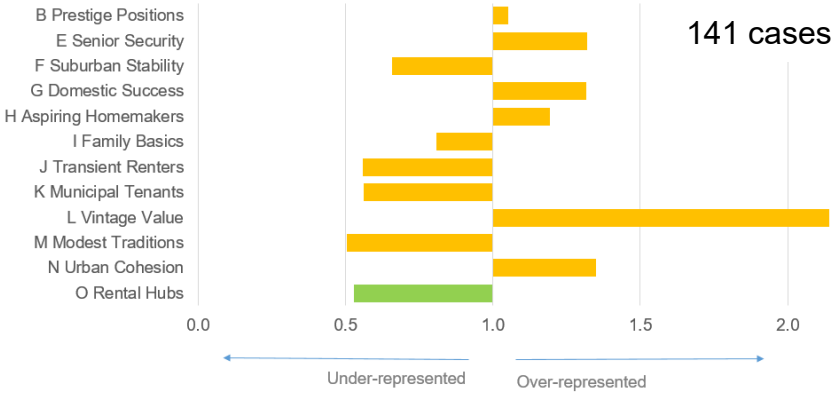
Mosaic profile by quarter for confirmed COVID-19 cases in Luton

Cases are much lower in Q1 and Q3, although Q1 is from the time when testing was generally only for very ill people. There is over-representation in Urban Cohesion across most quarters, with this being statistically significant in Q2, Q3 and Q4. The group Rental Hubs is statistically under-represented throughout.

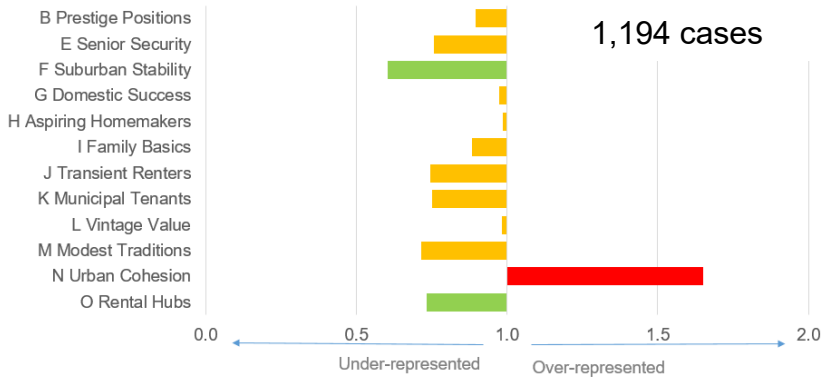
KEY.

Significance
- lower
- similar
- higher

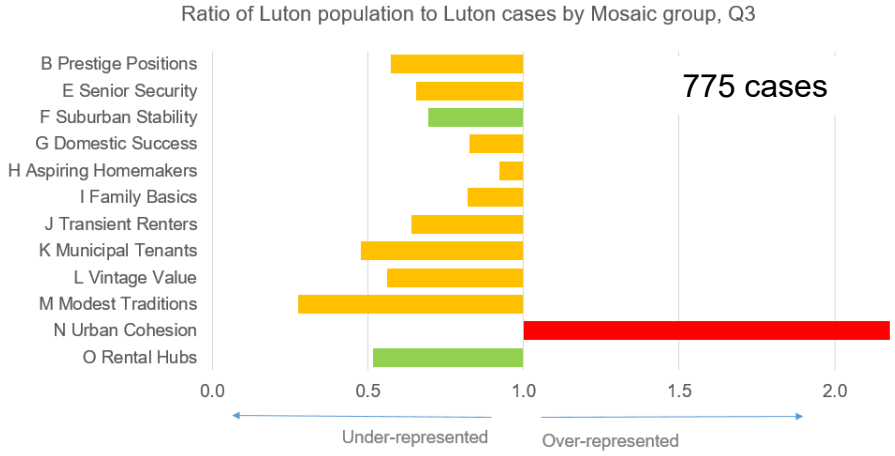
Ratio of Luton population to Luton cases by Mosaic group, Q1



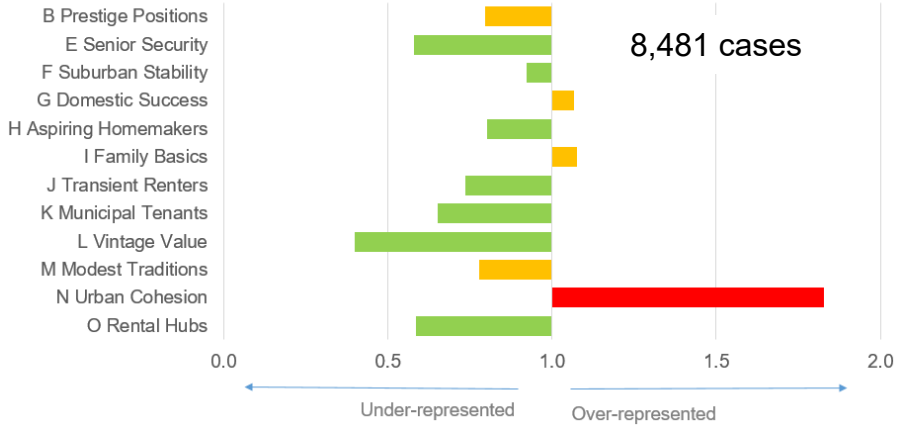
Ratio of Luton population to Luton cases by Mosaic group, Q2



Ratio of Luton population to Luton cases by Mosaic group, Q3

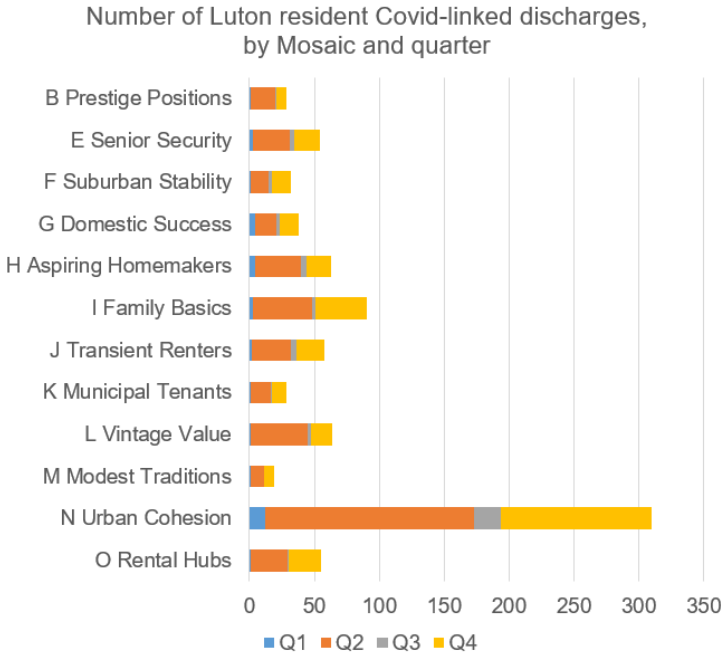


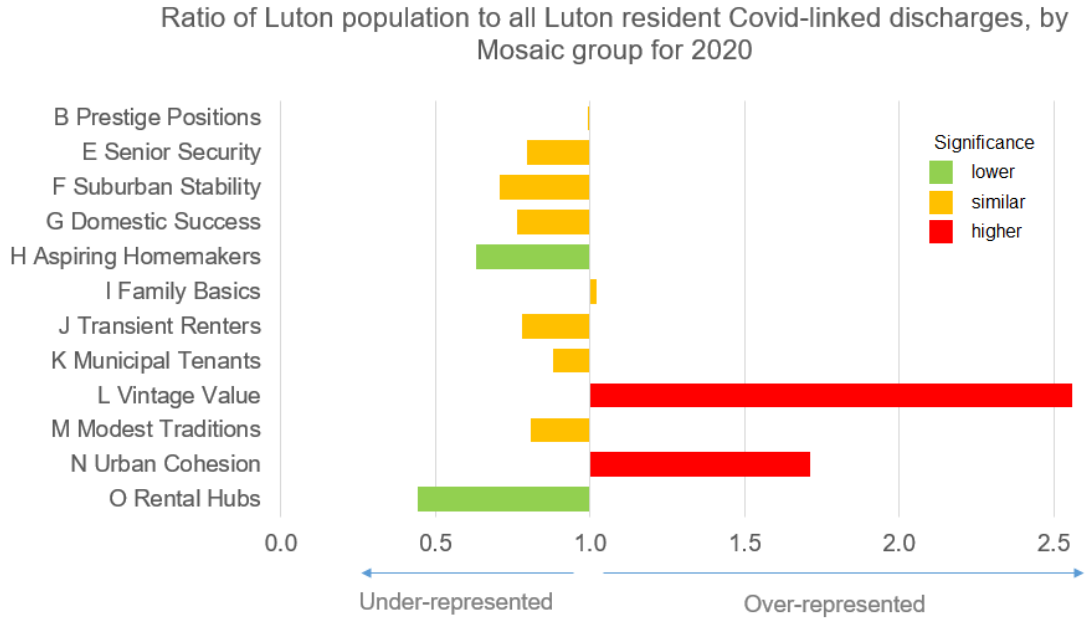
Ratio of Luton population to Luton cases by Mosaic group, Q4



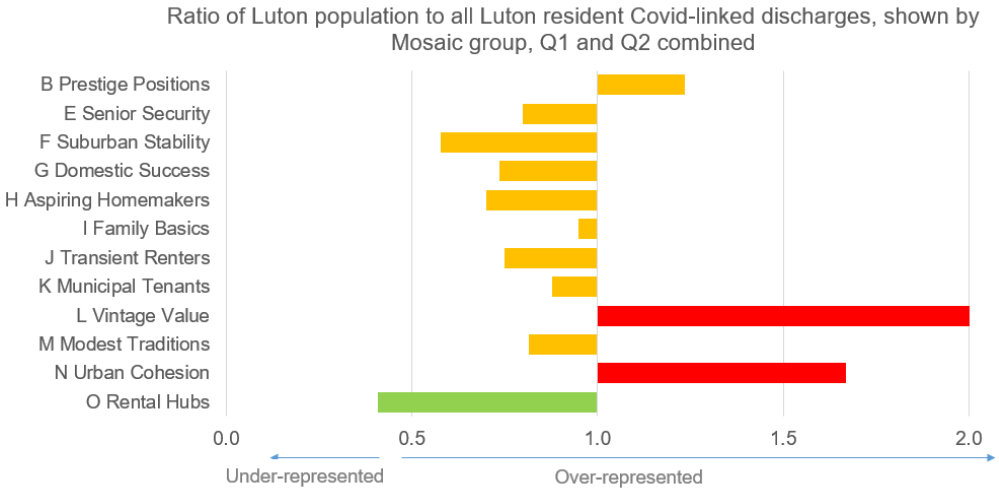
The Mosaic group Urban Cohesion features most highly in the Luton resident Covid-linked hospital discharges and this group is notably over-represented. Vintage Value is also over-represented, despite lower numbers.

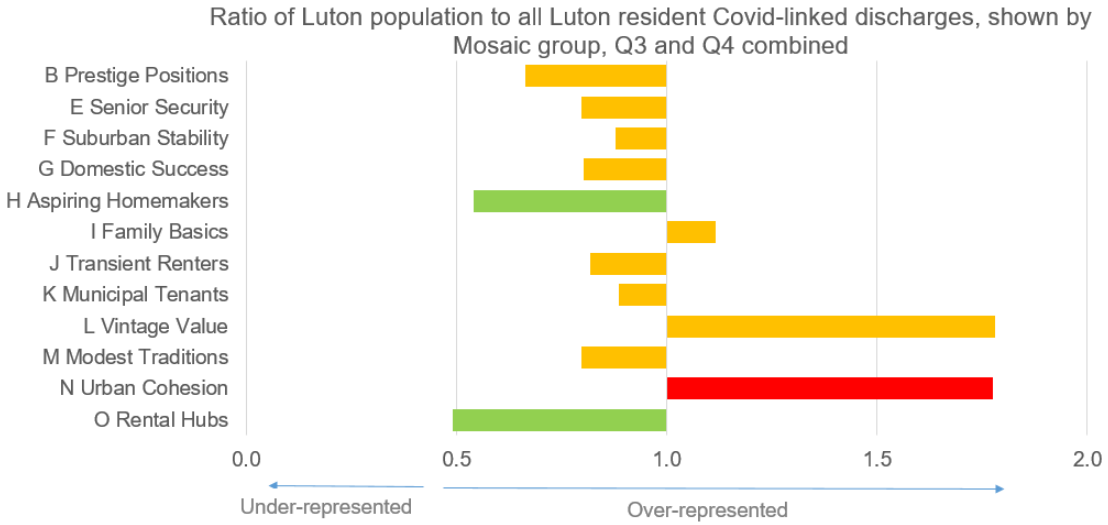
These charts show all Luton resident Covid-linked hospital discharges. These are notably higher in the Urban Cohesion group, with this mainly relating to deaths in Q2 and Q4. Vintage Value is also over-represented, but this is based on lower numbers. The over-representation for both these groups is statistically significant.





Mosaic by quarter – All Luton resident Covid-linked hospital discharges





Numbers are particularly low in Q1 and Q3 so we have combined Q1 and Q2 and Q3 and Q4.

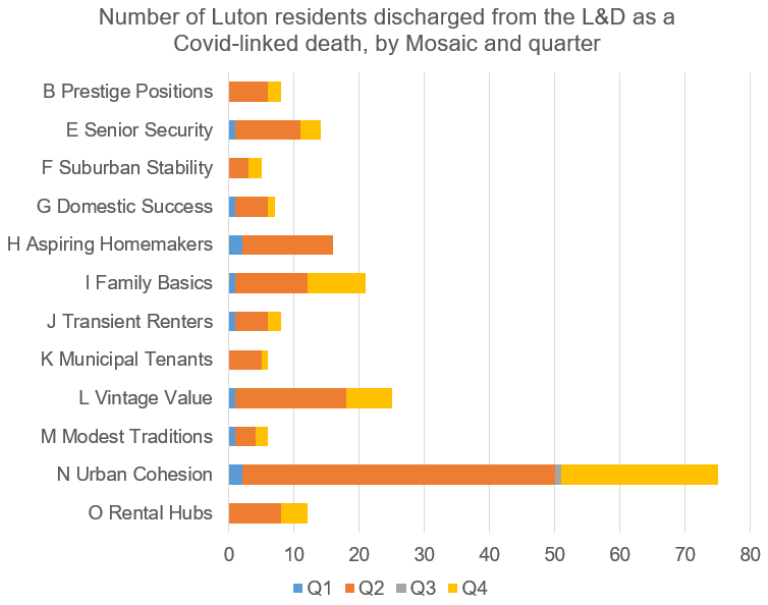
This shows a very similar picture for Urban Cohesion and Vintage Value as there is for the deaths, with both being over-represented at the start of the pandemic and also more recently.

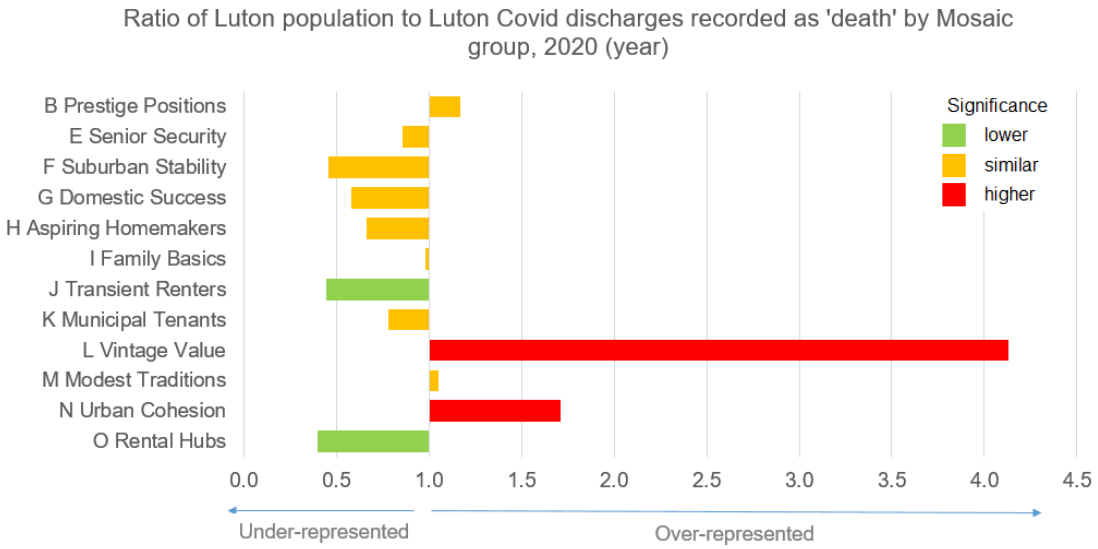
KEY.

Significance
- lower
- similar
- higher

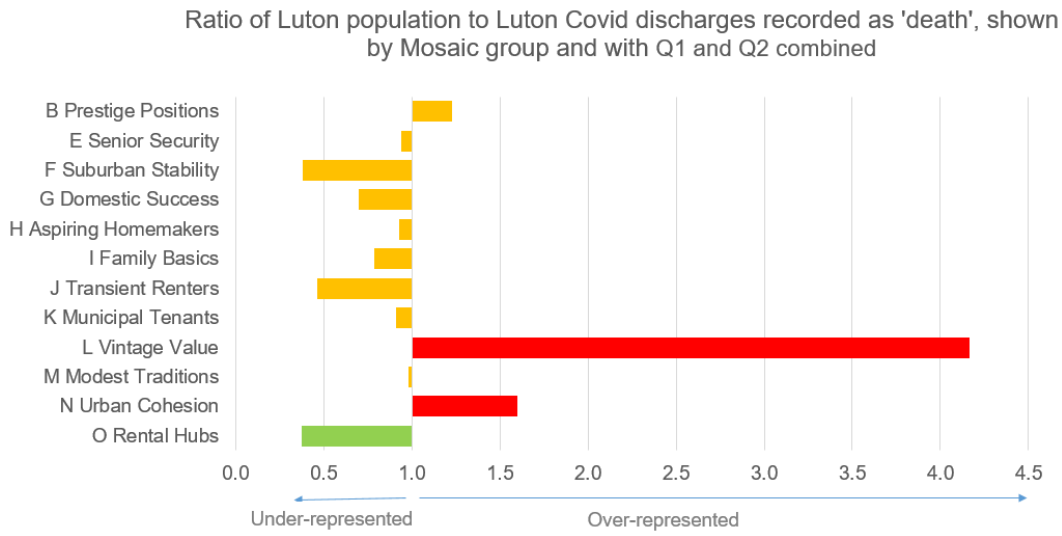
The Mosaic group Urban Cohesion features most highly in the Covid hospital discharges that are recorded as deaths and this group is notably over-represented. Vintage Value is also over-represented, despite lower numbers.

These charts show the Luton resident Covid-linked hospital discharges recorded as deaths. These are notably higher in the Urban Cohesion group, with this mainly relating to deaths in Q2 and Q4. Vintage Value is also over-represented, but this is based on lower numbers. The over-representation for both these groups is statistically significant.



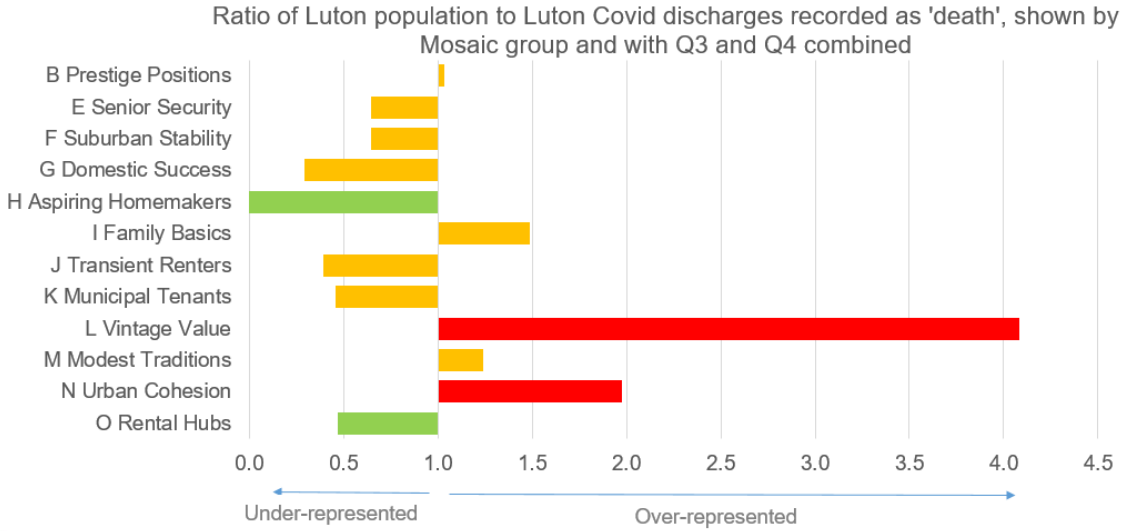


Mosaic by quarter – Luton resident Covid-linked hospital discharges that are recorded as deaths



Numbers are too low, especially in Q3 when there was just one discharge recorded as a death. For this reason, we have combined Q1 and Q2 and Q3 and Q4.

This shows a very similar picture for Urban Cohesion and Vintage Value when the first two quarters are compared with the last two.



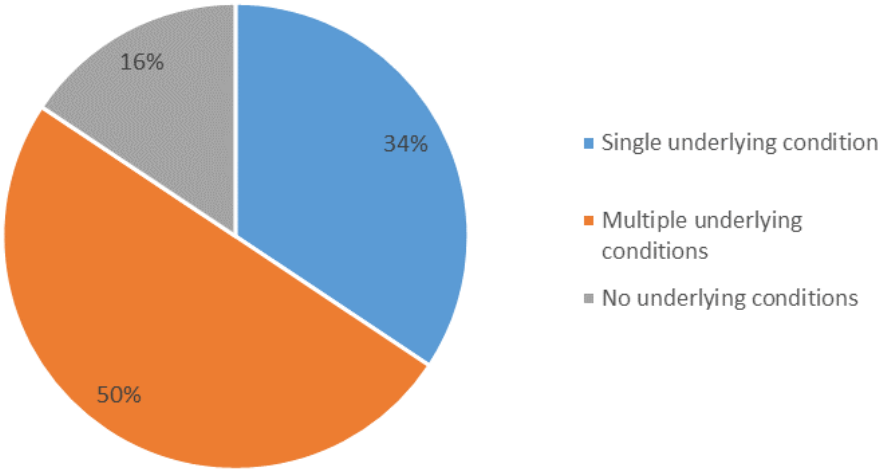
KEY.

Significance

- lower
- similar
- higher

Underlying co-morbidities

Underlying conditions among Luton residents who died from COVID-19 as a contributing factor



In 2020, Public Health England published a report that certain co-morbidities were more commonly reported on death certificates that mentioned COVID-19 than on all cause death certificates. These include diabetes, hypertensive diseases, and chronic obstructive pulmonary disease.

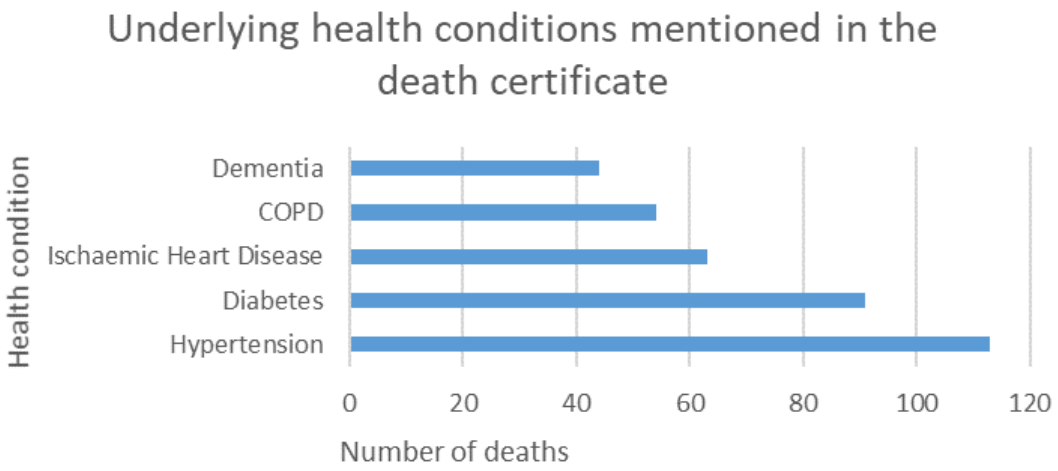
16% of the COVID-19-related deaths of Luton residents (from March to December 2020) had no underlying conditions* mentioned in the death certificate

Around a third had a single underlying condition and half with multiple conditions.

The next slide looks at theses conditions in more detail.

** old age and frailty were excluded from the list of conditions for the purpose of this report*

Commonly reported underlying health conditions on death certificates that mentioned COVID-19 as a contributing factor



The figure to the left shows the conditions that were most commonly mentioned as the leading cause of death, or a significant contributing factor on death certificates of Covid patients*.

Hypertension was listed in almost 40% of cases and diabetes in over 30%.

Around a fifth of all Covid deaths among Luton residents had Ischaemic Heart Disease and a fifth with COPD

** These include deaths with multiple conditions*

Recommendations for future work

- The data from the Registrar's Office is not complete. The data flow from the Registrar's Office should be continued and we will need to ensure the data through to the end of December so that we can complete this reporting.
- Investigate the use of the Primary Care Mortality Database as a source of future mortality data. It will contain more information including the person's postcode at time of death. Postcode would enable us to have some further insight in to the disparities of COVID-19.
- If we are to use care home as an indicator of disability we would ideally have an average number of beds available in Luton care homes and if available an annual census of occupancy.
- The mortality data received from the Registrar do not show ethnic group and this would be a really important potential disparity. It would be advantageous to obtain this information.
- Investigate occupation of confirmed COVID-19 cases to identify the impact of public-facing employment.
- Our estimation of the ethnic breakdown in Luton will improve once the 2020 Census has been completed.