PIONEER
Health Data Research Hub

An HDRUK Dataset: Linked Health And Air Quality Data For Older Adults

Data range for infographic: 01.01.2000-31.08.2023
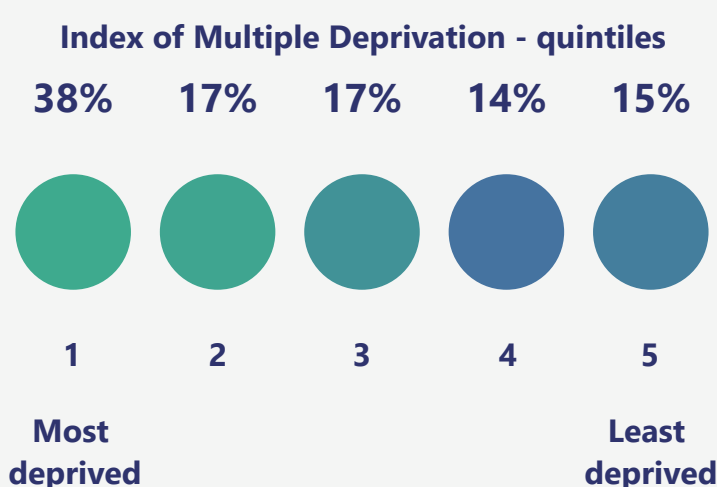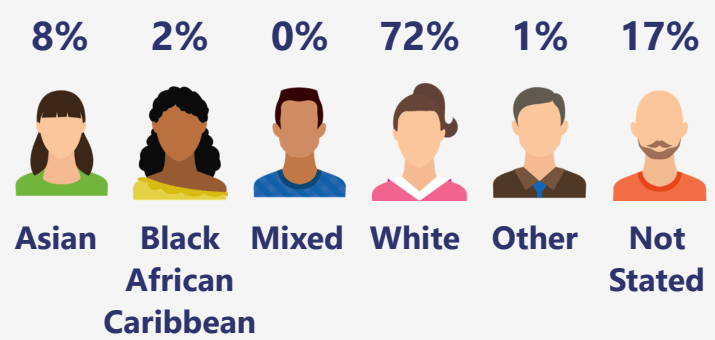#### Other extended time periods are available on request

An HDRUK QQ2 highly granular longitudinal dataset of 3,175,299 admissions for patients aged 65+, linkingDEFRA air pollution data to acute care presentations, includes acuity, respiratory data, medications and outcomes to assess environmental health impacts.

Demographic

The dataset includes patients aged 65+:
- Female **51%**
- Male **49%**

58% of the population live in Birmingham local authority district and **19%** of the population live in Solihull local authority district.
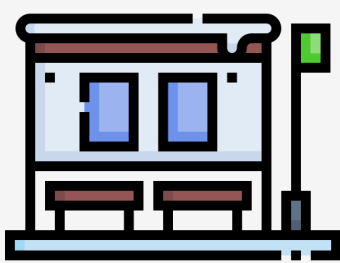
8%	2%	0%	72%	1%	17%
Asian	Black African Caribbean	Mixed	White	Other	Not Stated

Index of multiple deprivation

Index of Multiple Deprivation - quintiles

38%	17%	17%	14%	15%
1	2	3	4	5
Most deprived				Least deprived

Individual deprivation scores are available including:
- Education, skills and training deprivation
- Employment deprivation
- Crime deprivation
- Health and disability deprivation
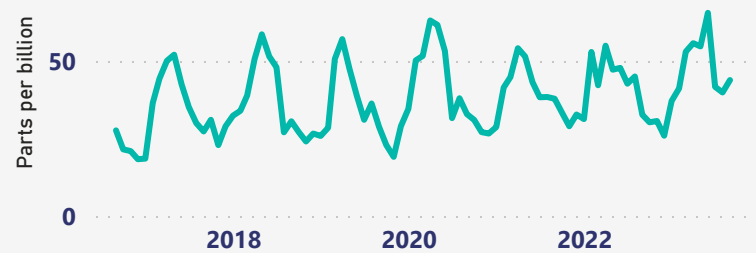- Income deprivation

And other deprivation scores.

284
DEFRA Stations

Top DEFRA stations patients live near:
- **131K** Birmingham Acocks Green
- **130K** Birmingham Tyburn

Other DEFRA stations are available

DEFRA Air pollution

Birmingham Ozone levels

Pollutants include nitric oxide, nitrogen dioxide, nitrogen oxides, sulphur dioxide, carbon monoxide, ethane, ethene and more.
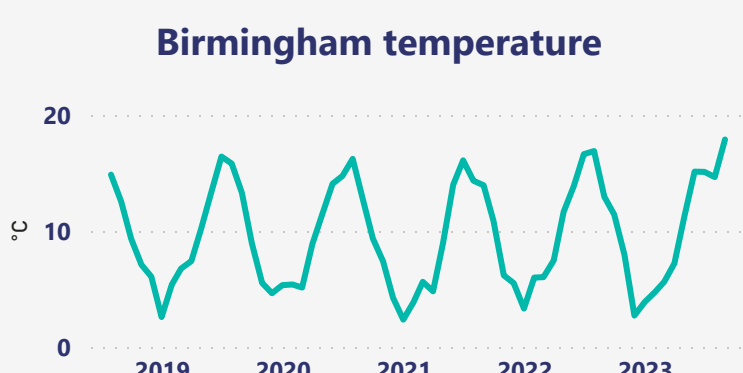
Other pollutants are available

Inpatient care

- **3,175,299 Hospitalised spells;** containing **453,573** unique patients matched
- **11M** days worth of hospital data with an average in-hospital length of stay of 3.5 day
- In-hospital mortality rate of 3% with 91% of patients surviving 12 months after discharge
- Over 35M records of hourly measured DEFRA air quality data available across the UK.

DEFRA Weather

DEFRA data includes weather variables such as temperature, windspeed and wind direction.

Birmingham temperature

DEFRA Stations map

Leaflet | Icon Map | Map data © OpenStreetMap, Tiles courtesy of Humanitarian OpenStreetMap Team

Other associated data available upon request