

COVID-19 in Northern Ireland

Coronavirus related health inequalities

Laboratory completed tests:

The infection rate in the 10% **most deprived** areas (379 cases per 100,000 population) was a fifth higher than the rate in the 10% least deprived areas (317 cases per 100,000 population) and **two-fifths higher than** the NI average (272 cases per 100,000 population).

The rate among **females** (308 cases per 100,000 population) was **a third higher** than **males** (234 cases per 100,000 population).

The infection rate among those aged over 65 **was almost two-fifths higher** in the 10% **most deprived** areas (1,027 cases per 100,000 population) than the rate in the 10% **least deprived** (750 cases per 100,000 population) and almost three-quarters higher than the NI average.

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

The rate in **urban** areas was **90% higher** than the rate seen in **rural** areas, however the rate was **highest in mixed urban/rural** areas (398 cases per 100,000 population).

Of those testing positive, more than a quarter (27%) were admitted to hospital for treatment, with **males** (39%) being **twice as likely** to be admitted as **females** (19%), and those in the 10% **most deprived** areas **37% more likely** to be admitted than those in the 10% **least deprived** areas.

Admissions to hospital:

The admission rate for COVID-19 (confirmed or suspected cases) in the 10% **most deprived** areas (581 admissions per 100,000 population) was **almost double** the rate in the 10% **least deprived** areas (317 admissions per 100,000 population).

The rate for under 75s in the **most deprived** decile (369 admissions per 100,000 population) was approximately **two and a half times** that in the **least deprived** decile (150 admissions per 100,000 population).

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

While deprivation was found to be an important factor of the likelihood of admission, age was found to have a greater impact. The standardised admission rate for the population **aged 75 and over** (2,255 admissions per 100,000 population) was **9 times** that for the **under 75** population (249 admissions per 100,000 population).

Laboratory completed tests for SARS-COV2 Virus

The age standardised infection rate (based on positive tests) in Northern Ireland stood at 272 cases per 100,000 population. The rate among females (308 cases per 100,000 population) was 32% higher than their male counterparts (234 cases per 100,000 population).

Fig 1. Standardised Infection Rate, by Sex

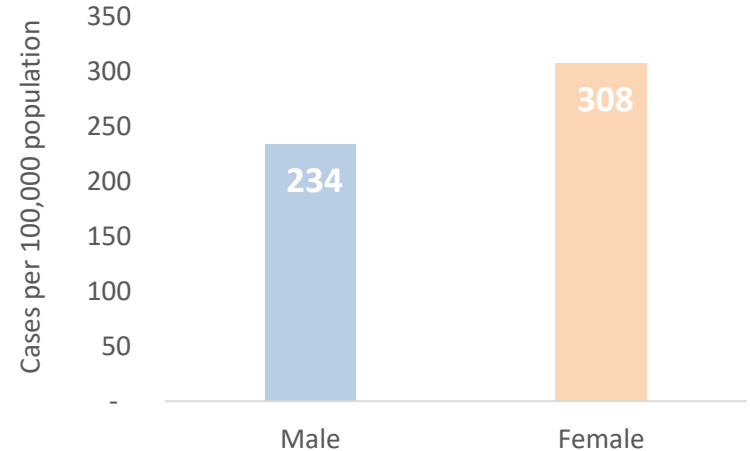
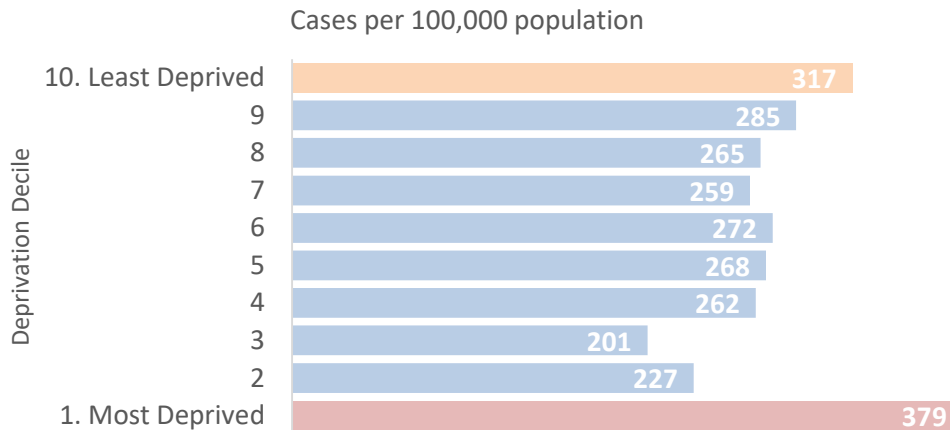


Fig 2. Standardised Infection Rate, by Deprivation Decile



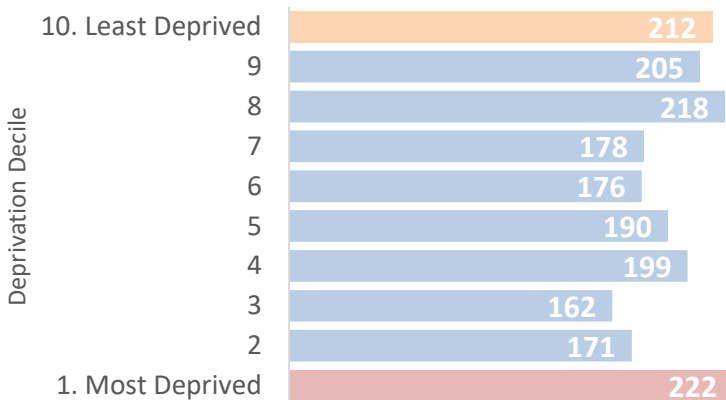
The infection rate was highest in the 10% **most deprived** areas (379 cases per 100,000 population) which was 20% higher than the rate in the 10% least deprived areas (317 cases per 100,000 population) and 40% higher than the Northern Ireland average (272 cases per 100,000 population).

Note 1: Refers only to the number of Laboratory Completed Tests for SARS-COV2 at the following HSC Trust Laboratories: Regional Virus Laboratory (Belfast), Antrim Testing Laboratory, Craigavon Area Testing Laboratory and Altnagelvin Area Testing Laboratory. 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 (1,027 cases per 100,000 population) was almost two-fifths higher than the rate in the 10% least deprived (750 cases per 100,000 population) and almost three-quarters higher than the NI average (598 cases per 100,000 population).

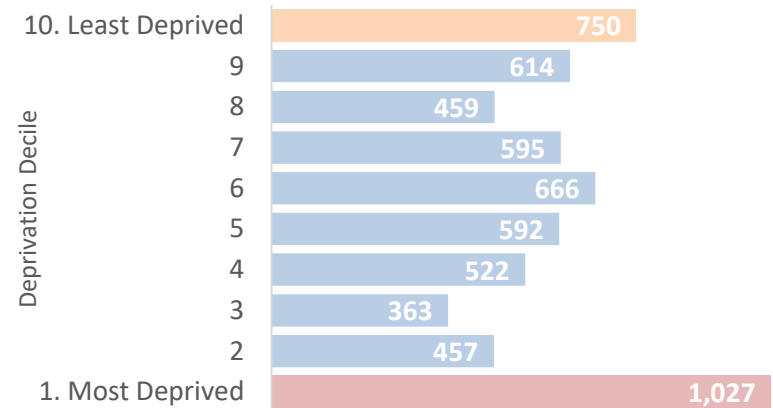
Fig 4. Standardised Infection Rate (Aged 65 and under), by Deprivation Decile



The infection rate was lowest in **rural** areas (169 cases per 100,000 population) where population is relatively sparse. The rate in urban areas was almost double the rate seen in rural areas, however the rate was highest in mixed urban/rural areas (398 cases per 100,000 population).

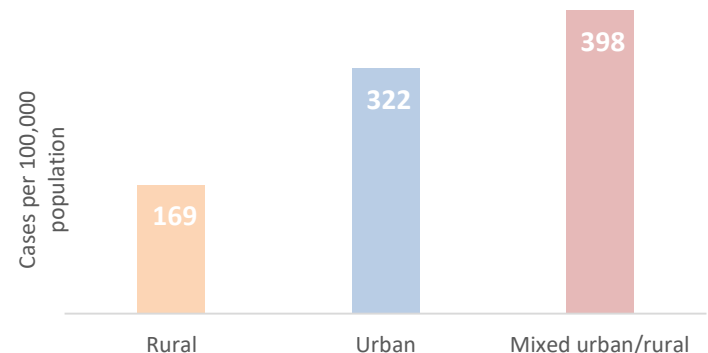
Note 2: observations by decile may be explained by factors other than deprivation such as occupation and/or population density (see appendix 1 for further information).

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



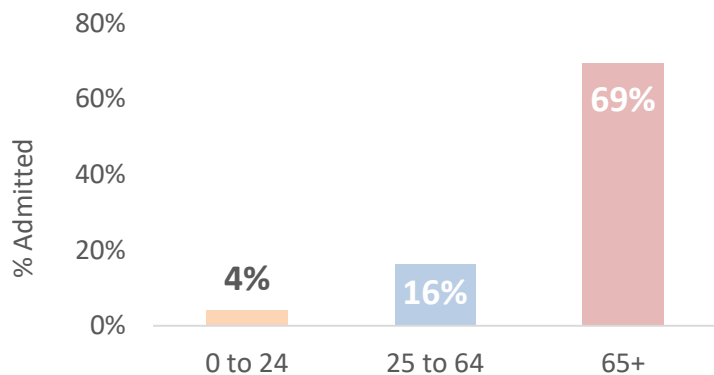
The standardised infection rate among those aged **65 and under** in the 10% most deprived areas (222 cases per 100,000 population) was not significantly different from the rate in the least deprived (212 cases per 100,000 population) but was 15% higher than the NI average (192 cases per 100,000 population).

Fig 5. Standardised Infection Rate, by Urban/Rural



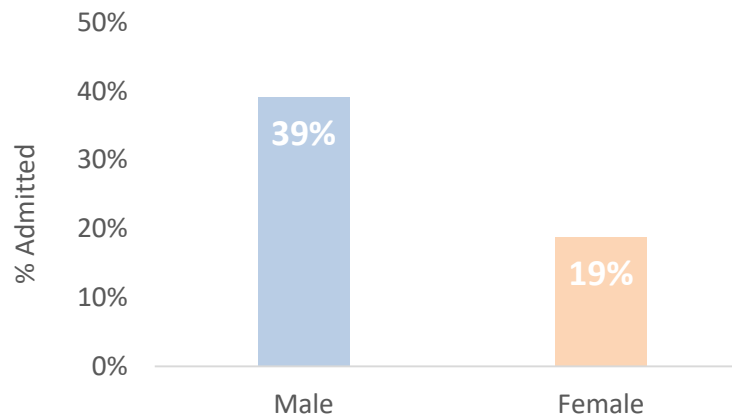
Of those that tested positive to a laboratory completed test, more than a quarter (27%) were admitted to hospital for treatment, with males that tested positive being twice as likely to be admitted as females.

Fig 7. Percentage of positive tests admitted to hospital, by Age



Almost a third (30%) of persons testing positive that reside in the 10% most deprived areas were admitted to hospital, compared with 22% for those in the least deprived areas. Positive tests among those living in urban areas were slightly more likely to be admitted than those living in rural or mixed urban/rural areas.

Fig 6. Percentage of positive tests admitted to hospital, by Sex



Seven out of ten persons aged 65 and over that tested positive were admitted to hospital compared with just 16% of those aged 25 to 64 years.

Fig 8. Percentage of positive tests admitted to hospital, by Deprivation and Urban/Rural

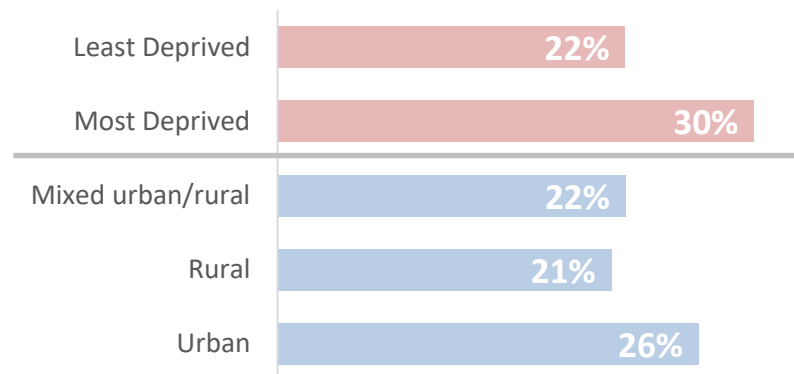
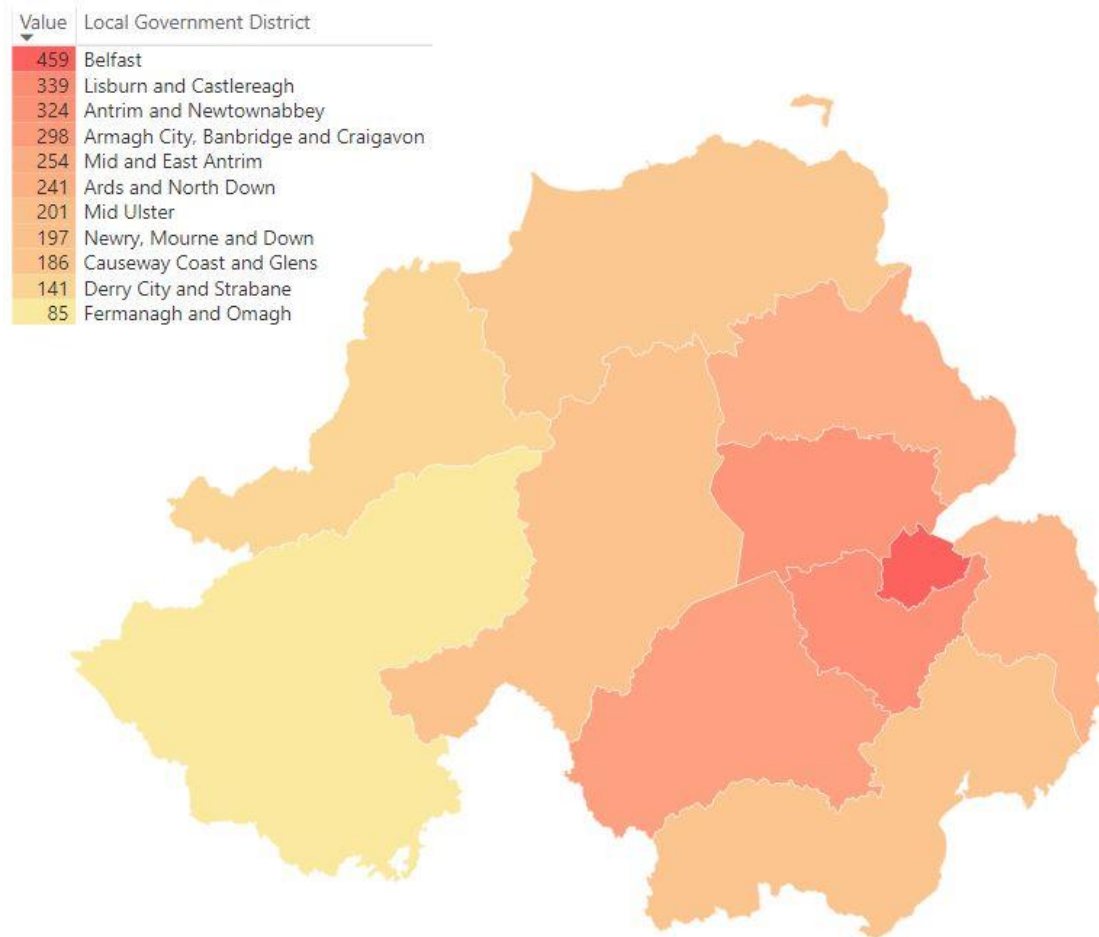
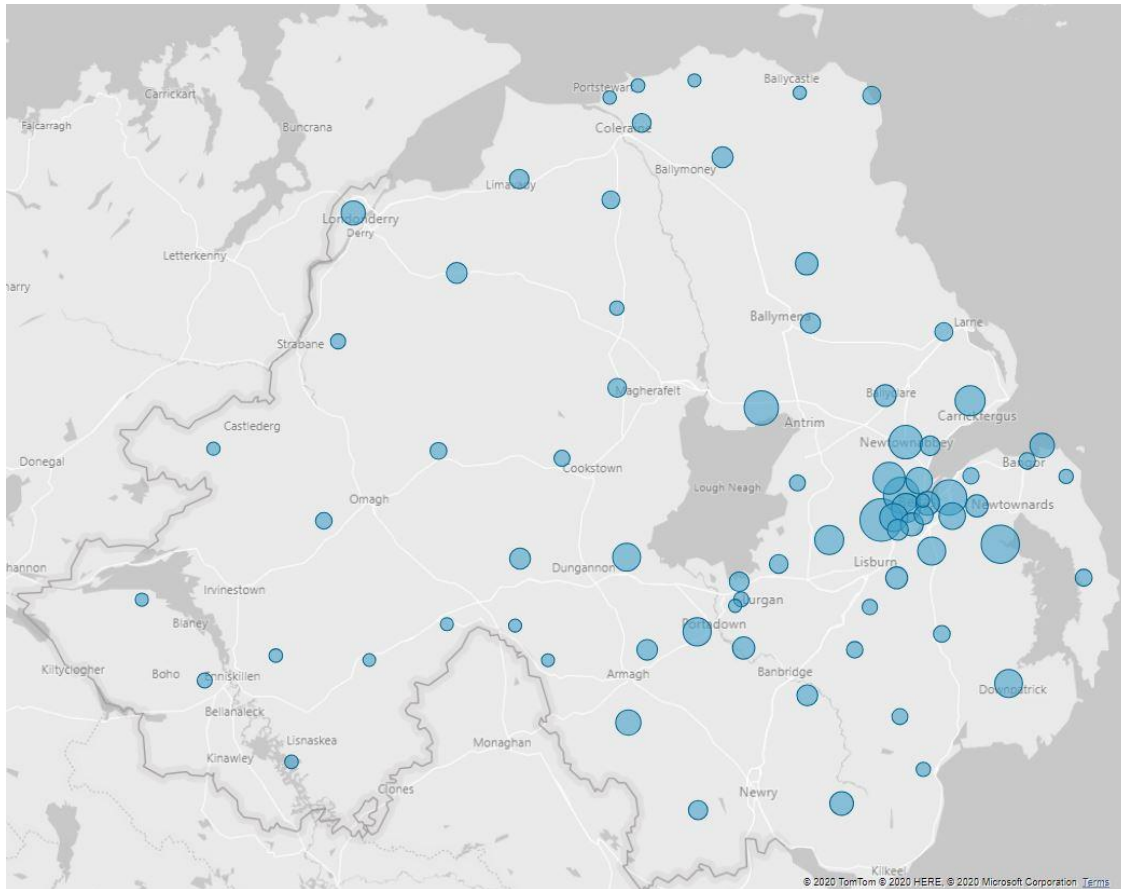


Fig 9. Standardised Infection Rate, by Local Government District

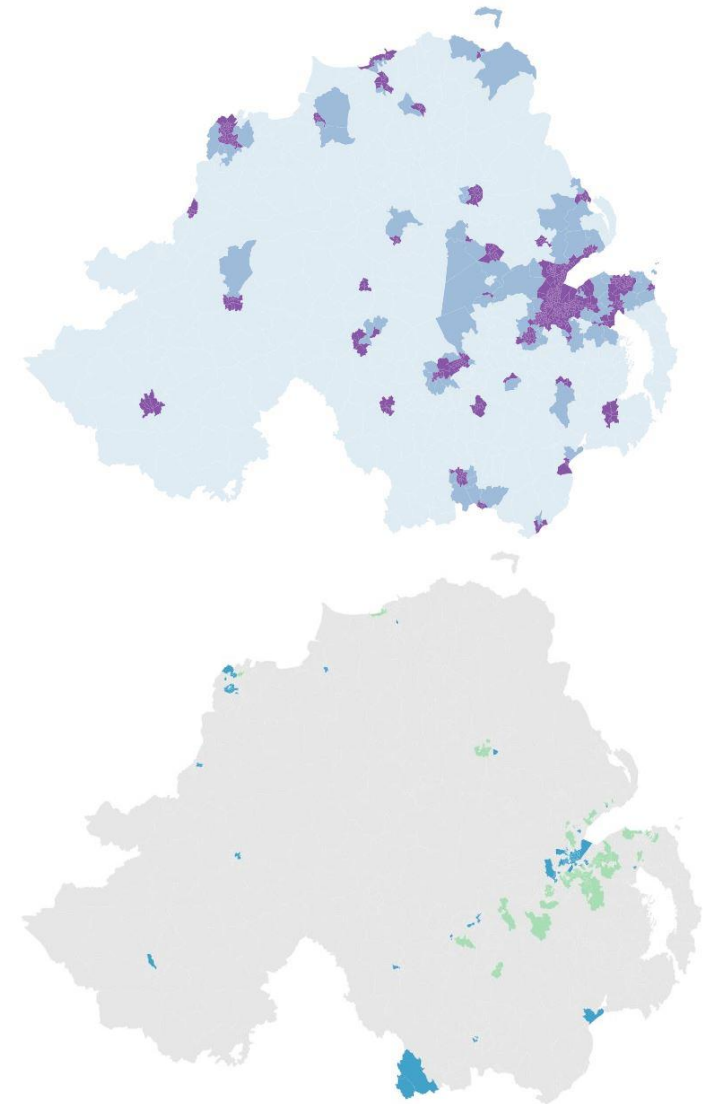


Across Northern Ireland, the infection rate was highest in the Belfast LGD (459 cases per 100,000 population) and lowest in the Fermanagh & Omagh LGD area (85 cases per 100,000 population). The infection rate tended to be higher within the more easterly located LGDs.

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



Area Classification ● Mixed urban/rural ● Rural ● Urban

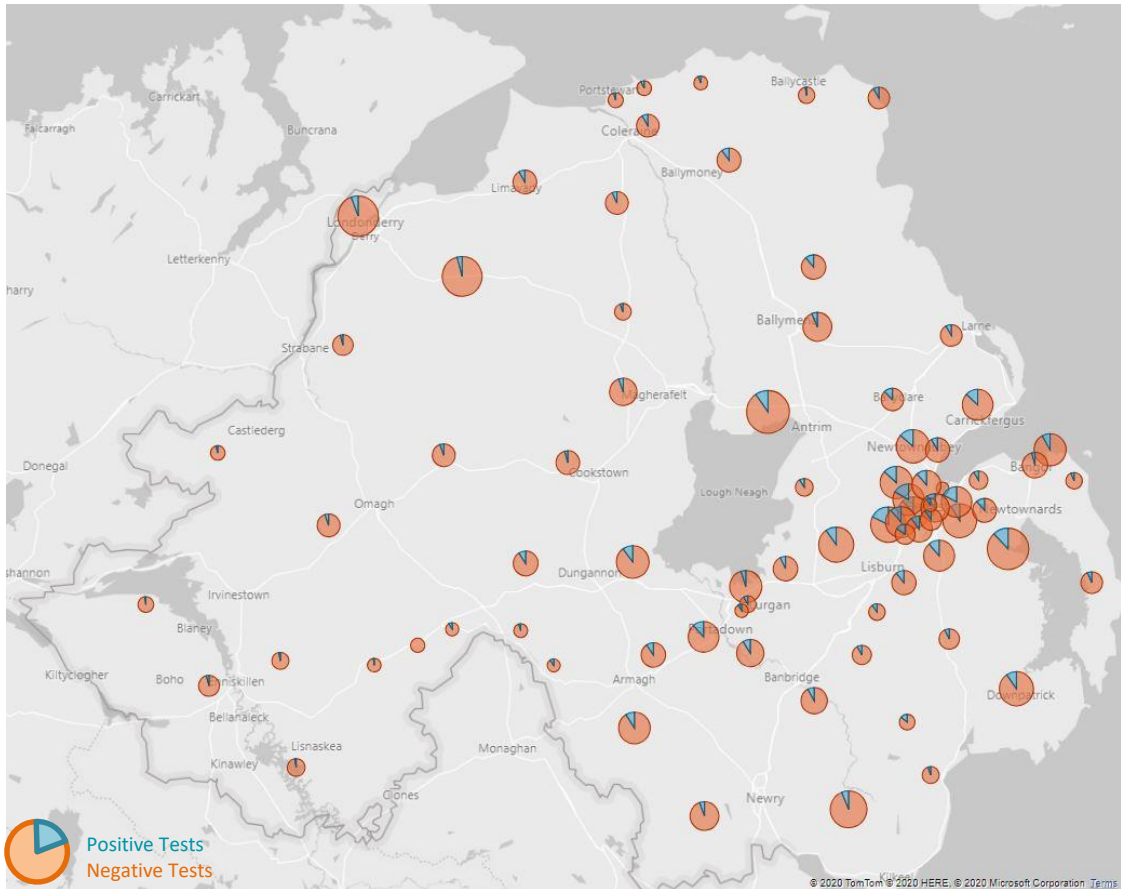


The chart above shows the distribution of positive Laboratory Completed Tests for SARS-COV2. There was a larger proportion located in the east of the region, particularly the Greater Belfast area. The maps to the right show the location of the most/least deprived areas and urban/rural areas within NI - this can be compared and contrasted with the location of positive tests. A further discussion of this impact can be found in Appendix 1.

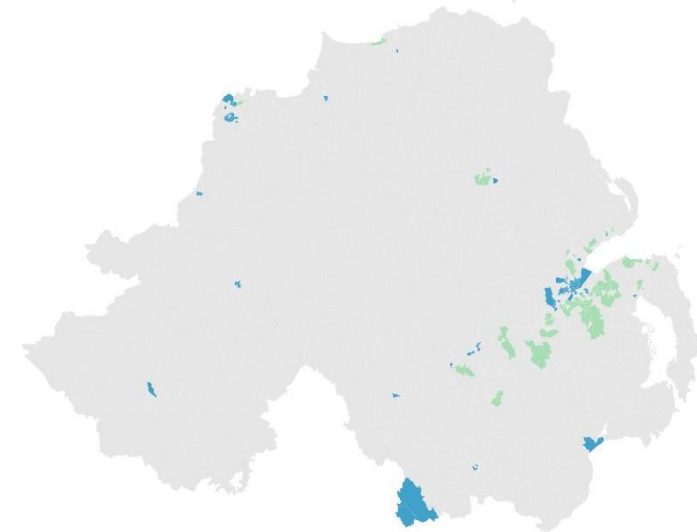
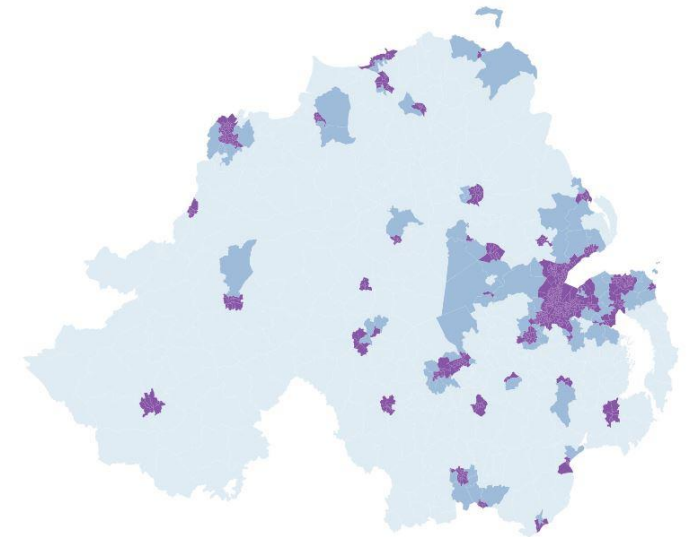
Note: Points on the map are placed at the centre of the postcode district and do not show the actual location of a test result. The size of the circle is proportional to the number of positive tests.

Deprivation Decile ● 1 ● 10

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 or suspected COVID-19

The age standardised admission rate in Northern Ireland stood at 429 admissions per 100,000 population. The rate among males (494 admissions per 100,000 population) was 29% higher than their female counterparts (383 admissions per 100,000 population).

Fig 12. Standardised Admission Rate, by Sex

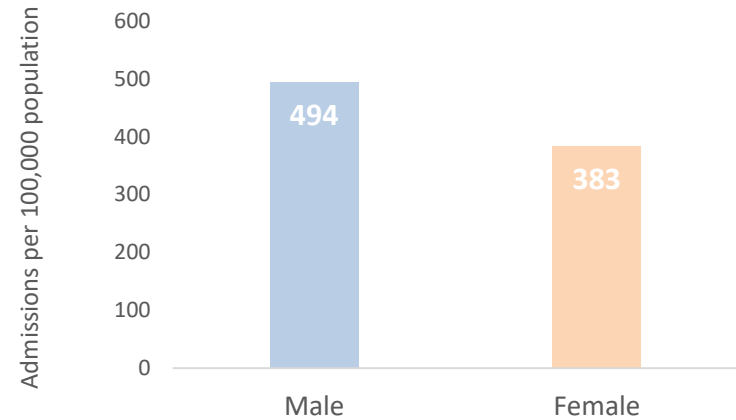
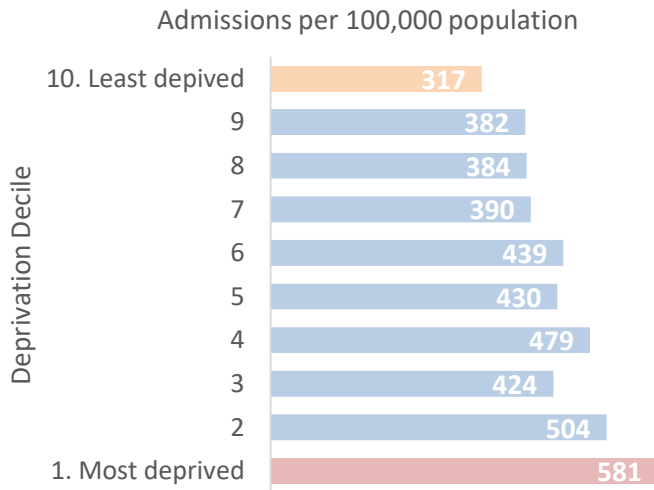


Fig 13. Standardised Admission Rate, by Deprivation Decile



The admission rate was highest in the 10% **most deprived** areas (581 admissions per 100,000 population) which was almost double the rate in the 10% least deprived areas (317 admissions per 100,000 population) and 35% higher than the Northern Ireland average (429 admissions per 100,000 population).

Note1: Information relates to any person admitted to hospital with suspected or confirmed COVID-19, identified using specific Method of Admission Codes (CR or CC) and Specialty Codes (COVS or COVC) and excluding internal admissions. 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).

The standardised admission rate for the population aged 75 and over (2,255 admissions per 100,000 population) was around 9 times that for the under 75 population (249 admissions per 100,000 population).

Fig 14. Standardised Admission Rate, by Age Group

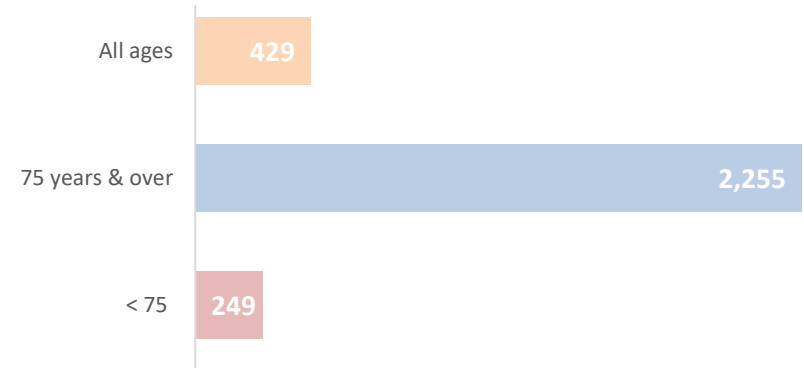
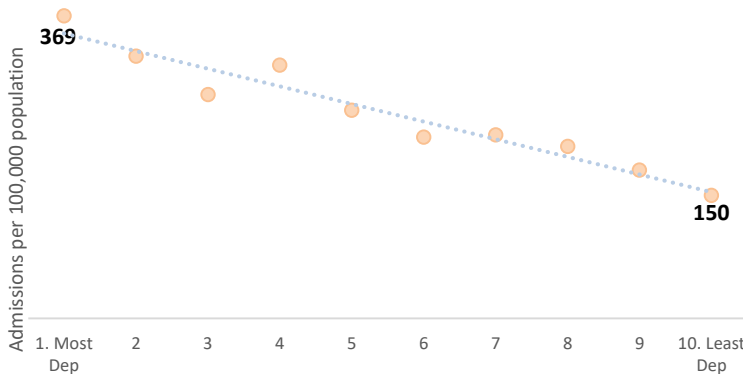


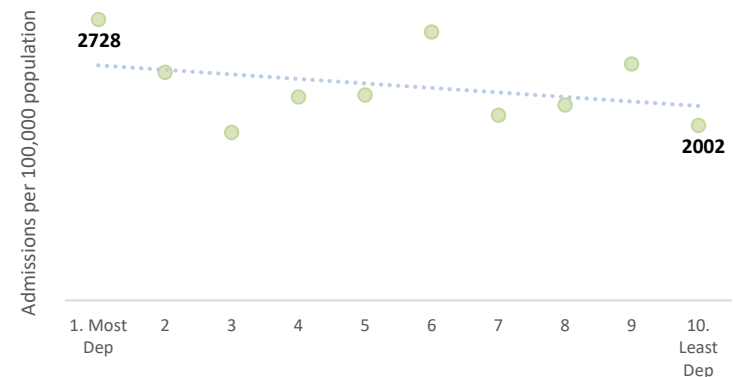
Fig 15. Standardised Admission Rate (Under 75s), by Deprivation Decile



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 (369 admissions per 100,000 population) was approximately two and a half times that in the least deprived decile (150 admissions per 100,000 population)

In comparison, the rate for over 75s in the most deprived decile was 36% higher than in the least deprived decile. This would suggest that while both have an effect, age has a greater impact on hospital admission rates for the infection than deprivation does.

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



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).

The lowest admission rate occurred in **rural** areas (336 admissions per 100,000 population) which was less than half that seen in mixed urban/rural areas (750 admissions per 100,000 population).

Fig 17. Standardised Admission Rate, by Urban/Rural

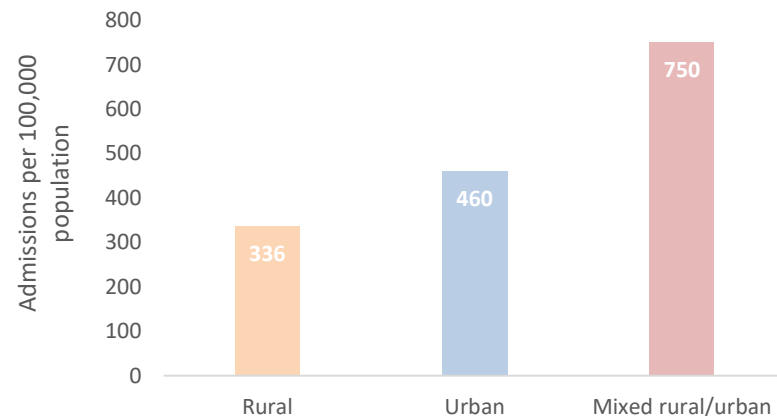
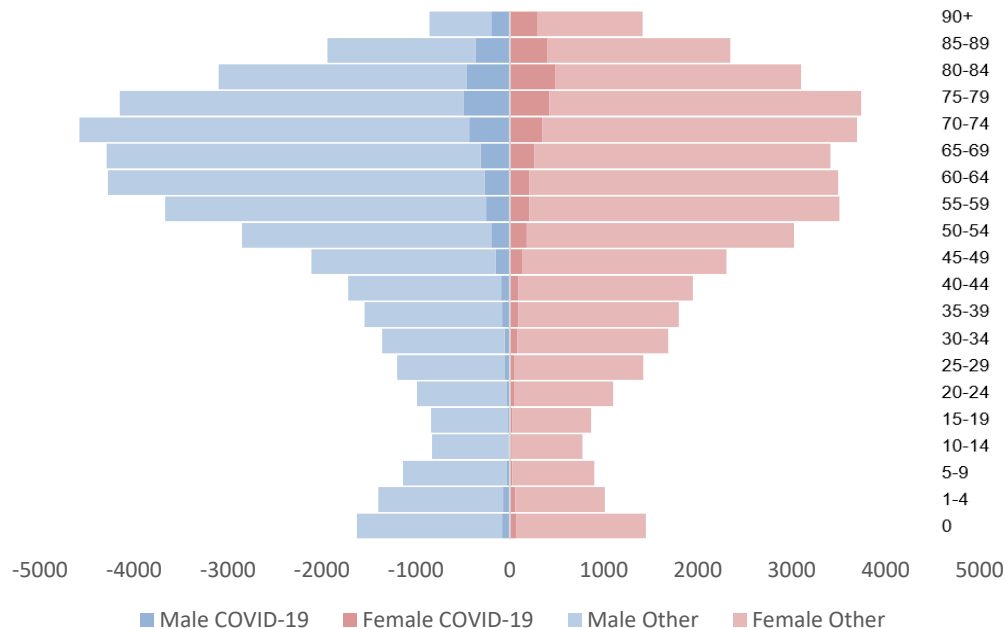


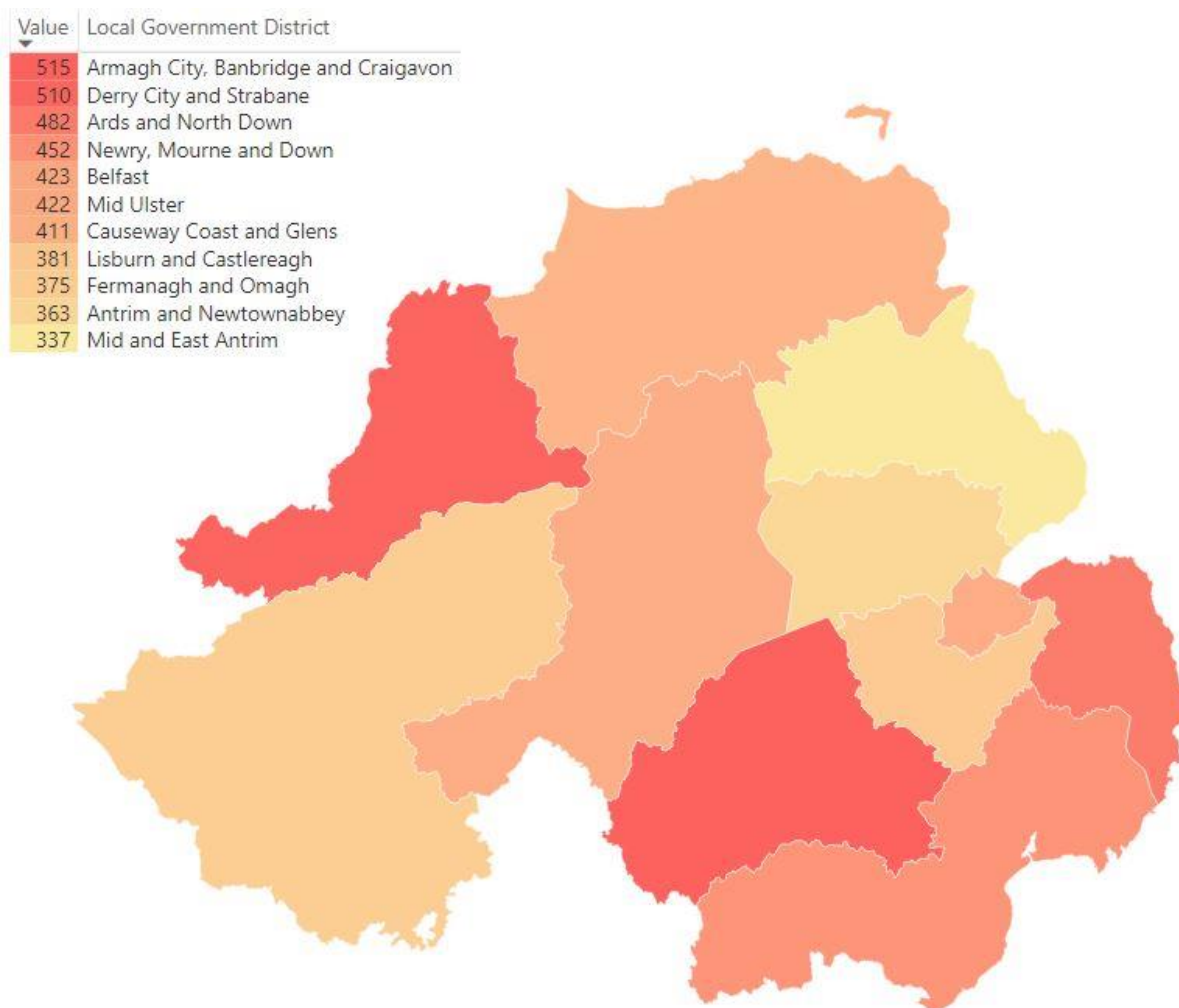
Fig 18. COVID-19 Admissions compared with all admissions, by Sex and Age



Over the analysed period, suspected or confirmed COVID-19 admissions represented 8% of all admissions to hospital, for both males and females.

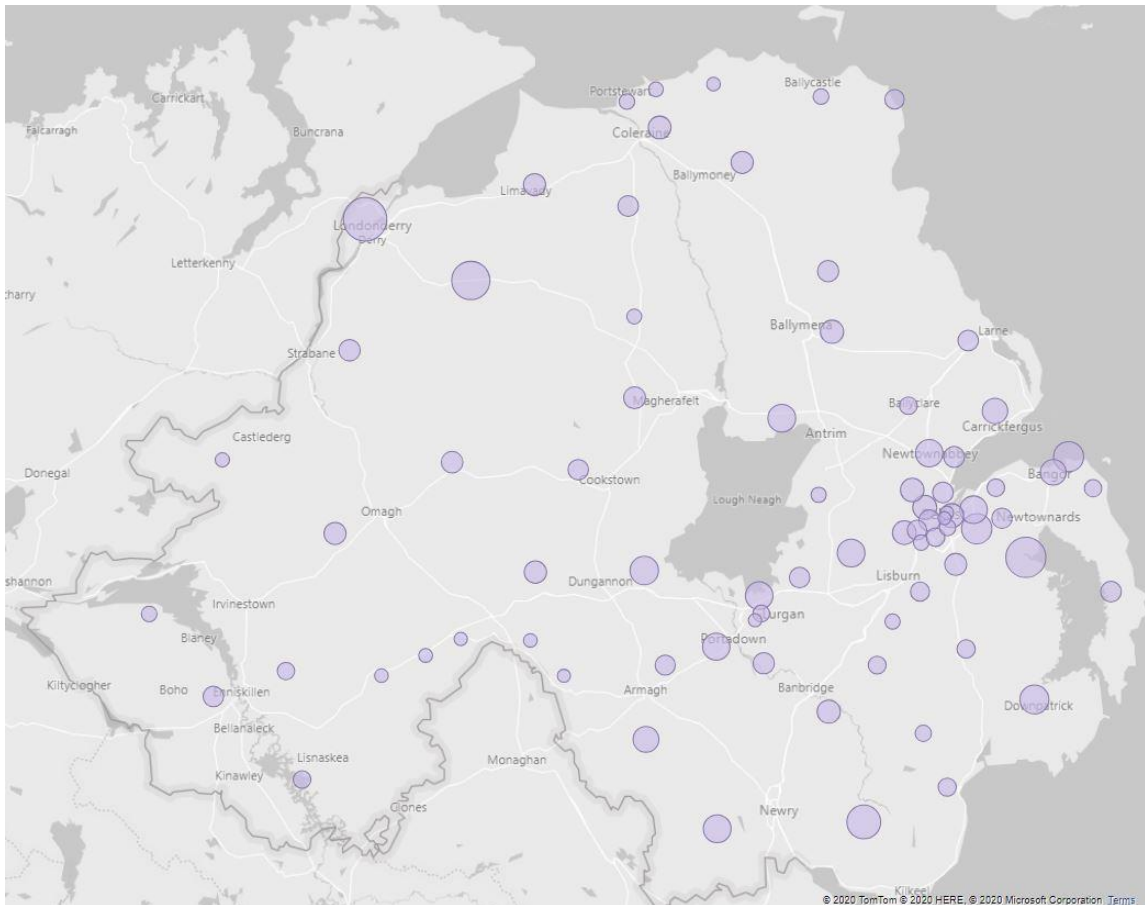
This proportion increased with age however. Among those aged 90 years or over, COVID-19 admissions represented 23% of all male admissions and 21% of all female admissions.

Fig 19. Standardised Admission Rate, by Local Government District

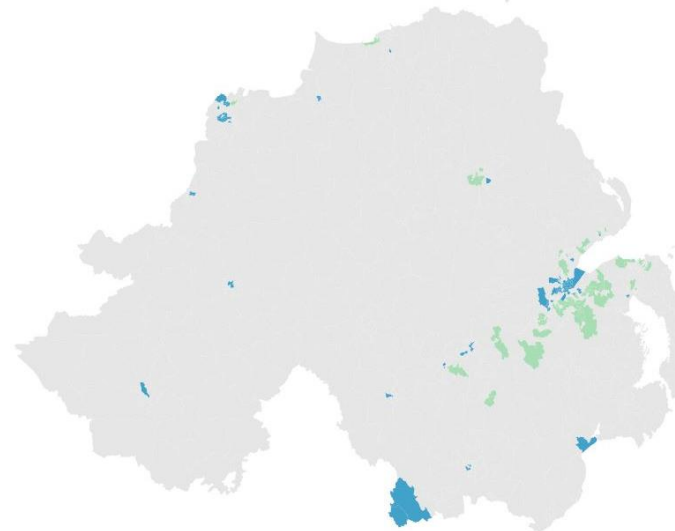
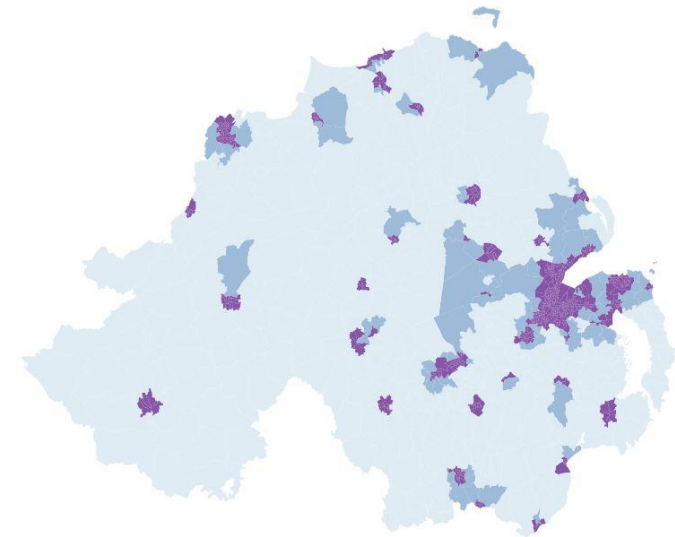


Across Northern Ireland, the standardised admission rate was highest in the Armagh City, Banbridge & Craigavon LGD (515 admissions per 100,000 population) and lowest in the Mid & East Antrim LGD area (337 admissions per 100,000 population).

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



Area Classification ● Mixed urban/rural ● Rural ● Urban



The map above shows the distribution of admissions to hospital for confirmed or suspected 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.

Note: Points on the map are placed at the centre of the postcode district and do not show the actual patient's location. The size of the circle is proportional to the number of hospital admissions.

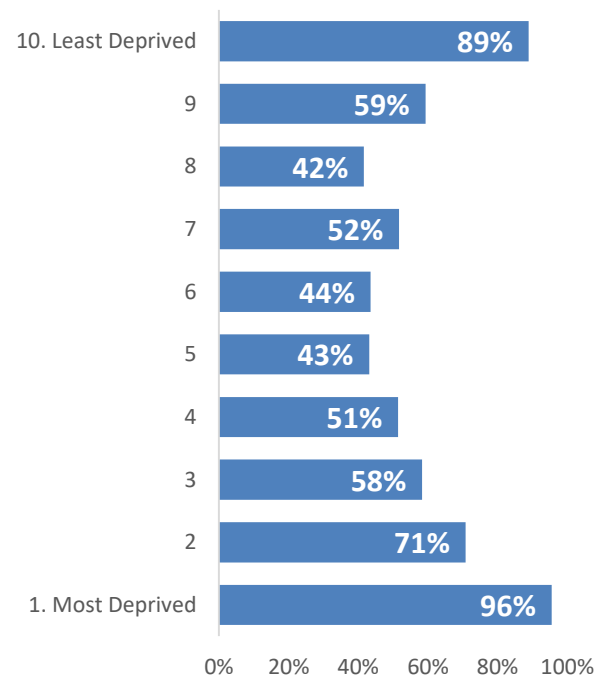
Deprivation Decile ● 1 ● 10

Important contextual information

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



General

- All information contained in this report is based on the known position as at 9am 26th May 2020.
- 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 (latest available).
- 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>

Laboratory completed Tests

- 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 Laboratory Completed Test. The information presented in this report refers only to the number of Laboratory Completed Tests for SARS-COV2 at the following HSC Trust Laboratories: Regional Virus Laboratory (Belfast), Antrim Testing Laboratory, Craigavon Area Testing Laboratory and Altnagelvin Area Testing Laboratory. 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 first laboratory completed positive result is counted.
- This information has been used within this report as a proxy for estimating an incidence rate among the population.
- It is important to note that laboratory tests have only been carried out for a small proportion of the population including frontline workers and may therefore be subject to statistical bias.
- Tests for which the result was indeterminate have not been included in analyses related to all tests.
- Data sourced from Regional Data Warehouse for testing.

Admitted to hospital

- Information is based on hospital admission data and relates to any person admitted to hospital with suspected or confirmed COVID-19, identified using specific Method of Admission Codes (CR or CC) and Specialty Codes (COVS or COVC) and excluding internal admissions. Method of Admission codes are only used for non-elective patients only.
- 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.
- For further information see DoH Daily Dashboard at <https://www.nisra.gov.uk/statistics/ni-summary-statistics/coronavirus-covid-19-statistics>.



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