



PIONEER

Health Data Research Hub

A HDRUK Medicines Dataset: Antibiotic Allergies And Prescribing On ICU

Data range for infographic: 16.02.2010-18.10.2019
Other extended time periods are available on request

An HDRUK Medicines programme highly granular dataset of 41,258 critical care admissions focusing on antibiotic allergies, including demography, serial physiology, investigations, ventilator settings, antibiotic prescriptions, staff rotas and outcomes.

Demographic

The dataset includes:

- Young adults **6%** (ages 0-24)
- Adults **56%** (ages 25-64)
- Older adults **38%** (ages 65+)

The median age of patients in this dataset is 60 years old with and interquartile range of 24.

61%



Male

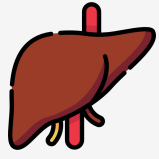
39%



Female

Patients admitted to ICU wards

29%



Liver

22%



Cardiac

19%



Neurology

17%



Trauma/Burns

12%

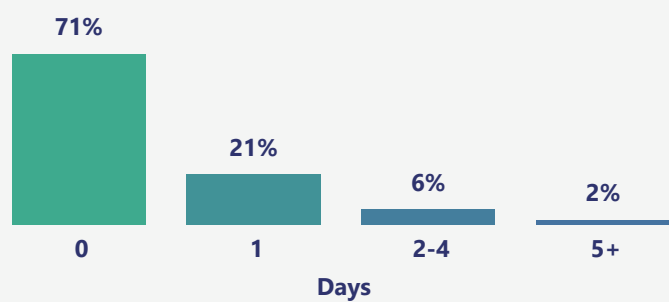


Other

Intensive care unit

- Over **222K** days worth of Intensive Care Unit (ICU) stay with an average length of stay of **5.5** days.
- Mortality rate in ICU is **10%**.
- **51%** of ICU admissions are Emergency admissions.
- **49%** of ICU admissions being Elective admissions.

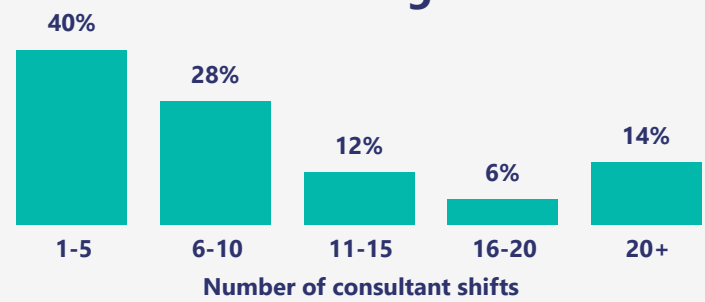
Number of days on penicillin in ICU



Antibiotics in ICU

- **12%** of patients reported that they have a penicillin allergy.
 - **27%** of patients were Piperacillin-Tazobactam
- Other antibiotics are available.

Consultant shifts required for ICU discharge



Consultant rota

- One consultant shift is on average 12 hours
- ICU patients are on average seen by 3 consultants.

Other staff data available.

Inpatient care

- **41,258 Hospitalised spells;** containing **33,880** unique patients admitted to critical care
- **849K** days worth of hospital data with an average in-hospital length of stay of 22 days
- Average number of antibiotic courses in hospital is 1 with an average duration of 11 days
- In-hospital mortality rate of 12%

Charlson comorbidity index

The median Charlson Comorbidity Index (CCI) is 1; 96% estimated 10-year survival rate.

72.7%



Mild
(CCI 0-2)

20.5%



Moderate
(CCI 3-4)

6.8%

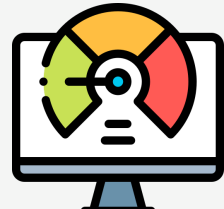


Severe
(CCI 5+)

SOFA score

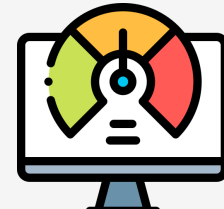
The median Sequential Organ Failure Assessment (SOFA) is 3.5; 97% estimated ICU survival rate.

77.3%



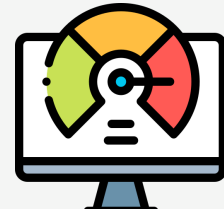
Mild
(SOFA 0-6)

22.2%



Moderate
(SOFA 7-14)

0.6%



Severe
(SOFA 15+)