



# PIONEER

## Health Data Research Hub

### Environmental Determinants Of Health; Linked Health And DEFRA Air Quality Data

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

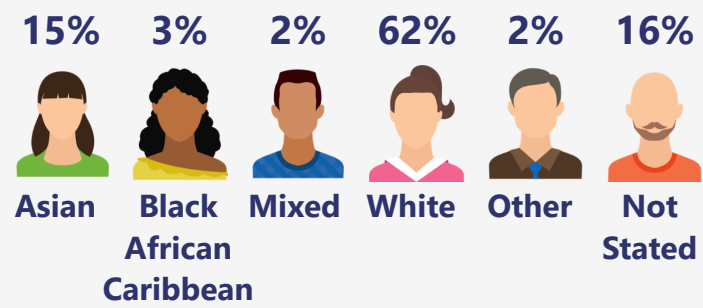
An HDRUK QQ2 highly granular longitudinal dataset of 10,908,440 admissions matching DEFRA air pollution data to acute care presentations, including demographic data, presenting complaint and symptoms, respiratory data, medications and outcomes.

#### Demographic

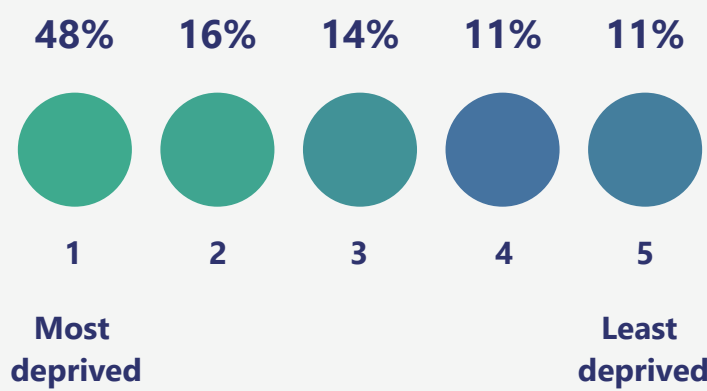
The dataset includes:

- Children **15%** (ages 0-17)
- Adults **56%** (ages 18-64)
- Elderly **29%** (ages 65+)

99.9% of patients sex are complete with 52% of hospital admissions being female and 48% male.



#### Index of Multiple Deprivation - quintiles



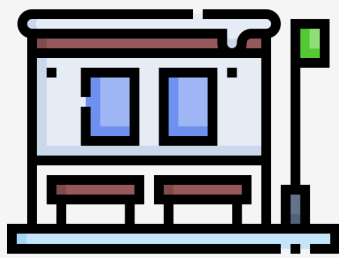
#### Index of multiple deprivation

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

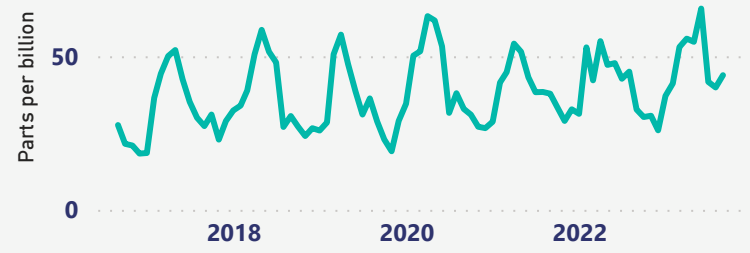


#### DEFRA Stations

Top DEFRA stations patients live near:

- **642K** Birmingham Tyburn
- **593K** Birmingham Acocks Green

Other DEFRA stations are available



#### Birmingham Ozone levels

#### DEFRA Air pollution

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

Other pollutants are available

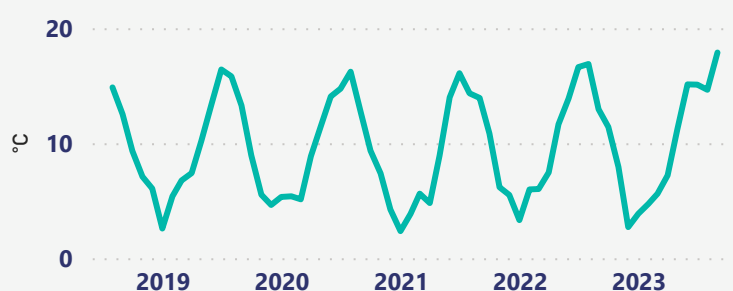
#### Inpatient care

- **10,908,440 Hospitalised spells;** containing **1,914,540** unique patients matched
- **19M** days worth of hospital data with an average in-hospital length of stay of 1 day
- In-hospital mortality rate of 1% with 93% 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

