



# PIONEER

Health Data Research Hub

**NIHR** | National Institute for Health and Care Research

## Acute Care Patients Aged 65+ With Complex Multimorbidity: NIHR OPTIMAL Dataset

Data range for infographic: 01.01.2018-31.03.2019  
Other extended time periods are available on request

Longitudinal data for 15,950 patients aged 65+ presenting acutely with multimorbidity. Includes demographics, comorbidities, serial physiology, frailty scores, blood results, medications, allergies, treatments, procedures and 12-month mortality outcomes.

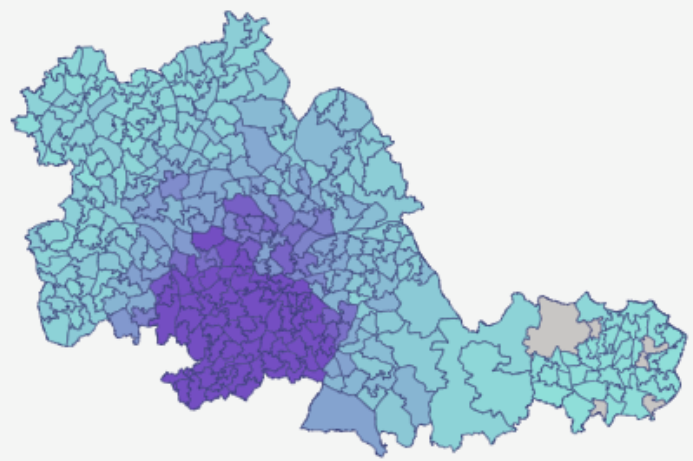
### Demographic

The dataset includes patients aged 65+:

- Female **53%**
- Male **47%**

The majority of the patients are of White ethnic background accounting for **78%** of the population followed by **9%** Asian, **8%** Unknown, **3%** black/African/Caribbean, **1%** Other and **1%** Mixed.

### West Midlands patient heatmap



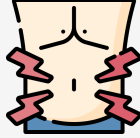
### Top A&E presenting complaints

**2352**



Chest pain

**1312**



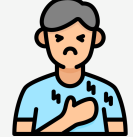
Abdominal pain

**2655**



Asthenia

**2813**



Dyspnea

**1309**



Difficulty breathing

**935**



Fever

### Multimorbidity

Top 5 ICD10 diagnosis in patient spell:

- **15K** Essential primary hypertension
- **6K** Type 2 diabetes mellitus
- **6K** Atrial fibrillation and flutter
- **4K** Chronic ischaemic heart disease
- **3K** Acute renal failure

Other diagnoses are available.

**6%**



Fit

**17%**



Mildly frail

**32%**



Moderately frail

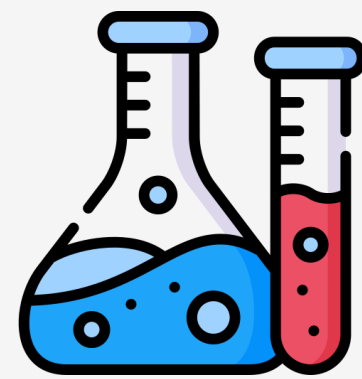
**45%**



Severely frail

### Frailty index

The average hospital electronic record frailty index (HERFI) is 0.42, moderately frail. The average Frailty Index score by QEHB (FI-QEHB) is 0.34, moderately frail.



### Laboratory tests

**1.5M** serial laboratory tests recorded including complete blood counts, liver functions tests and more.

Other laboratory tests are available.

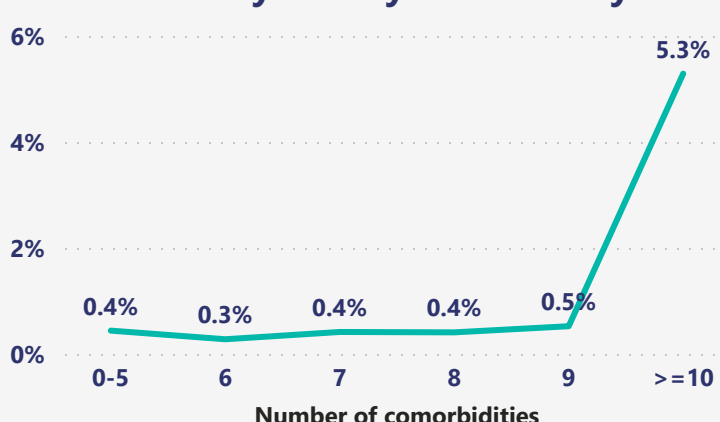
### Inpatient care

- **27,676 Hospitalised spells;** containing **15,950** unique patients admitted to hospital
- **235K** days worth of hospital data with an average in-hospital length of stay of 8 days
- Hospital mortality rate of 6% with and a survival rate of 77% within 1 year of discharge
- The average national early warning score (NEWS2) is 2, indicating low clinical risk

### Comorbidity mortality

The average number of ICD10 coded comorbidities in patient spells is 6.

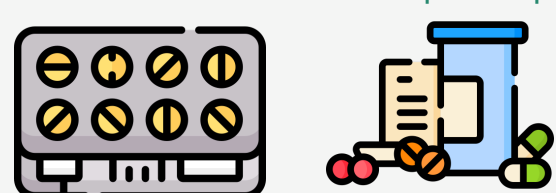
#### Mortality rate by comorbidity



### Medication

Top 5 prescriptions to take out from hospital:

- **4.0K** Paracetamol prescriptions
- **2.4K** Lansoprazole prescriptions
- **2.4K** Senna prescriptions
- **2.0K** Atorvastatin prescriptions
- **1.8K** Docusate sodium prescriptions



Other medications are available