


# COVID-19 in Northern Ireland

## Coronavirus related health inequalities

INFORMATION  
ANALYSIS  
DIRECTORATE 

 Department of  
**Health**  
An Roinn Sláinte  
Máynstríe O Poustíe  
[www.health-ni.gov.uk](http://www.health-ni.gov.uk)

**Individuals with a positive test:**

The infection rate in the 10% **most deprived** areas (3,052 cases per 100,000 population) was **almost two-thirds higher** than the rate in the 10% **least deprived** areas (1,859 cases per 100,000 population) and more than one and a half times the NI average (1,972 cases per 100,000 population).

The rate among **females** (2,050 cases per 100,000 population) was **8% higher** than the rate for **males** (1,893 cases per 100,000 population).

The infection rate among those aged over 65 was **four-fifths higher** in the 10% **most deprived** areas (3,187 cases per 100,000 population) than in the 10% **least deprived** (1,773 cases per 100,000 population) and almost double the NI average (1,643 cases per 100,000 population).

While infection rates were highest in the 10% most deprived areas; the 10% **least deprived** areas had the **second highest infection rate** for over 65s.

The rate in **urban** areas was **over a third higher** than the rate seen in **rural** areas, however the rate was **highest in mixed urban/rural** areas (3,677 cases per 100,000 population).

**Admissions to hospital:**

The admission rate for COVID-19 (confirmed cases) in the 10% **most deprived** areas (275 admissions per 100,000 population) was **more than double** the rate in the 10% **least deprived** areas (126 admissions per 100,000 population).

The admission rate for under 75s in the **most deprived** decile (167 admissions per 100,000 population) was approximately **three times** that in the **least deprived** decile (55 admissions per 100,000 population).

In comparison, the 75 and over rate for the **most deprived** decile was almost **three-fifths higher** than the rate in the **least deprived** decile.

While deprivation was found to be an important factor of the likelihood of admissions, age was found to have a greater impact. The standardised rate for the population **aged 75 and over** (890 admissions per 100,000 population) was **over 9 times** that for the **under 75** population (97 admissions per 100,000 population).

**Deaths:**

The COVID-19 death rate in the 10% **most deprived** areas (77 deaths per 100,000 population) was **almost two-fifths higher** than the rate in the 10% **least deprived** areas (56 deaths per 100,000 population) and almost one and a half times the NI average (53 deaths per 100,000 population).

The rate among **males** (67 deaths per 100,000 population) was **one and a half times** the rate for **females** (44 deaths per 100,000 population).

Similar to mixed urban/rural areas, the death rate in **urban** areas (63 deaths per 100,000 population) was **double** the rate seen in **rural** areas (32 deaths per 100,000 population).

The standardised COVID-19 death rate for the population **aged 75 and over** (477 deaths per 100,000 population) was **9 times** that for **all ages** (53 deaths per 100,000 population).

The over 75 COVID-19 death rate was highest in the 10% **most deprived** areas (717 deaths per 100,000 population) where it was **three-tenths higher** than the rate in the 10% **least deprived** areas (549 deaths per 100,000 population) and one and a half times the NI average (477 deaths per 100,000 population).

## Individuals with a positive laboratory completed test for COVID-19

The age standardised infection rate (based on positive tests) in Northern Ireland stood at 1,972 cases per 100,000 population. The rate among females (2,050 cases per 100,000 population) was 8% higher than the rate among males (1,893 cases per 100,000 population).

Fig 1. Standardised Infection Rate, by Sex

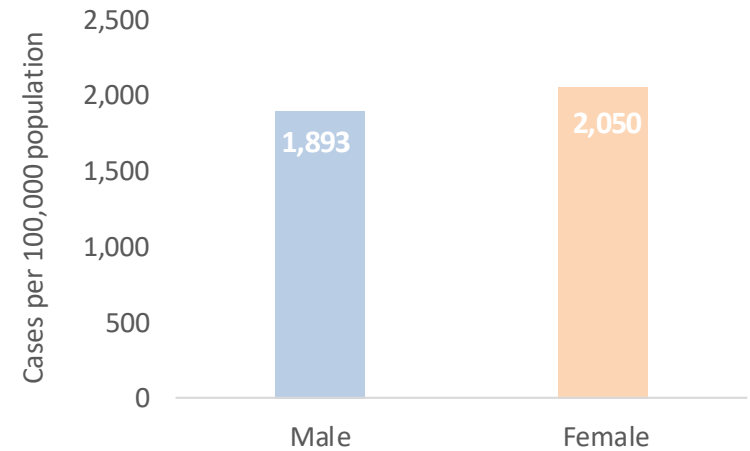
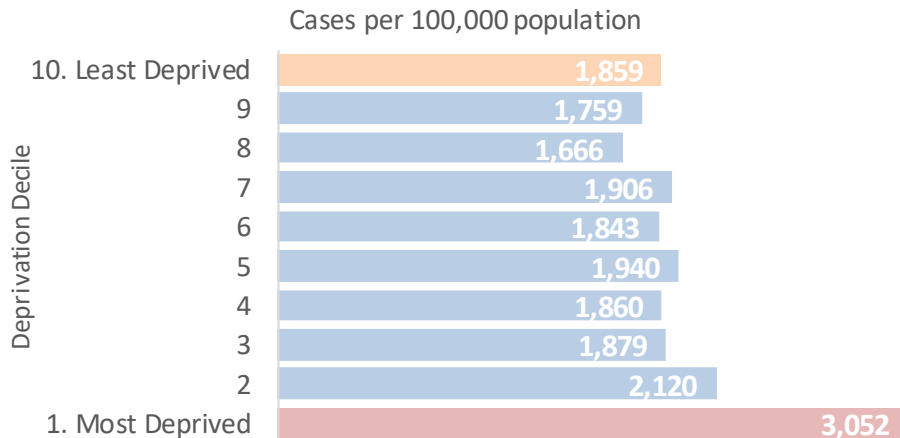


Fig 2. Standardised Infection Rate, by Deprivation Decile



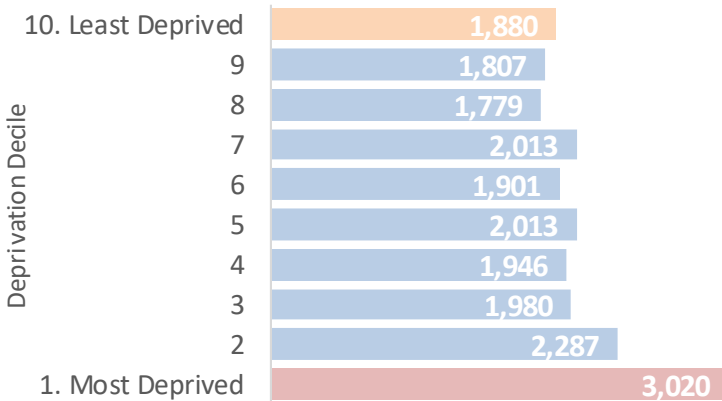
The infection rate was highest in the 10% **most deprived** areas (3,052 cases per 100,000 population) which was 64% higher than the rate in the 10% least deprived areas (1,859 cases per 100,000 population) and 55% higher than the Northern Ireland average (1,972 cases per 100,000 population).

Note 1: Refers only to the number of individuals with a positive HSC Trust or National Initiative Laboratory Completed Test for COVID-19. For further information see DoH Daily Dashboard at <https://www.nisra.gov.uk/statistics/ni-summary-statistics/coronavirus-covid-19-statistics..>

Note 2: Observations by decile may be explained by factors other than deprivation such as occupation and/or population density (see appendix 1 for further information).

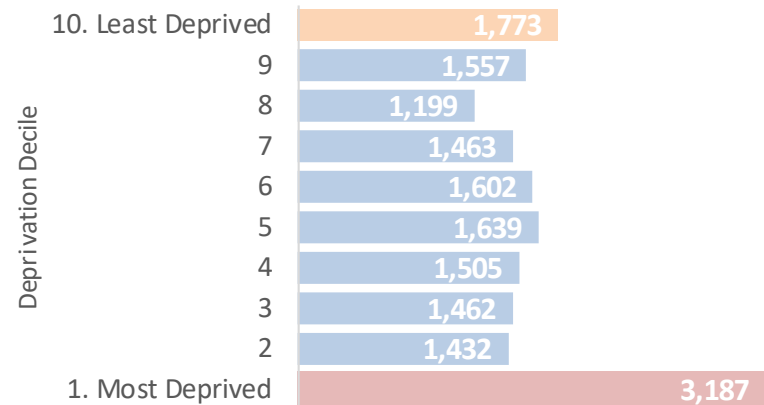
The standardised infection rate among those **aged over 65** in the 10% most deprived areas (3,187 cases per 100,000 population) was four-fifths higher than the rate in the 10% least deprived (1,773 cases per 100,000 population) and almost double the NI average (1,643 cases per 100,000 population).

**Fig 4. Standardised Infection Rate (Aged 65 and under), by Deprivation Decile**



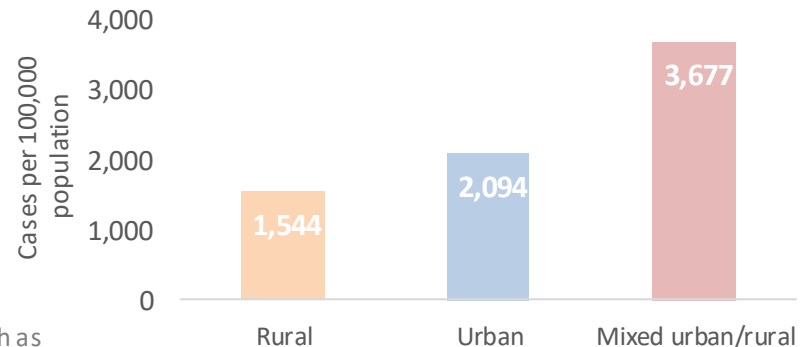
The infection rate was lowest in **rural** areas (1,544 cases per 100,000 population) where population is relatively sparse. The rate in urban areas was a third higher than the rate seen in rural areas, however the rate was highest in mixed urban/rural areas (3,677 cases per 100,000 population).

**Fig 3. Standardised Infection Rate (Over 65s), by Deprivation Decile**



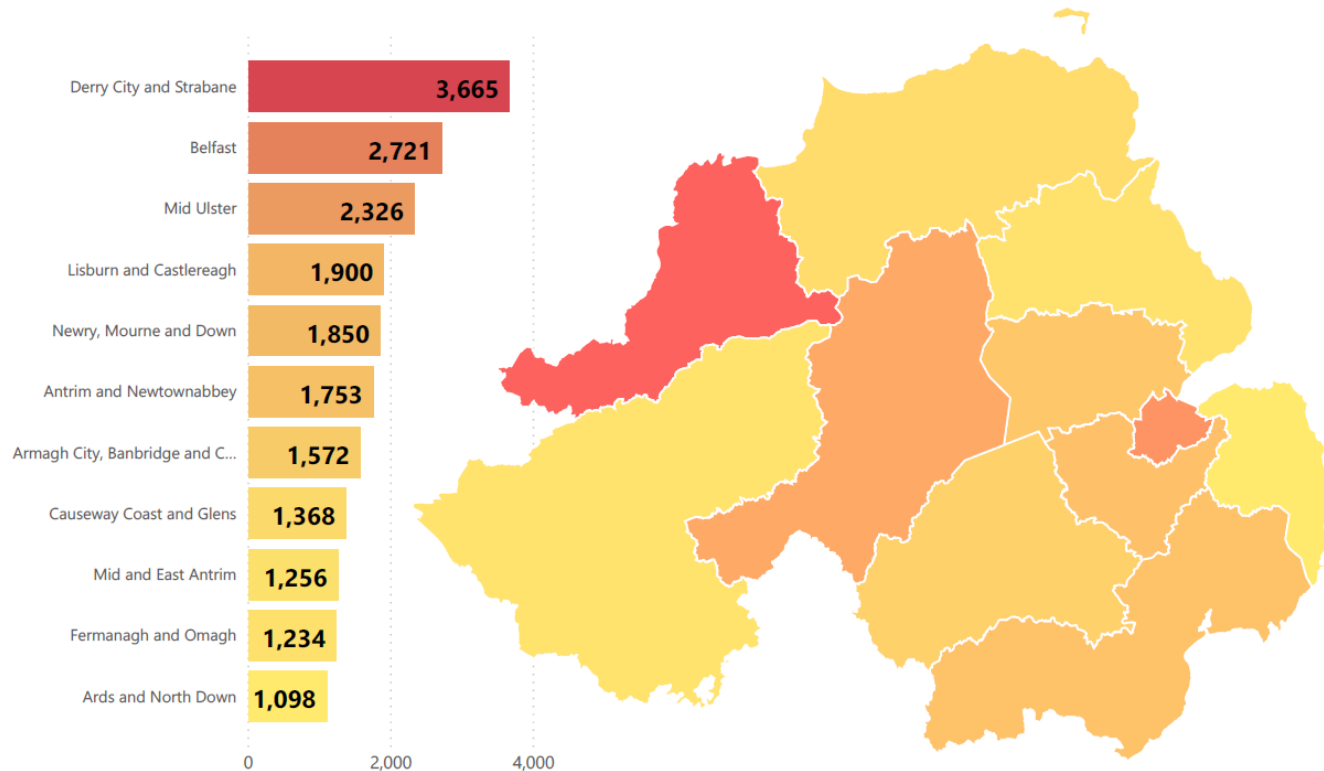
The standardised infection rate among those aged **65 and under** in the 10% most deprived areas (3,020 cases per 100,000 population) was 61% higher than the rate in the least deprived (1,880 cases per 100,000 population) and 47% higher than the NI average (2,051 cases per 100,000 population).

**Fig 5. Standardised Infection Rate, by Urban/Rural**



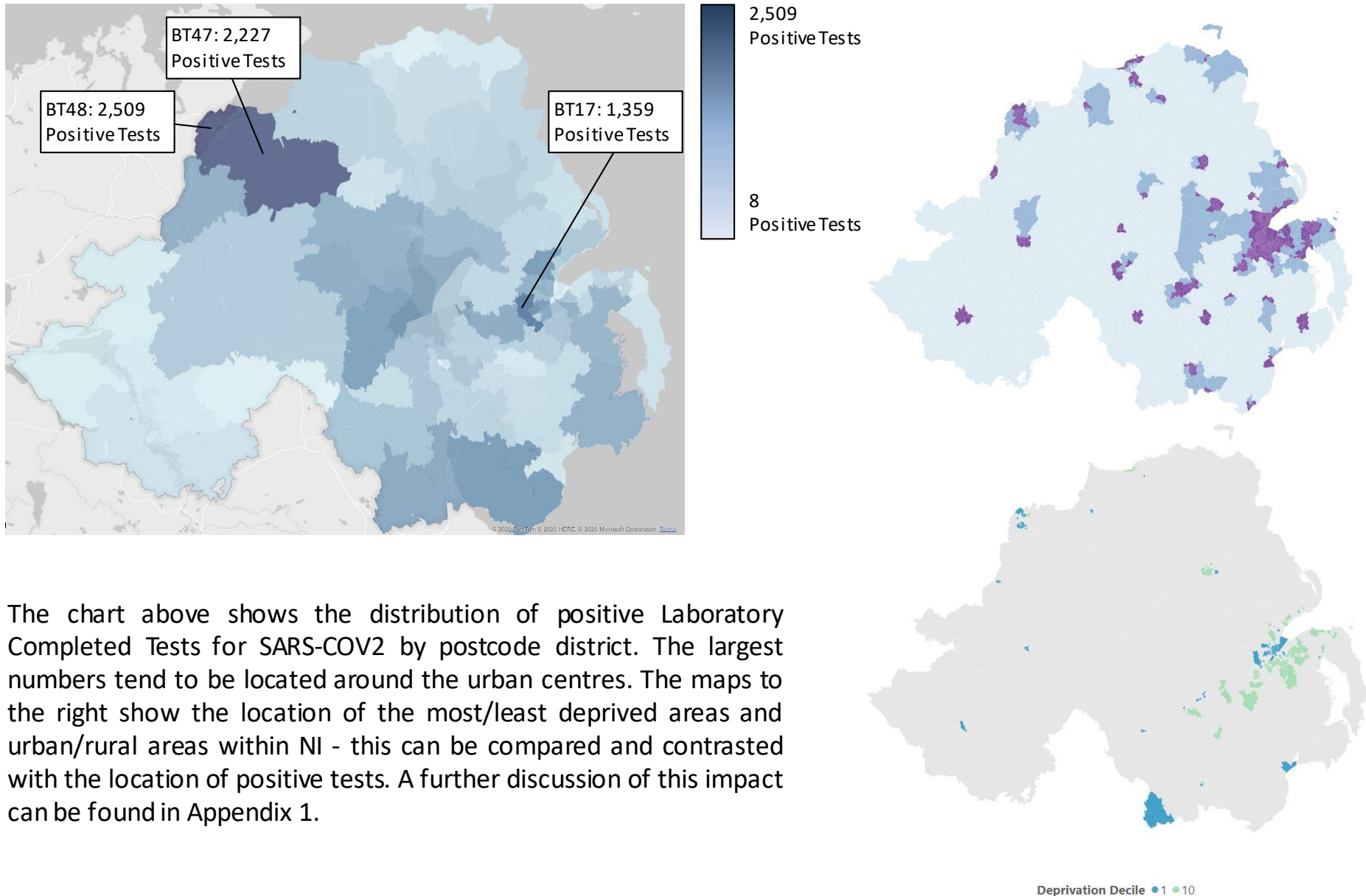
Note 2: Observations by decile may be explained by factors other than deprivation such as occupation and/or population density (see appendix 1 for further information).

Fig 9. Standardised Infection Rate for COVID-19, by Local Government District



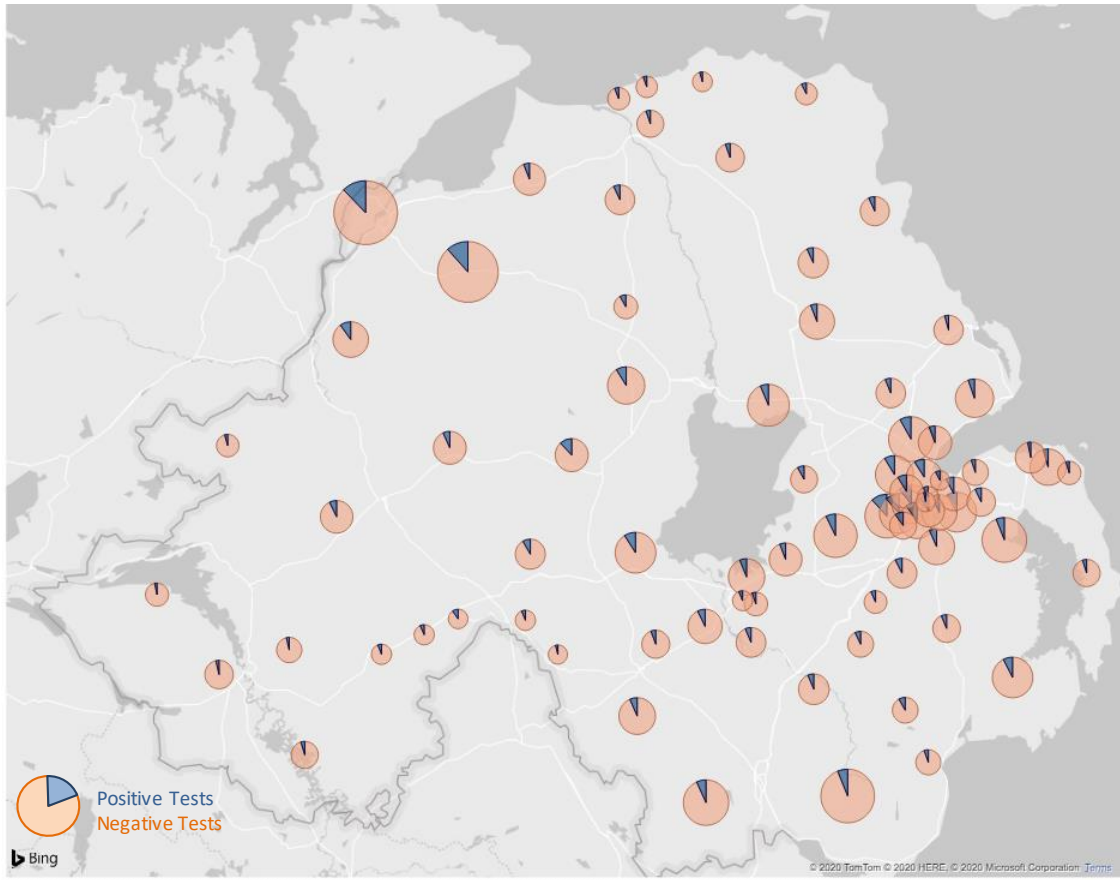
Across Northern Ireland, the infection rate was highest in the Derry & Strabane LGD (3,665 cases per 100,000 population) and lowest in the Ards & North Down LGD area (1,098 cases per 100,000 population). Similar to the infection rate for all ages, Derry & Strabane and Belfast LGDs also showed the highest infection rates among those aged over 65 years, and those aged under 65 years.

Fig 10. Positive Tests for COVID-19 by Postcode District

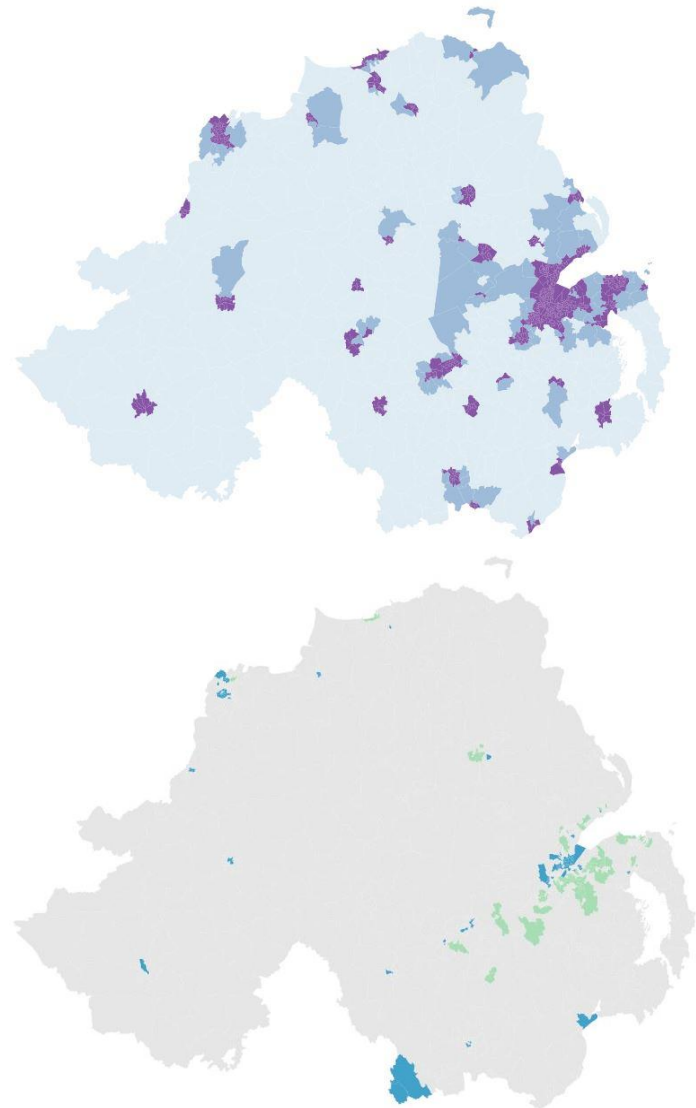


The chart above shows the distribution of positive Laboratory Completed Tests for SARS-COV2 by postcode district. The largest numbers tend to be located around the urban centres. The maps to the right show the location of the most/least deprived areas and urban/rural areas within NI - this can be compared and contrasted with the location of positive tests. A further discussion of this impact can be found in Appendix 1.

Fig 11. All Tests for COVID-19 by Test Result and Postcode District



Area Classification ● Mixed urban/rural ● Rural ● Urban



Deprivation Decile ● 1 ● 10

A larger proportion of positive tests tend to be recorded in those areas where a greater number of tests have taken place. The maps to the right show the location of the most/least deprived areas and urban/rural areas within NI - this can be compared and contrasted with the location of tests. A further discussion of this impact can be found in Appendix 1.

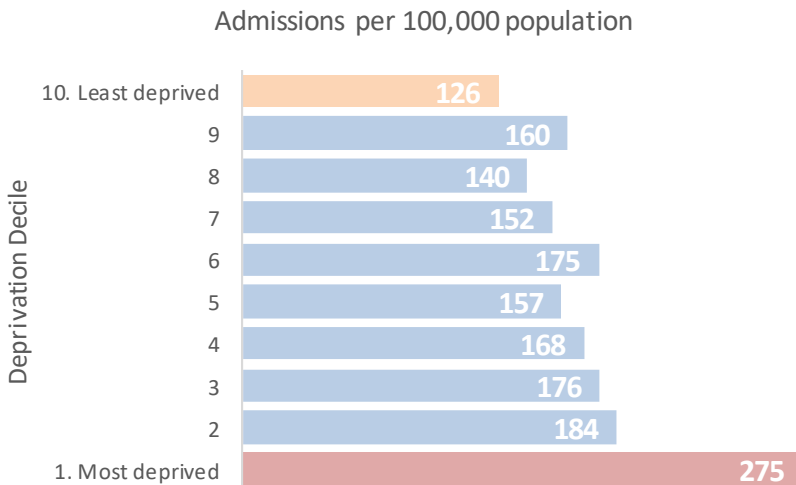
Note: Points on the map are placed at the centre of the postcode district and do not show the actual location of a test result. The size of the circle is proportional to the number of tests.



## Patients admitted to hospital with confirmed COVID-19

The age standardised admission rate for confirmed covid-19 cases in Northern Ireland stood at 168 admissions per 100,000 population. The rate among males (211 admissions per 100,000 population) was 55% higher than the rate of their female counterparts (136 admissions per 100,000 population).

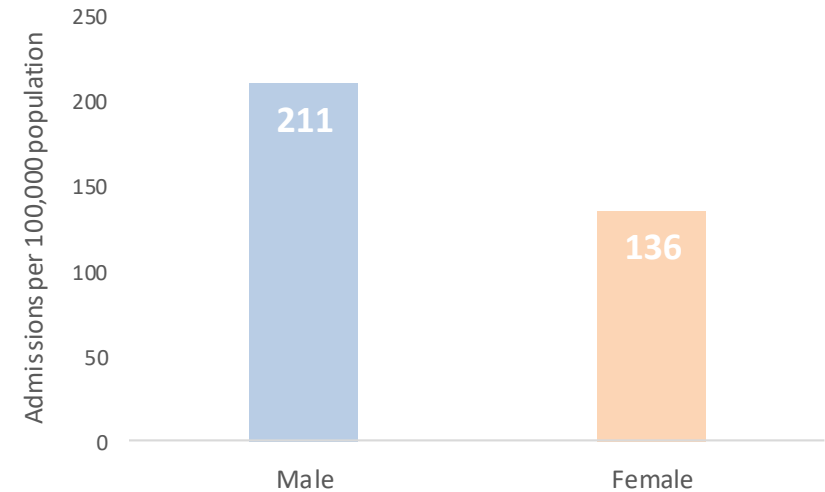
Fig 13. Standardised Admission Rate, by Deprivation Decile



Note1: Information relates to any admission to hospital with confirmed COVID-19, identified using specific Method of Admission Codes (CC, CE, CS or CR) and Specialty Codes (COVC) and excluding internal admissions. Figures include patients admitted for other reasons but who subsequently tested positive for COVID-19. Information is sourced from the Hospital Patient Administration System. For further information see DoH Daily Dashboard at <https://www.nisra.gov.uk/statistics/ni-summary-statistics/coronavirus-covid-19-statistics>.

Note 2: Observations by decile may be explained by factors other than deprivation such as occupation and/or population density (see appendix 1 for further information).

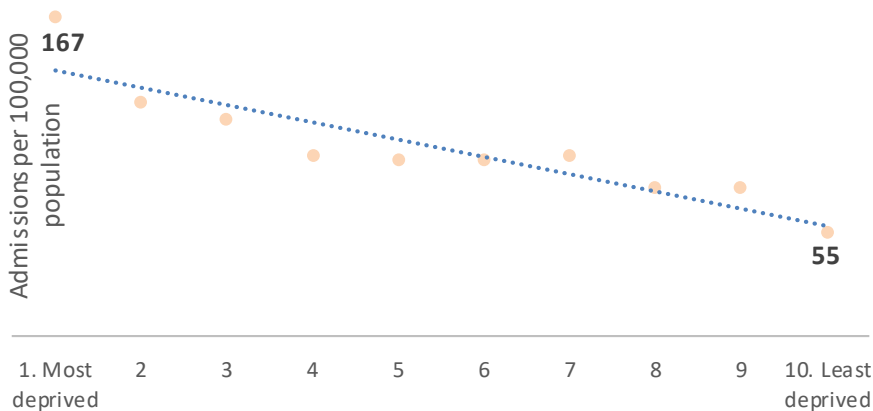
Fig 12. Standardised Admission Rate, by Sex



The admission rate was highest in the 10% **most deprived** areas (275 admissions per 100,000 population) which was more than double the rate in the 10% least deprived areas (126 admissions per 100,000 population) and 64% higher than the Northern Ireland average (168 admissions per 100,000 population).

The standardised admission rate for the population **aged 75 and over** (890 admissions per 100,000 population) was around 9 times that for the **under 75** population (97 admissions per 100,000 population).

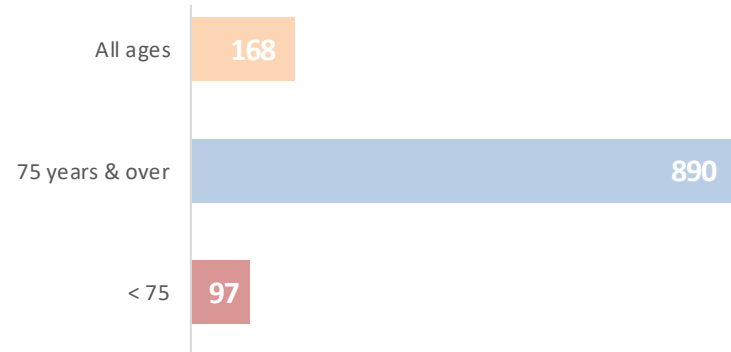
Fig 15. Standardised Admission Rate (Under 75s), by Deprivation Decile



In comparison, the rate for **over 75s** in the most deprived decile was 62% higher than in the least deprived decile. This would suggest that while both have an effect, higher age has a greater impact on hospital admission rates for the infection than higher deprivation does.

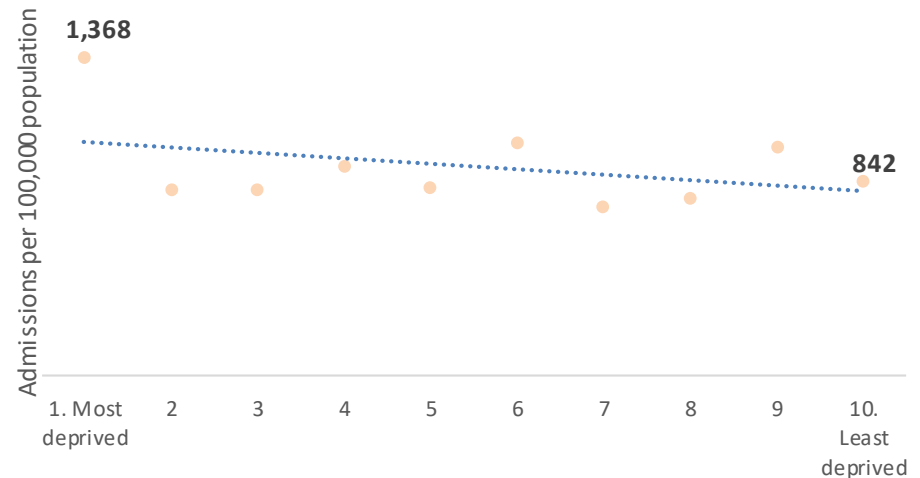
Note: observations by decile may be explained by factors other than deprivation such as occupation and/or population density (see appendix 1 for further information).

Fig 14. Standardised Admission Rate, by Age Group



Admission rates generally decreased across the social gradient for all age groups. The standardised admission rates for the **under 75s** in the most deprived decile (167 admissions per 100,000 population) was approximately three times that in the least deprived decile (55 admissions per 100,000 population).

Fig 16. Standardised Admission Rate (Over 75s), by Deprivation Decile



The lowest admission rate occurred in **rural** areas (111 admissions per 100,000 population) which was less than half that seen in mixed urban/rural areas (260 admissions per 100,000 population).

Fig 17. Standardised Admission Rate, by Urban/Rural

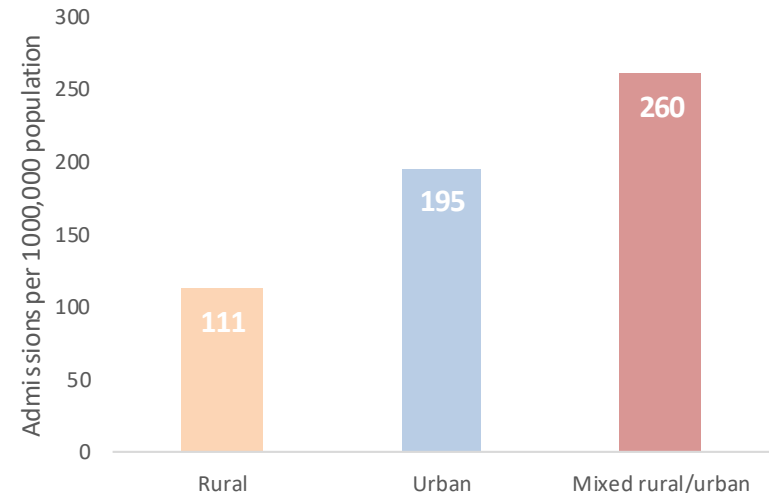
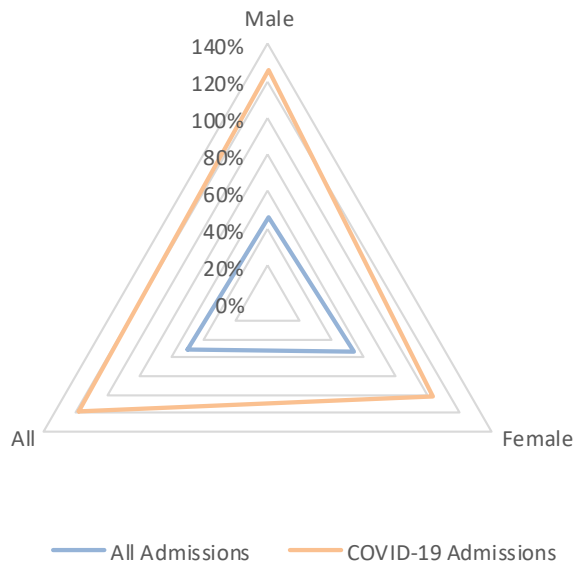


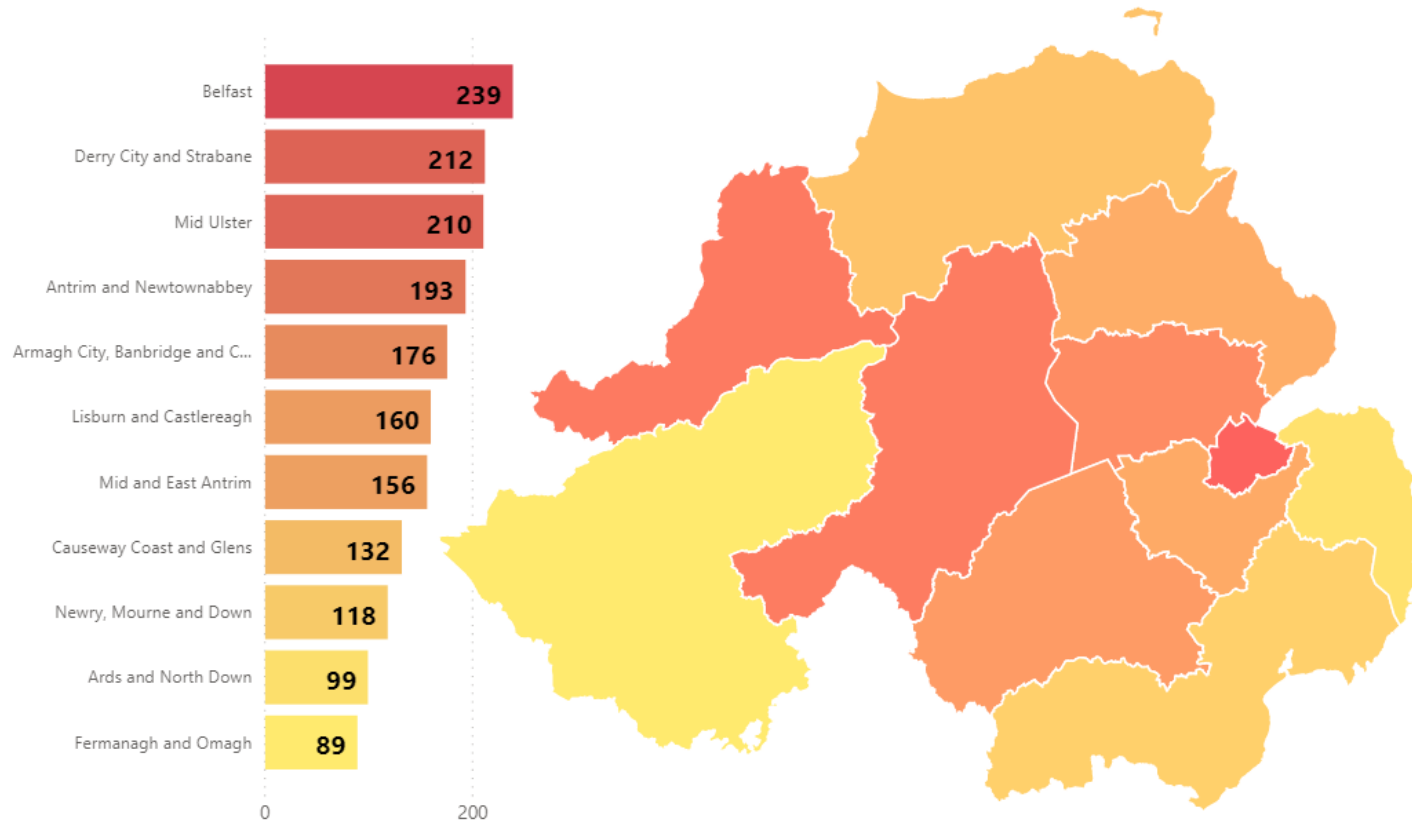
Fig 18. Inequality Gap in COVID-19 admissions compared with all admissions



Over the analysed period, the inequality gap between the 10% most and least deprived areas for confirmed COVID-19 admissions was notably higher than for all admissions, for both males and females.

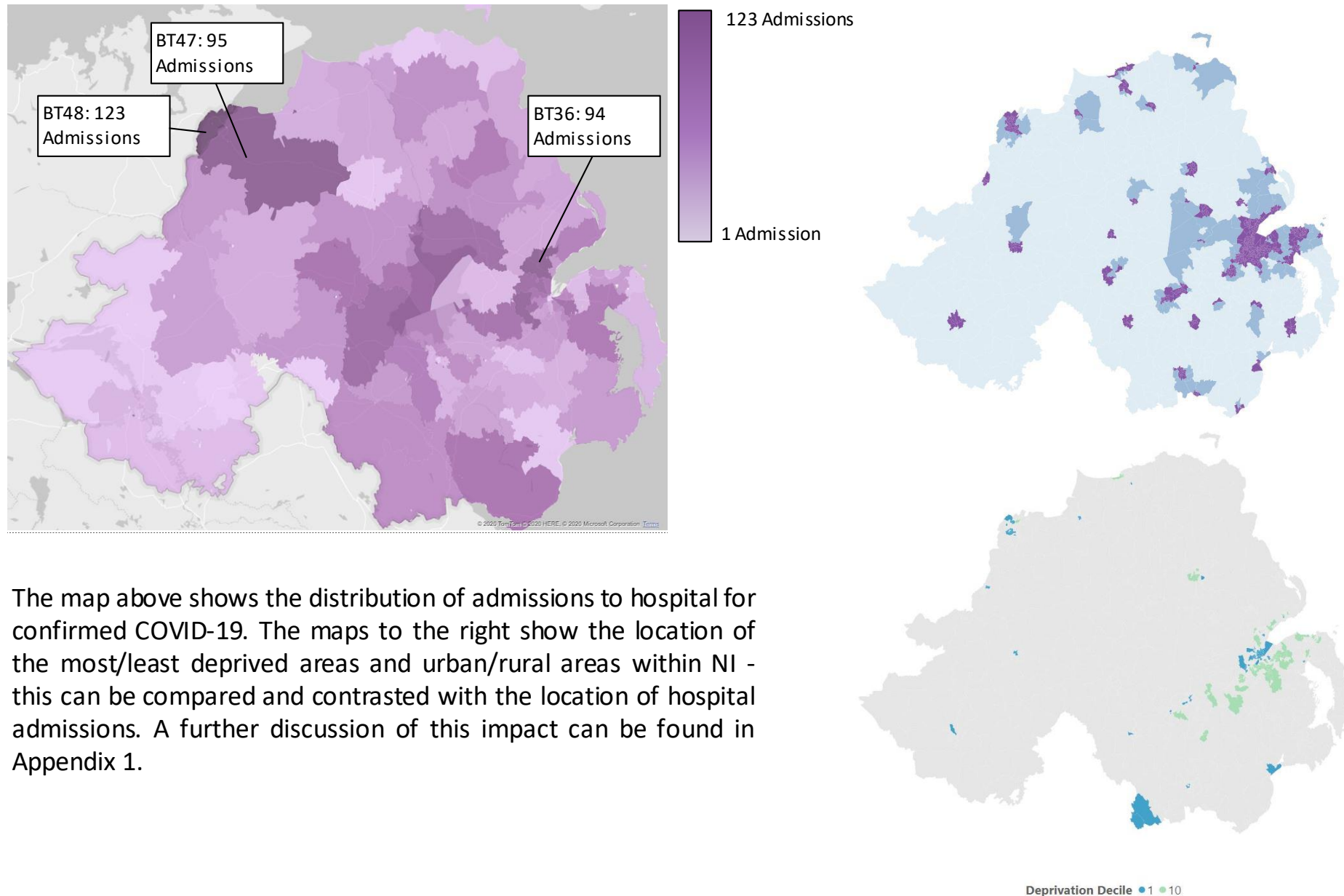
For all admissions, the rate in the 10% most deprived areas was 50% higher than in the least deprived areas, while the inequality gap for confirmed COVID-19 admissions was more than double that (119%).

Fig 19. Standardised Admission Rate for COVID-19, by Local Government District



Across Northern Ireland, the standardised admission rate was highest in the Belfast LGD (239 admissions per 100,000 population) and lowest in the Fermanagh & Omagh LGD area (89 admissions per 100,000 population).

Fig 20. Admissions to Hospital with Confirmed COVID-19 by Postcode District

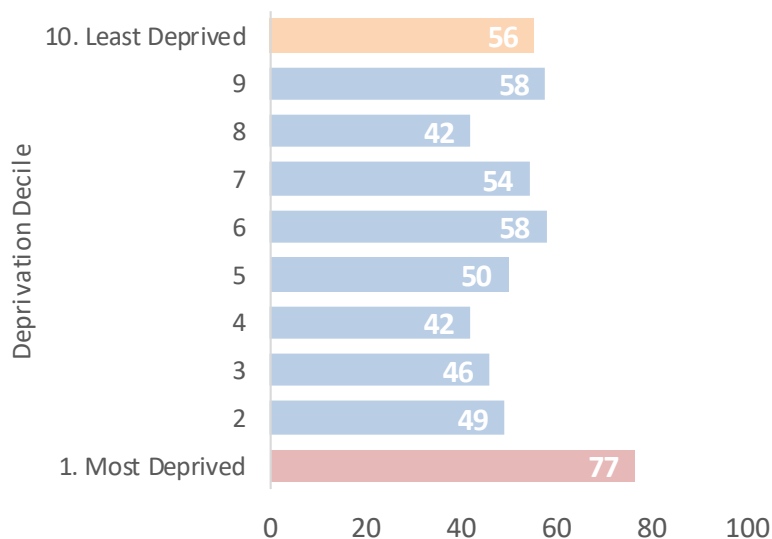


The map above shows the distribution of admissions to hospital for confirmed COVID-19. The maps to the right show the location of the most/least deprived areas and urban/rural areas within NI - this can be compared and contrasted with the location of hospital admissions. A further discussion of this impact can be found in Appendix 1.

## COVID-19 Deaths

The age standardised death rate in Northern Ireland stood at 53 deaths per 100,000 population. The rate among males (67 deaths per 100,000 population) was 53% higher than the rate for females (44 deaths per 100,000 population). As 80% of all COVID-19 deaths recorded were aged 75 and over, an analysis of deprivation for those aged under 75 is not presented due to the low numbers involved.

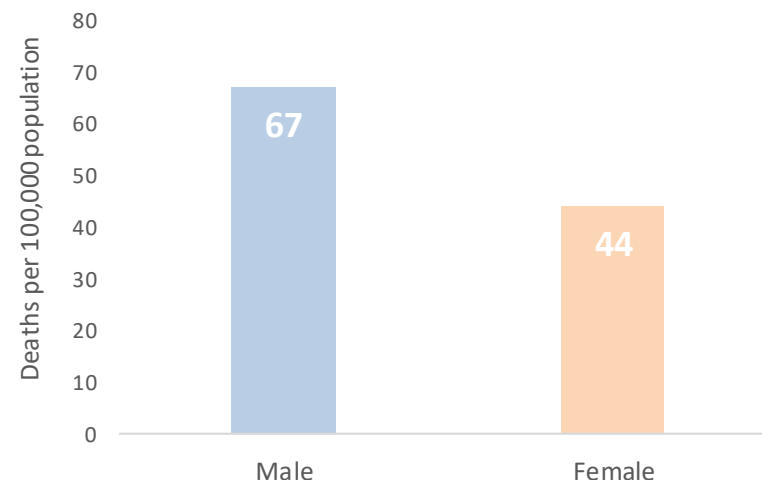
Fig 22. Standardised Death Rate, by Deprivation Decile



Note 1: Information presented is based on date of death registration where Covid-19 was the underlying cause of death.

Note 2: It is important to note that a high proportion of COVID-19 deaths are in care homes and this should be considered when examining results by deprivation decile.

Fig 21. Standardised Death Rate, by Sex



The COVID-19 death rate was highest in the 10% **most deprived** areas (77 deaths per 100,000 population) where it was almost two-fifths higher than the rate in the 10% **least deprived** areas (56 deaths per 100,000 population) and almost one and a half times the NI average (53 deaths per 100,000 population).

The standardised COVID-19 death rate for the population **aged 75 and over** (477 deaths per 100,000 population) was 9 times that for **all ages** (53 deaths per 100,000 population).

Fig 23. Standardised Death Rate, by Age Group

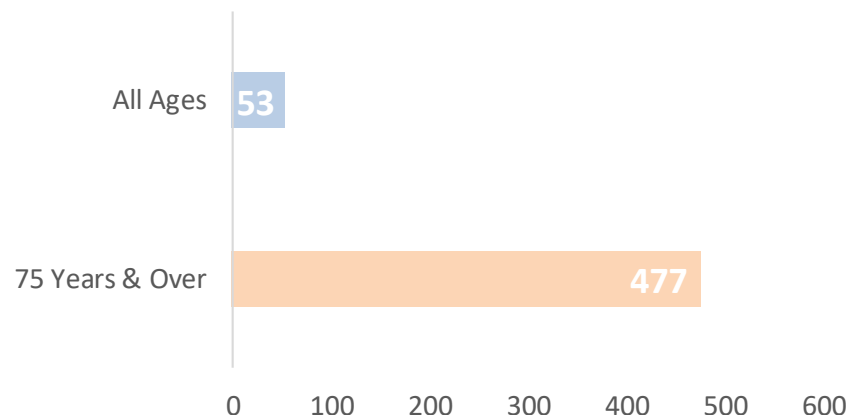
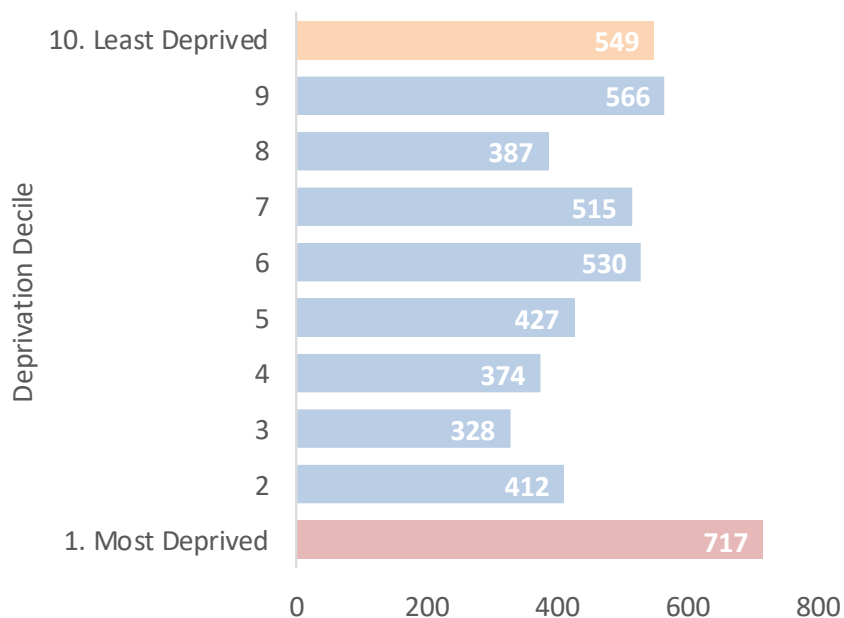


Fig 24. Standardised Death Rate (Over 75s), by Deprivation Decile



The over 75 death rate was highest in the 10% **most deprived** areas (717 deaths per 100,000 population) where it was three-tenths higher than the rate in the 10% **least deprived** areas (549 deaths per 100,000 population) and one and a half times the NI average (477 deaths per 100,000 population).

Note 1: Information presented is based on date of death registration where Covid-19 was the underlying cause of death.

Note 2: It is important to note that a high proportion of COVID-19 deaths are in care homes and this should be considered when examining results by deprivation decile.

As with the infection and admission rates, the COVID-19 death rate was lowest in **rural** areas (32 deaths per 100,000 population). Death rates seen in urban areas (63 deaths per 100,000 population) and mixed urban/rural areas (64 deaths per 100,000 population) were double the rate seen in rural areas.

Fig 25. Standardised Death Rate, by Urban/Rural

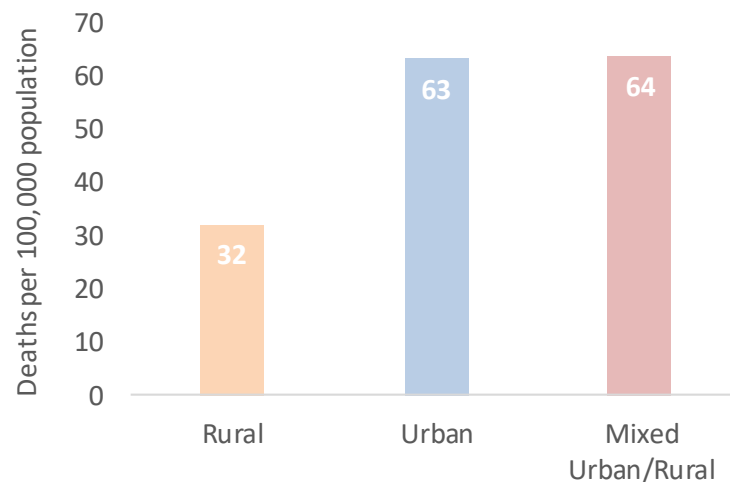
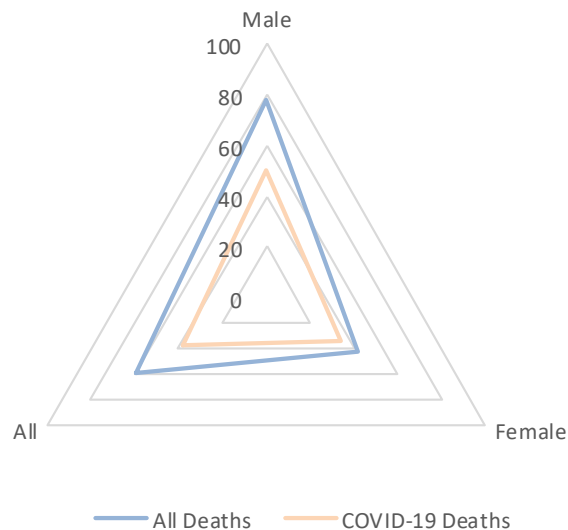


Fig 26. Inequality Gap in COVID-19 deaths compared with all deaths



Over the analysed period, the inequality gap between the 10% most and least deprived areas for COVID-19 deaths was lower than for all deaths, for both males and females.

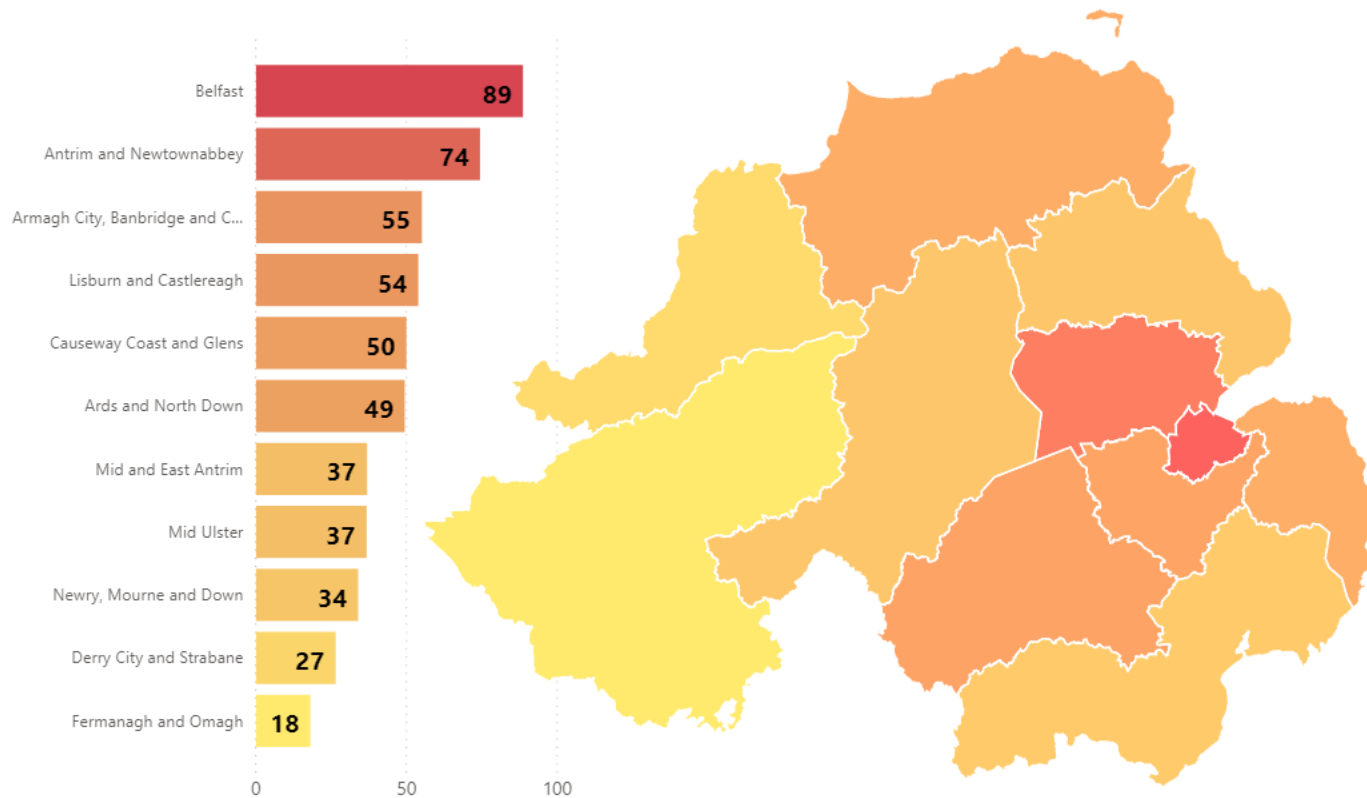
For all deaths, the rate in the 10% most deprived areas was 59% higher than in the least deprived areas, while the inequality gap for COVID-19 deaths was 21 percentage points lower (38%).

Note 1: Information presented is based on date of death registration where Covid-19 was the underlying cause of death

Note 2: It is important to note that a high proportion of COVID-19 deaths are in care homes and this should be considered when examining results by urban/rural location.



Fig 27. Standardised Death Rate for COVID-19, by Local Government District



Across Northern Ireland, the standardised death rate was highest in the Belfast LGD (89 deaths per 100,000 population) and lowest in the Fermanagh & Omagh LGD area (18 deaths per 100,000 population).

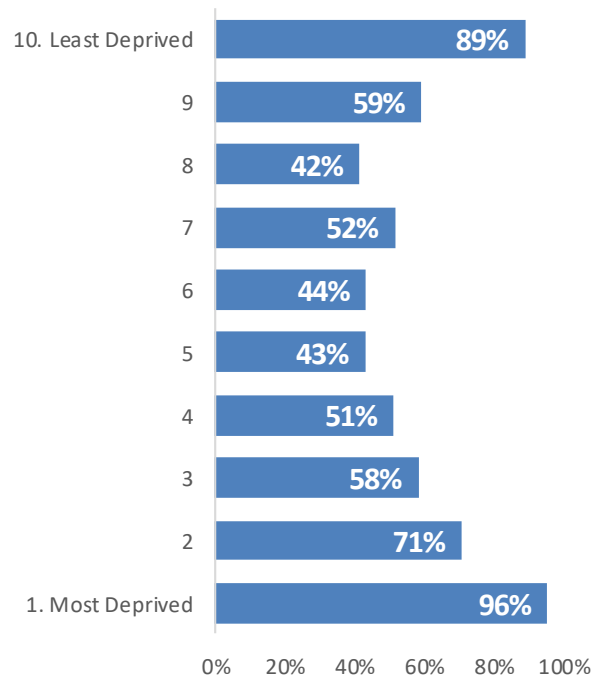
## Important contextual information

### Population density of deprivation deciles

While the analysis in this report has shown that COVID-19 infection rates were highest in the 10% most deprived areas of Northern Ireland, there may be factors other than deprivation that contributed to the observation such as occupation and/or population density. This may also be important to note for the 10% least deprived areas where infection rates were also relatively high.

As can be seen to the right, a very high proportion of the population living within the most and least deprived deciles of NI are located within areas classified as urban where population density is relatively high.

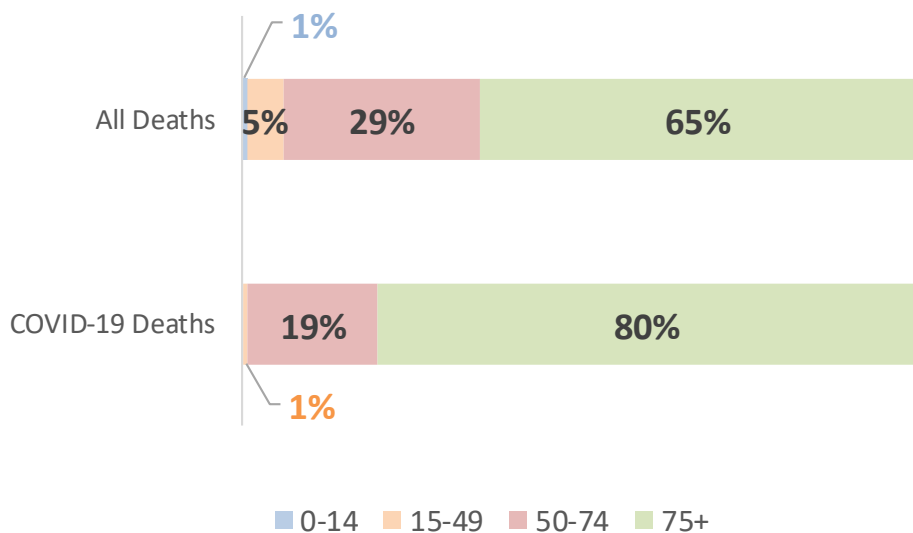
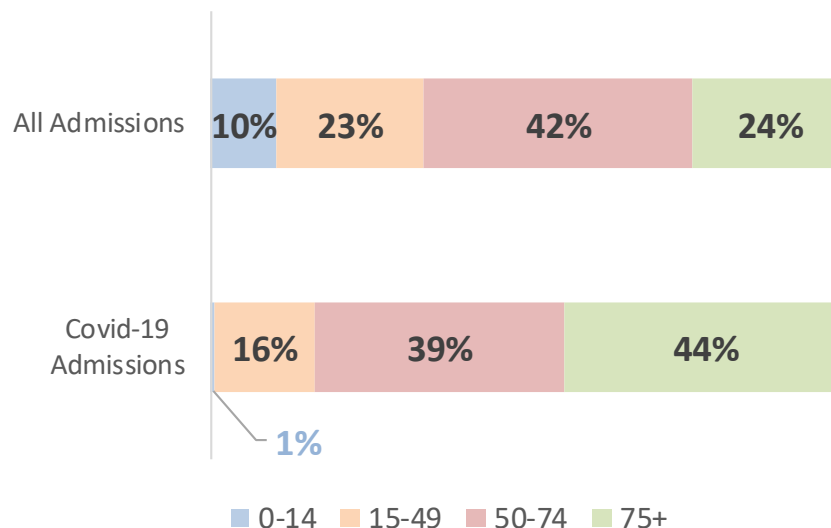
Fig 28. Percentage of population residing in urban areas, by deprivation decile



## Important contextual information

### Age breakdown: admissions and COVID-19 admissions

COVID-19 admissions show an older age profile than that associated with all admissions. Over two-fifths (44%) of COVID-19 admissions were to persons aged 75 years and over compared with 24% for all admissions.



### Age breakdown: deaths and COVID-19 deaths

COVID-19 deaths also show an older age profile than that associated with all deaths. Four-fifths (80%) of COVID-19 deaths were to persons aged 75 years and over compared with 65% for all deaths.

### General

- All information contained in this report is based on the known position as at 9am 27<sup>th</sup> October 2020 with the exception of deaths which is based on all death registered from 1<sup>st</sup> January to 30<sup>th</sup> September 2020.
- This is the second report on Coronavirus related health inequalities released by Information Analysis Directorate and has been expanded to include an assessment of COVID-19 mortality.
- For further information on how deprivation and rurality has been defined within this report see <https://www.health-ni.gov.uk/sites/default/files/publications/health/hscims-report-2020.pdf>
- Rates have been calculated using Small Area Population Estimates based on the 2018 Mid-Year Population for NI.
- All rates presented within this report have been age standardised to the European Standard Population (ESP) 2013.
- For further explanation and definitions on laboratory completed tests and admissions, and to view the latest reporting figures, see the DoH Daily Dashboard at <https://www.nisra.gov.uk/statistics/ni-summary-statistics/coronavirus-covid-19-statistics>
- Some data included within this report has been sourced from live administrative systems which are continually being amended or updated, as such information is subject to change.
- An analysis of COVID-19 related mortality are published separately by NISRA Vital Statistics at: <https://www.nisra.gov.uk/statistics/ni-summary-statistics/coronavirus-covid-19-statistics>

### Individuals with a Positive Test

- Information refers to individuals with a laboratory completed test for SARS-COV2 Virus.
- COVID-19 cases are identified by taking specimens from people at testing centres across Northern Ireland and sending these specimens to laboratories to be tested. If the test is positive, this is referred to as a positive laboratory completed test. The information reported refers to the number of laboratory completed tests for the SARS-COV2 virus carried out at (i) HSC Laboratories (Pillar 1) and (ii) National Initiative (Pillar 2). For further information see DoH Daily Dashboard at <https://www.nisra.gov.uk/statistics/ni-summary-statistics/coronavirus-covid-19-statistics>.
- If an individual has been tested more than once, only the most recent laboratory completed positive result is counted, and if no tests were positive, only the most recent negative test is counted.
- Data sourced from Regional Data Warehouse for testing.

### Admitted to hospital

- Information is based on hospital admission data and relates to any admission to hospital with confirmed COVID-19, identified using the specific Method of Admissions Codes (CC, CE or CS), or Specialty Code (COVC). If an inpatient tests positive for COVID-19 the Method of Admissions code is revised to one of the confirmed coronavirus codes above. Figures include patients admitted for other reasons but who subsequently tested positive for COVID-19.
- The Hospital Patient Administration System provides information on admitted patient care delivered by Health and Social Care hospitals in Northern Ireland. This administrative source holds data at patient level and each record it contains relates to a single consultant episode.
- Information relates to admissions not patients, as a patient may be admitted more than once. For example:
  - A patient may be admitted on two or more separate occasions
  - Admitted to hospital A within one HSC Trust and later transferred and admitted to hospital B *in a different HSC Trust*. The admission to hospital B is not recorded as a new admission.
- Internal transfers (i.e. patient transferred between hospitals within the same HSC Trust) are not counted as new admissions and only the first admission record is counted for these patients.
- For further information see DoH Daily Dashboard at <https://www.nisra.gov.uk/statistics/ni-summary-statistics/coronavirus-covid-19-statistics>.

### Deaths

- Information is based on deaths registered January to September 2020.
- Death Statistics in Northern Ireland are based on deaths which have been registered with the General Register Office (GRO). There are some situations where the registration of the death can be delayed, specifically where the death has been accidental, unexpected or suspicious, and must be referred to the Coroner.
- A COVID-19 death is based on the primary underlying cause of death, which have been classified using the tenth revision of the International Statistical Classification of Diseases, Injuries and Causes of Death (ICD10). The code used for 'COVID-19' is U07.
- It is important to note that a high proportion of COVID-19 deaths are in care homes and this should be considered when examining results by location, as care home address is often the home address registered on the death certificate for the death of a resident.
- Data sourced from Vital Statistics & Administrative Research and Support Branch, NISRA.
- For further information on COVID-19 deaths registered in Northern Ireland see <https://www.nisra.gov.uk/statistics/ni-summary-statistics/coronavirus-covid-19-statistics>.



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