



PIONEER

Health Data Research Hub

NIHR | Birmingham Biomedical Research Centre

NIHR Birmingham BRC Dataset: Predicting the need for broad spectrum antibiotics

Data range for infographic: 01.01.2019-01.01.2024

Other extended time periods are available on request

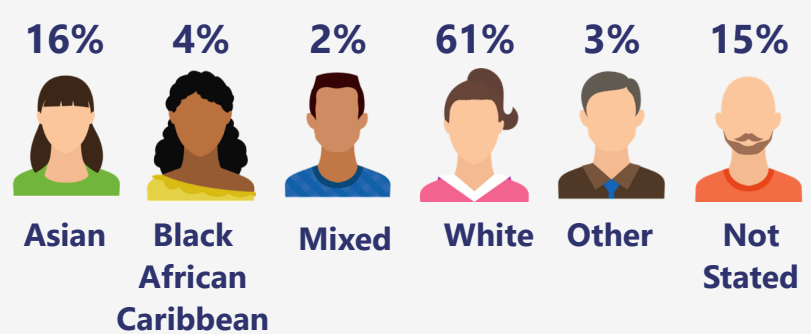
A NIHR Birmingham BRC-associated highly granular dataset of 647,934 patients with suspected infections including demographics, comorbidities, presenting symptoms, serial physiology and acuity and all investigations, treatments and outcomes.

Demographic

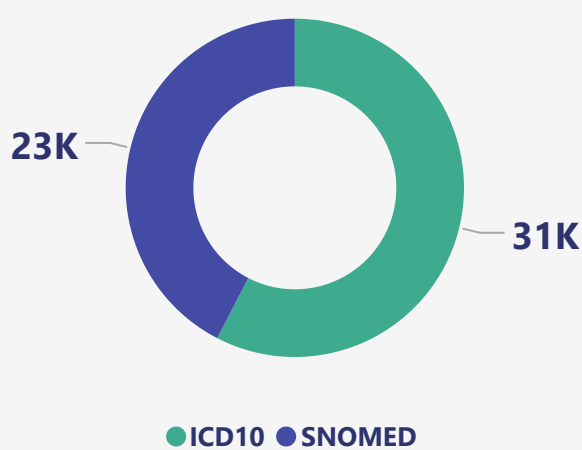
The dataset includes:

- Young adults **15%** (ages 18-24)
- Adults **57%** (ages 25-64)
- Older adults **28%** (ages 65+)

Based on the index of multiple deprivation map, **47%** of the population are from most deprived areas and **11%** of patients are from least deprived areas.



Coding System

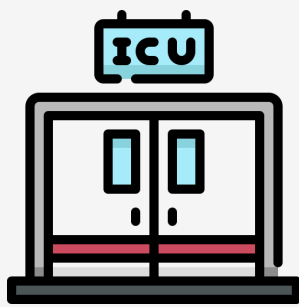


Diagnosis

Top sepsis diagnoses are:

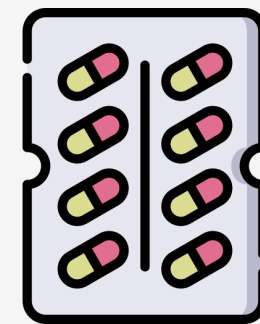
- Unspecified Sepsis **44K** spells
- Sepsis due to other Gram-negative organisms **3K** spell
- Neutropenic sepsis (disorder) **2K** spells
- Septic shock **407** spells

Other Diagnosis code is available



Intensive Care Unit

Total of **16K** Intensive care unit (ICU) admission with **15K** unique patients. Average LOS in ICU is **6** days. The median presenting score for Sequential organ failure assessment is **4**.



Antibiotics

Spells administered with antibiotics:

- **97K** Co-amoxiclav
- **40K** Piperacillin / Tazobactam
- **31K** Amoxicillin

Other Medications are available

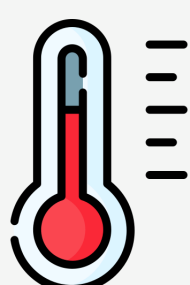
Inpatient care

- **1,589,709 Hospitalised spells;** containing **647,934** unique patients admitted to hospital
- **4M** days worth of hospital data with an average in-hospital length of stay of **3** days
- In hospital mortality rate of **1%** and **99%** surviving 30 days after discharge
- **19%** of hospitalised spells are readmitted to hospital within 30 days of discharge

Observation

Number of observations taken:

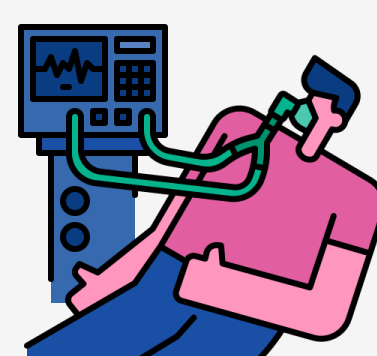
- **14M** Heart Rate
- **13M** Respiratory Rate
- **13M** Temperature



Other vitals signs are available.

Ventilation

12M mechanical ventilations performed



Other ventilation details are available.