

## Explanatory Notes

All cases (locked and unlocked) admitted to hospital between 01 January 2025 and 31 March 2025 have been included. Only cases where the necessary data are available have been included in the denominator for each individual analysis.

At hospital level, runcharts are compared to hospitals within the same ICB.

The results for process measures for which fewer than 10 cases have available data will not be reported. Instead the value will be marked as 'Insufficient data'.

## Mortality

This section defines three key mortality measures for the monthly report. In all cases we include only patients whose surgery-to-discharge interval (Q4.1 - Q7.8) is  $\leq 30$  days, and we exclude any with missing discharge status (Q7.7) or missing dates (Q4.1/Q7.8).

### 1. 30-Day Observed (Crude) Mortality Rate

Let

- $d$  = number of patients who **died** within 30 days of surgery,
- $N$  = total number of patients with known discharge status (alive, died, or still in hospital at 60 days).

Then the crude 30-day mortality rate (as a percentage) is

$$\text{Crude 30-day Mortality Rate} = \frac{d}{N} \times 100.$$

### 2. Standardised Mortality Ratio (SMR)

Let

- $O = d$  = observed deaths within 30 days,
- $E = \sum_i \text{RiskScore}_i$  = sum of individual parsimonious NELA mortality risk scores for all  $N$  patients.

The SMR is

$$\text{SMR} = \frac{O}{E}.$$

### 3. Risk-Adjusted Mortality

Combines the SMR with the **National** 30-day mortality rate for the examined three month period:

$$\text{Risk-Adjusted Mortality} = \text{SMR} \times (\text{National 30-day mortality}) \times 100.$$

For better insight to how these standards have been structured, please refer to the **NELA standards document**.

**Quarterly mean performance**



**Overall performance**



**Risk-adjusted mortality**

Rating boundaries are lower and upper 99.8% and 95% confidence limits



**Non-risk-adjusted measures**

Rating boundaries are lower and upper national quartiles

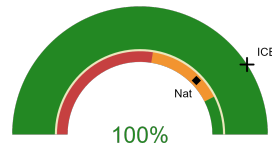


**Royal Bolton Hospital**

**2024-25 Reporting Period 10: 01 January 2025 - 31 March 2025**

These plots represent patients having an emergency laparotomy during Year 2024-25 Reporting Period 10 of NELA data collection. This version will be made publicly available via the NELA website. Feedback from participating hospitals is welcome.

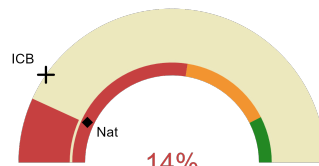
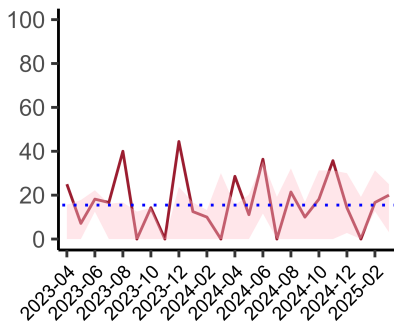
**NELA process and outcome measures**



Estimated case ascertainment  
01 January 2025 - 31 March 2025

**Estimated case ascertainment  
(Based on HES/PEDW Data)**

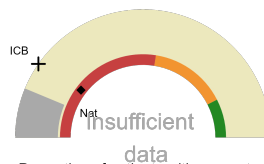
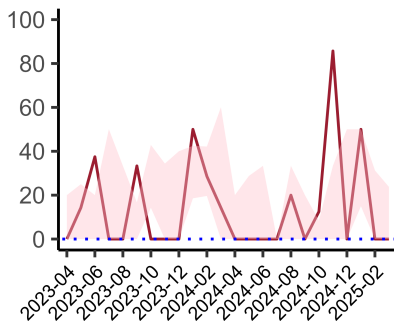
Expected number of cases 37  
Total cases entered 37  
Cases locked 37  
Cases unlocked 0



Proportion of patients who had a CT scan that was reported by a senior radiologist (ST3+) and communicated with the team in the correct time scale before surgery  
01 January 2025 - 31 March 2025

**CT reported by a senior radiologist (ST3+) and communicated with the team in the correct time scale before surgery.**

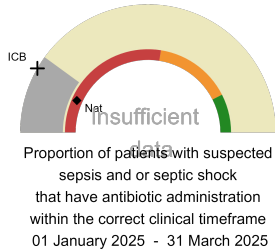
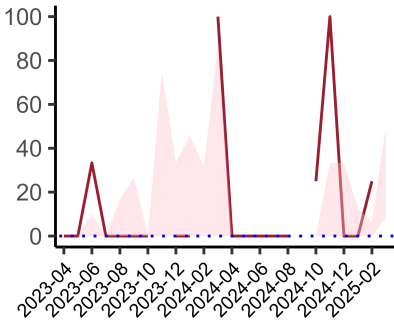
National mean 14%  
ICB mean 19%  
Number of patients included 22  
Data completeness 100%



Proportion of patients with suspected sepsis or infection that have antibiotic administration within the correct clinical timeframe  
01 January 2025 - 31 March 2025

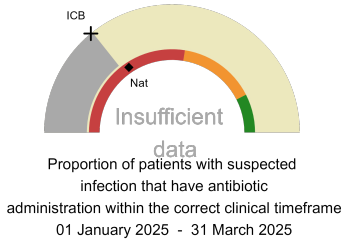
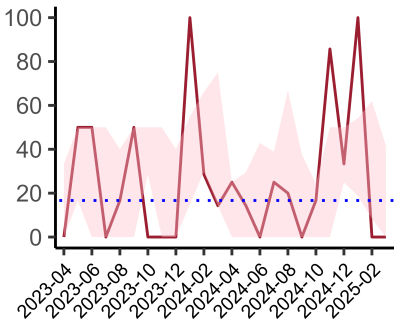
**Combined Infection management standard - antibiotic administration within the correct clinical timeframe**

National mean 21%  
ICB mean 19%  
Number of patients included 8  
Data completeness 100%



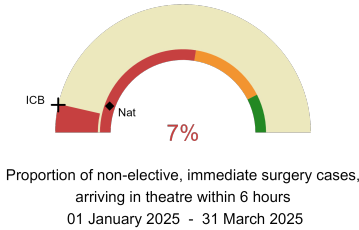
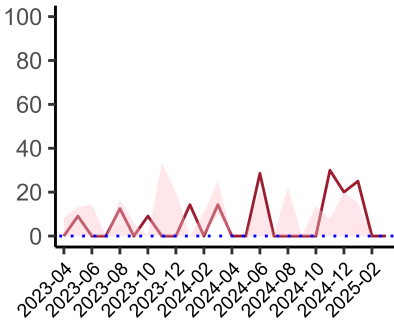
**Sepsis/septic shock - antibiotic administration within the correct clinical timeframe**

National mean 13%  
ICB mean 17%  
Number of patients included 5  
Data completeness 100%



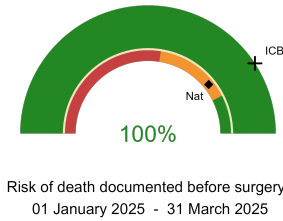
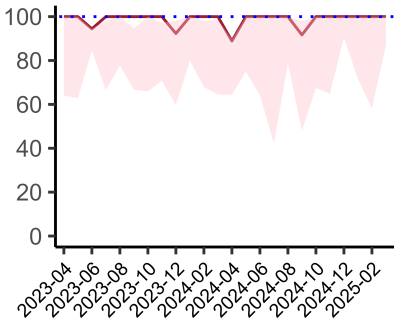
**Infection - antibiotic administration within the correct clinical timeframe**

National mean 31%  
ICB mean 28%  
Number of patients included 7  
Data completeness 100%



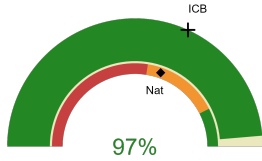
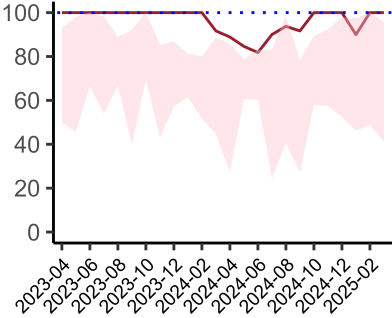
**Non-elective, immediate surgery cases, arriving in theatre within 6 hours.**

National mean 11%  
ICB mean 7%  
Number of patients included 14  
Data completeness 100%



**Risk documented before surgery**

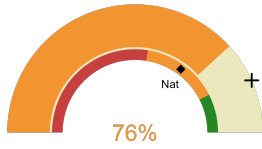
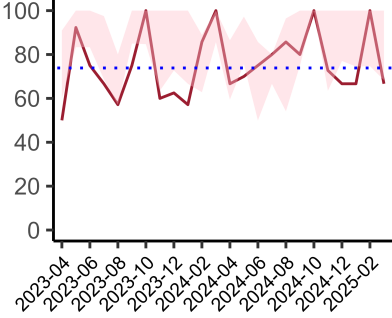
National mean 78%  
ICB mean 82%  
Number of patients included 37  
Data completeness 100%



Risk of death documented after surgery  
01 January 2025 - 31 March 2025

**Risk documented after surgery**

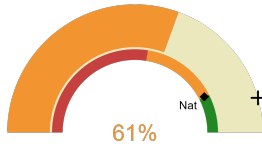
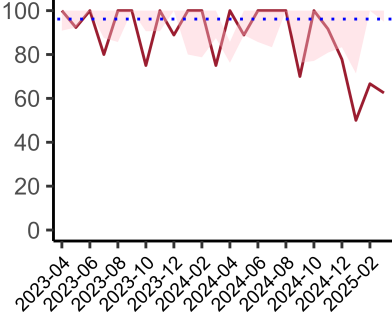
National mean 61%  
ICB mean 64%  
Number of patients included 37  
Data completeness 100%



Admitted to critical care following surgery when the risk of death ≥ 5% (Excludes patients who died in theatre or with a decision to palliate)  
01 January 2025 - 31 March 2025

**Admitted to Critical Care (risk of death ≥ 5%)**

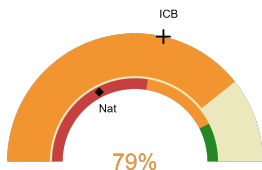
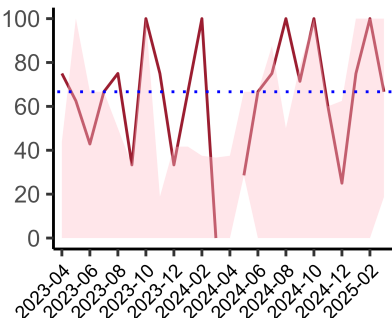
National mean 70%  
ICB mean 87%  
Number of patients included 17  
Data completeness 100%



Consultant surgeon and anaesthetist present in theatre when risk of death ≥ 5%  
01 January 2025 - 31 March 2025

**Consultant Anaesthetist & Consultant Surgeon in theatre (risk of death ≥ 5%)**

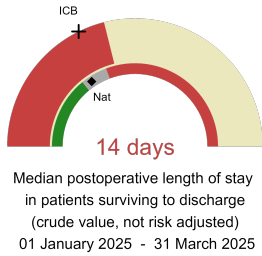
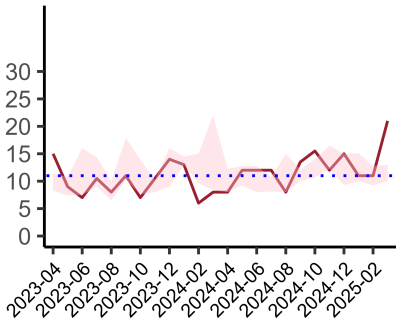
National mean 85%  
ICB mean 91%  
Number of patients included 18  
Data completeness 90%



Perioperative assessment by a care of the older person specialist  
01 January 2025 - 31 March 2025

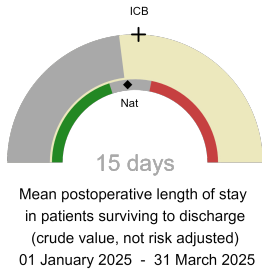
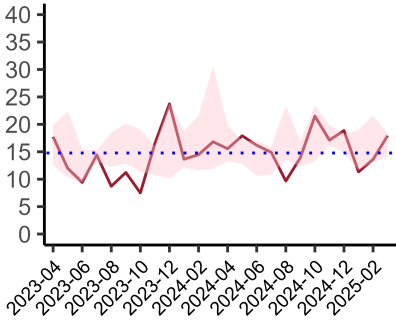
**Perioperative Assessment by a member of the geriatrician-led multidisciplinary team for patient aged 65 or over and frail (CFS ≥ 5) or 80+**

National mean 35%  
ICB mean 57%  
Number of patients included 14  
Data completeness 100%



**Median postoperative length of stay**

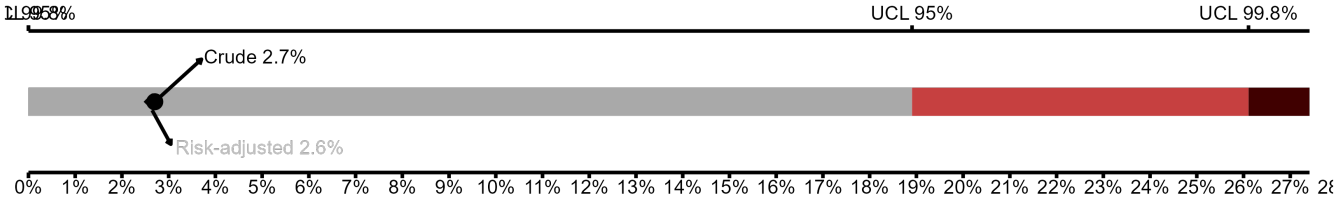
National median 10 days  
ICB median 11 days  
Number of patients included 36  
Data completeness 100%



**Mean postoperative length of stay**

National mean 15 days  
ICB mean 16 days  
Number of patients included 36  
Data completeness 100%

**Risk-Adjusted Mortality**



Number of patients included 37 | 30-day risk-adjusted mortality rate 2.6% | National 30-day mortality rate 7.9%

**Integrated Care Board**

Royal Bolton Hospital is part of the NHS Greater Manchester Integrated Care Board ICB. This comprises Salford Royal Hospital, Stepping Hill Hospital, Tameside General Hospital, The Christie, The Royal Oldham Hospital, North Manchester General Hospital, Wythenshawe Hospital, Royal Albert Edward Infirmary, Manchester Royal Infirmary, Royal Bolton Hospital.