



PIONEER

Health Data Research Hub

NIHR | Birmingham Biomedical Research Centre

A NIHR Birmingham BRC Dataset: Hospital Acquired Pneumonia And Antimicrobial Use

Data range for infographic: 01.01.2018-31.12.2022
Other extended time periods are available on request

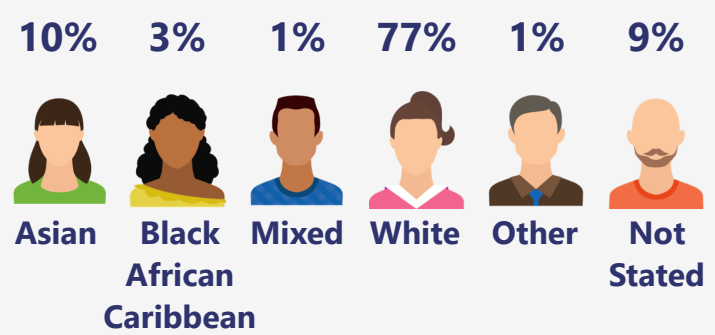
A NIHR Birmingham BRC, highly granular dataset of 22.5k hospital acquired pneumonia spells curated by PIONEER, including demography, presenting symptoms, serial physiology, investigations, Charlson comorbidity index, medications, and outcomes.

Demographic

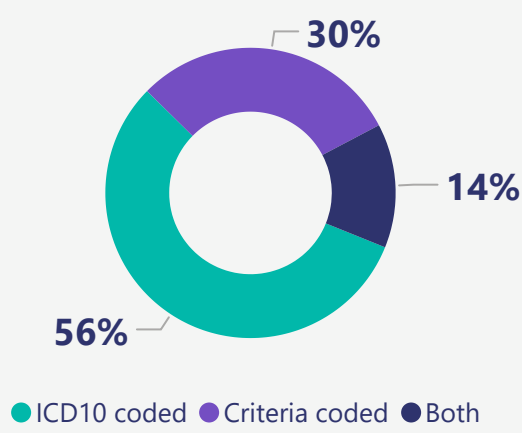
The dataset includes:

- Young adults **2%** (ages 18-24)
- Adults **31%** (ages 25-64)
- Older adults **67%** (ages 65+)

Based on the index of multiple deprivation map, **43%** of the population are from most deprived areas and **11%** of patients are from least deprived areas.



HAP identification

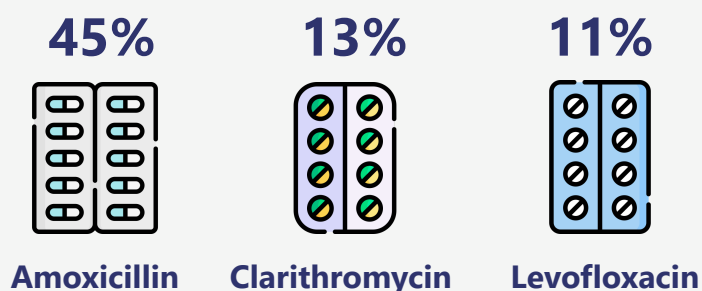


Hospital acquired pneumonia

Top 4 sputum swab organisms detected are:

- Candida albicans, **935** spells
 - Staphylococcus aureus, **471** spells
 - Escherichia coli, **443** spells
 - Pseudomonas aeruginosa, **422** spells
- other organisms are available.

Spells prescribed with antibiotic



Antibiotic

Over **1M** prescriptions prescribed and more than **10M** drug administrations recorded.

Other medications are available.

23% 32% 45%



Charlson comorbidity index

The average Charlson Comorbidity Index (CCI) is **4.3** and the median CCI is **4**.

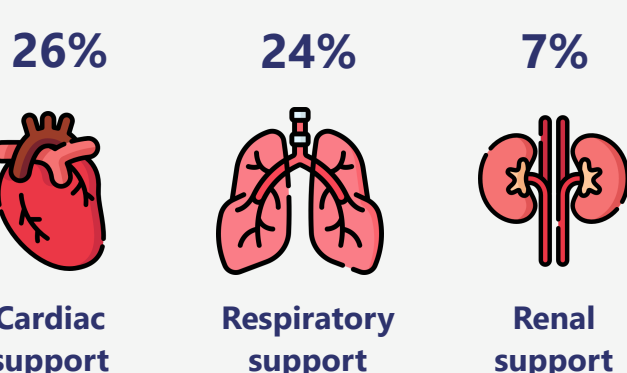
Other scores are available.

Inpatient care

- **22,580 Hospitalised spells;** containing **20,018** patients with Hospital acquired pneumonia
- **600K** days worth of hospital data with an average in-hospital length of stay of 26 days
- In-hospital mortality rate of 21% and 68% of patients surviving 12 months after discharge
- The median National Early Warning Score is 3 and the median Clinical Frailty Scale is 4

Critical care

75K days worth of critical care data and an average of length of stay of **12** days.



Other critical care support are available.

Readmissions

36% of admissions are readmitted into hospital within 3 months of discharge.
50% of admissions are readmitted into hospital within 12 months of discharge.

