Using mortality data to improve the quality and safety of patient care

March 2021

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Publication notes

This document is the Health Board's 31st release of data relating to mortality.

As in previous publications, the Health Board is publishing other contextual mortality data sourced from the Office for National Statistics (ONS). This provides context to the risk adjusted figures, and further evidence of the quality of care provided. As this data is published less frequently, it is now presented as a separate document.

All data that appear in the document are also available as Excel tables and charts on our web site[1].

Data has been sourced from the All Wales Benchmarking system (via CHKS) and ONS.

[1] http://www.wales.nhs.uk/sitesplus/861/page/68460

Introduction

Quality and Safety

Betsi Cadwaladr University Health Board (BCUHB) is committed to delivering safe and high quality healthcare services. Everyone who works for the Health Board has a part to play in driving up standards. We must always put the safety of our patients at the heart of everything we do. To support this, the Board is engaged in a wide range of activities to ensure patient safety, and provide patients with appropriate assurance about the quality and safety of our services.

A key element of this continual cycle of quality improvement is the analysis and understanding of mortality information.

Why are we monitoring these figures?

The Health Board monitors mortality on a regular basis, and investigates any areas of concern. The focus is on continuous quality improvement and timely intervention to ensure the best outcome for our patients.

Focused on learning we firmly believe that every death deserves a review.

Across Wales, the new independent Medical Examiner Service is being introduced. This service is fully operational in Ysbyty Glan Clwyd and will be introduced into our other sites over the next few months. The Medical Examiner Service provides an independent and consistent review of each death (that has not been referred to the Coroner). Where there is organisational learning they highlight this to us for further review. Currently, this process is within the acute hospitals and over time, it will include all deaths within the Health Board.

At the moment, we are continuing to use our existing processes to ensure all hospital deaths have a review.

What are we measuring?

Crude Mortality

A crude (or unadjusted) mortality rate takes no account of risk factors. The definition is therefore relatively simple (actual deaths in a month ÷ total discharges per month x 100). This figure, stated as a rate per 100 discharges naturally varies by the population served, as well as the mix of specialties provided – for example, Ysbyty Glan Clwyd has a Cancer Treatment Centre. As crude mortality is not affected by the clinical coding process, more recent data is provided.

Common Medical Emergencies

Stroke, heart attack and hip fracture are common medical emergencies associated with mortality. Monitoring mortality for these conditions provides us with further useful information on the quality of care in our hospitals. All three conditions are more prevalent in older people whose health may be more fragile; consequently, death cannot always be avoided.

Clinical Coding

Clinical Coding is the process of transcribing a patient's diagnosis and treatment from their case notes onto the Patient Administration System. The quality and timeliness of this data is essential to support reporting. Condition specific indicators reported in this document, such as stroke, heart attack, hip fracture, and the risk adjusted mortality indicators, rely on the clinical coding to define the condition and treatment.

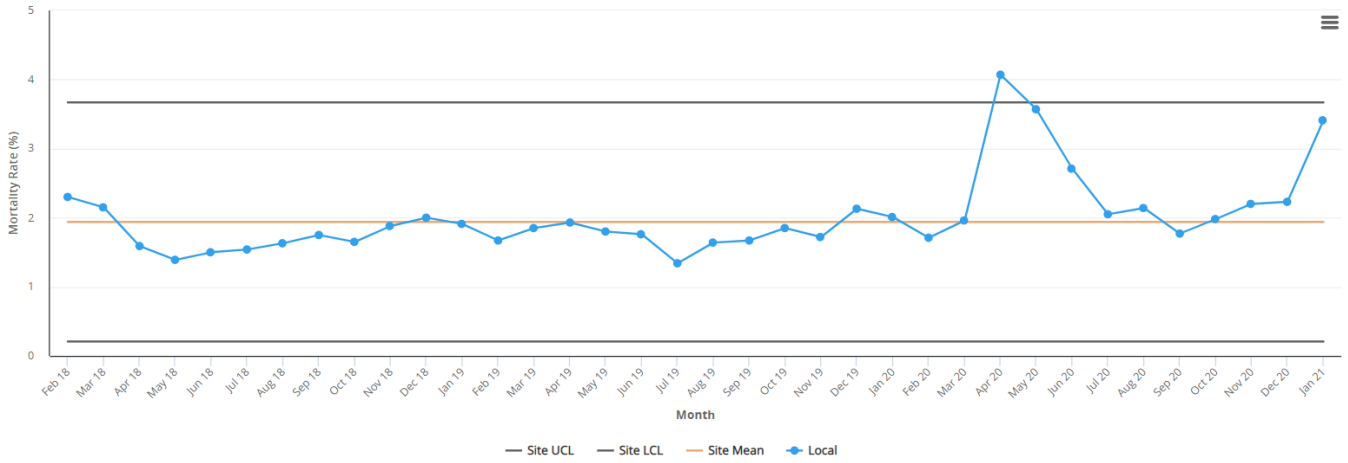
The national target is 95% completeness for any given month within 1 month of episode end date, and 98% for any rolling 12 months within 1 month of episode end date. For the month of January 2021, coding completeness was at 89.2%. For the 12 month period covered by this report, the Health Board achieved 98% coding completeness.

What does this data tell us?

Health Board wide

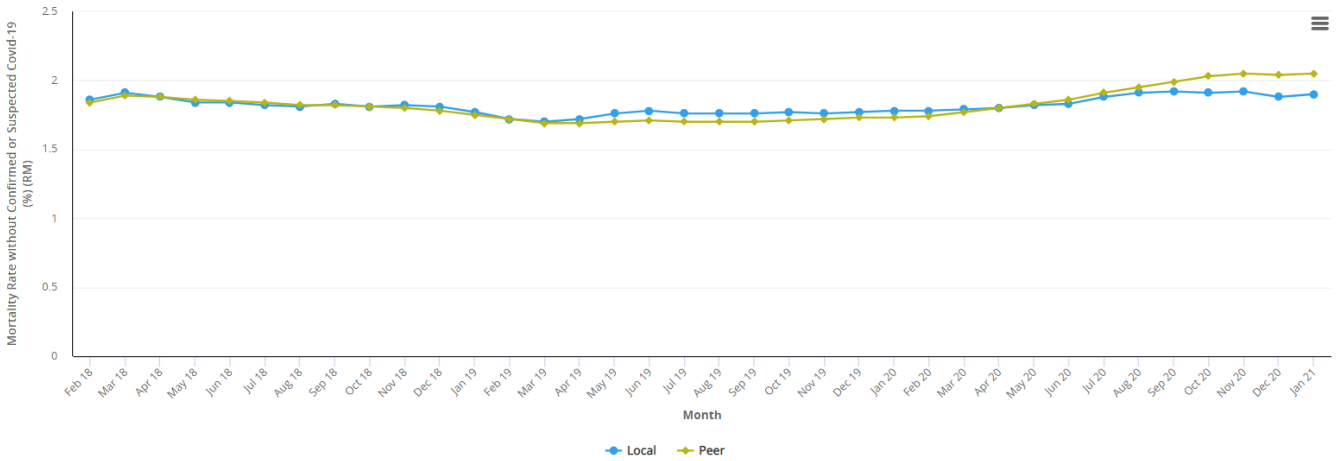
For the 12 months to January 2021, the crude mortality rate was 2.38% (1 in 42 patients), compared to the Welsh average of 2.77% (1 in 36 patients).

The following chart shows the monthly rolling crude mortality for the Health Board. This measure includes all deaths in a hospital setting. The spikes in April 2020 and January 2021 signal there were more deaths than expected; we know these were Covid-19 related deaths.



BCUHB Crude Mortality (average over 12 month)

For the rolling 12 months to January 2021, the crude mortality rate **excluding cases of Covid-19** was 1.90% (1 in 52 patients), compared to the Welsh average of 2.05% (1 in 49 patients). Whilst a higher level of deaths in April 2020 persists, these were predominantly admissions with respiratory disease and likely to be Covid-19 related. The Office of National Statistics reports causes of death rather than admission diagnoses and these show no excess deaths in non-Covid-19 diagnoses at this time.



BCUHB Crude Mortality without confirmed or suspected Covid-19 (average over rolling 12 months)

Mortality following Surgery

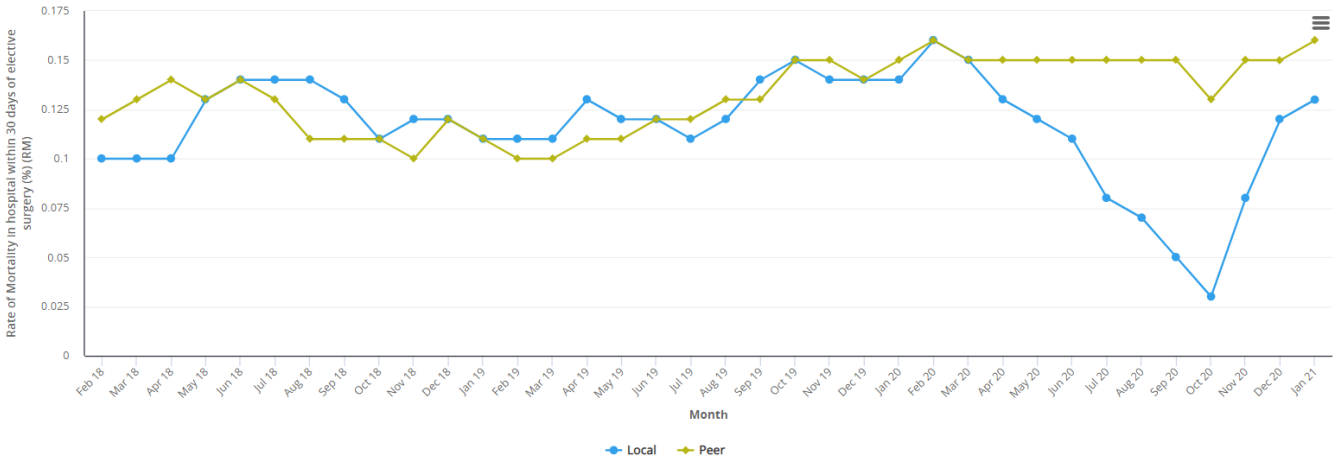
The following two indicators present information on mortality within 30 days of elective (planned) or non-elective (emergency) surgery. As the measures are not risk adjusted, they will be affected by the type of surgery and patient population. It should be noted they include deaths in a hospital setting only.

In both elective and non-elective surgery, the mortality rate within 30 days is very low. The 12 months to January 2021 shows a mortality rate of 0.13% for elective surgery (1 in 741 patients), with the Welsh average being 0.16% (1 in 607 patients).

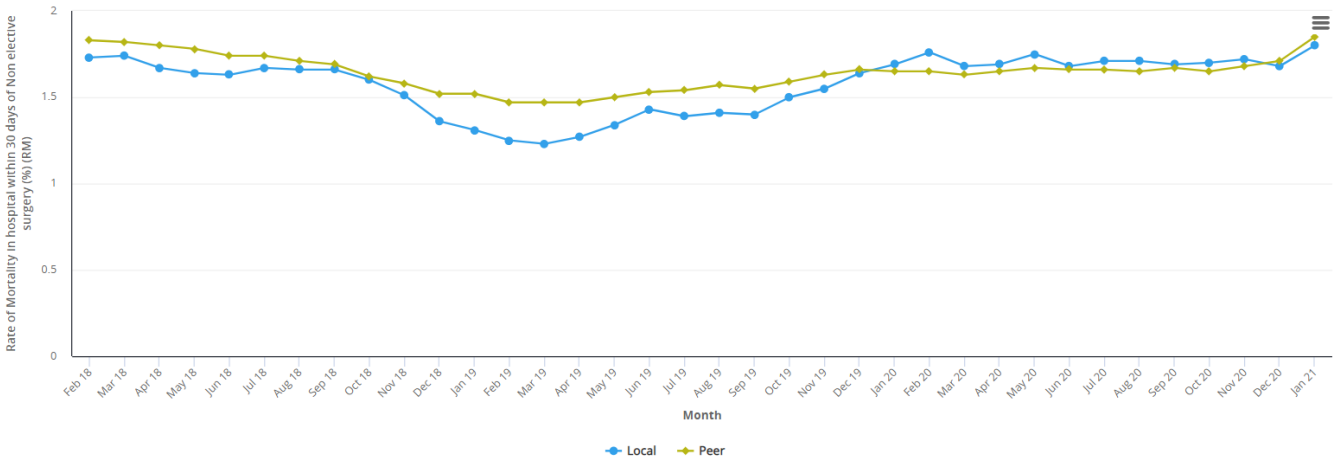
For non-elective (emergency) surgery the rate was 1.80% (1 in 56 patients) for BCUHB and 1.85% (1 in 54 patients) for Wales. Our Health Board performance is in line with the Welsh average.

All cases are reviewed as part of the Health Board's mortality review process. The elective care death rate will be influenced by a number of factors recognising that routine elective surgery was cancelled, only urgent and cancer surgery was delivered during the Covid-19 pandemic and patients were provided with rehabilitation outside of hospital settings where possible. These factors varied between Health Boards and it is expected that learning will be shared.

The following charts show the rolling 12 month elective and non-elective mortality rates.



Elective Surgery Mortality (rolling 12 month)



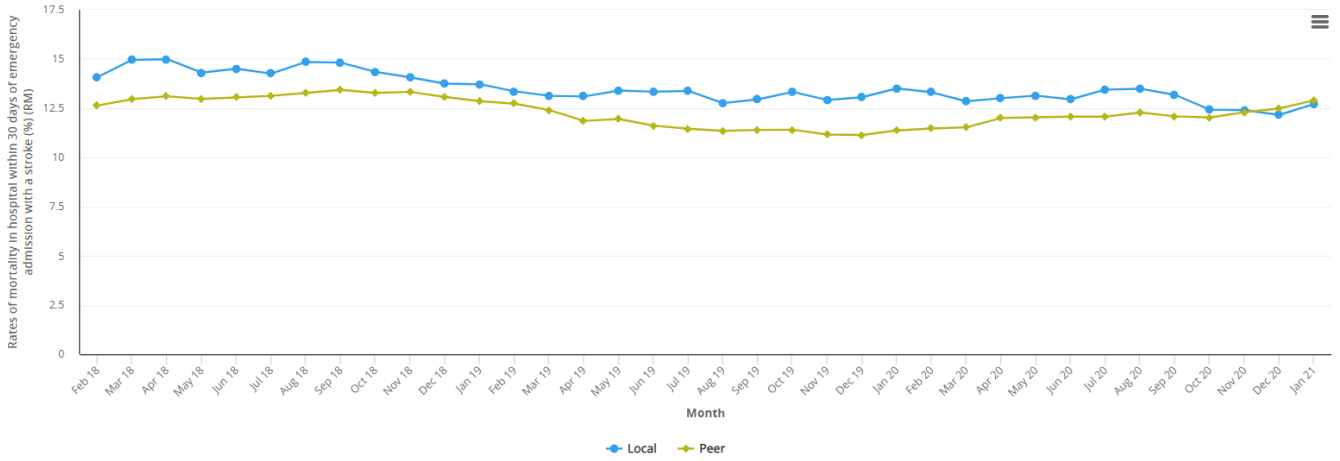
Non-Elective Surgery Mortality (rolling 12 month)

Common medical emergencies

The following indicators present information on mortality following specific medical emergencies (stroke, hip fracture, and heart attack). This provides some information on the quality of care in each hospital. All three conditions are more prevalent in older people whose health may be more fragile so death cannot always be avoided.

Stroke

The following chart shows the mortality within 30 days of an admission following a stroke. The latest data shows that 12.71% (between 1 in 7 and 1 in 8) patients died within 30 days of being admitted with a stroke, which is slightly below the Welsh average of 12.90% (also between 1 in 7 and 1 in 8 patients). This is a priority area for improving care within BCUHB. The focus is on strengthening the Stroke Nurse specialist role to see improvement in the out of hours performance of door to thrombolysis times, completion of swallowing assessment and admission to a Stroke ward.

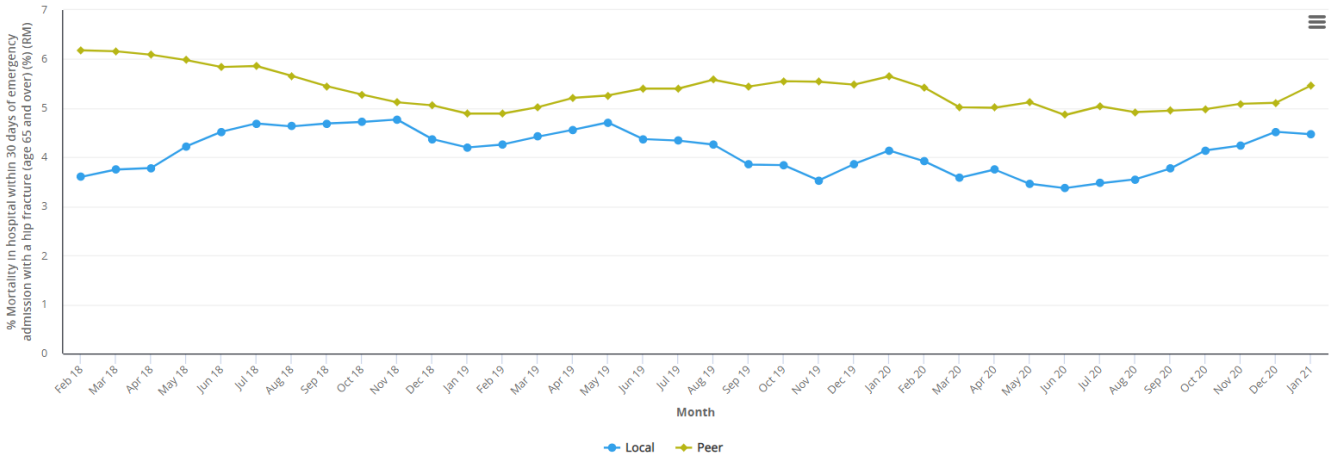


Stroke Mortality (rolling 12 months)

Hip Fracture

The following chart shows the rolling 12 months mortality within 30 days of admission following a hip fracture (for those aged 65 and over). The latest data shows that 4.47% of patients died (1 in 22 patients), which is better than the Welsh average of 5.46% (1 in 18 patients).

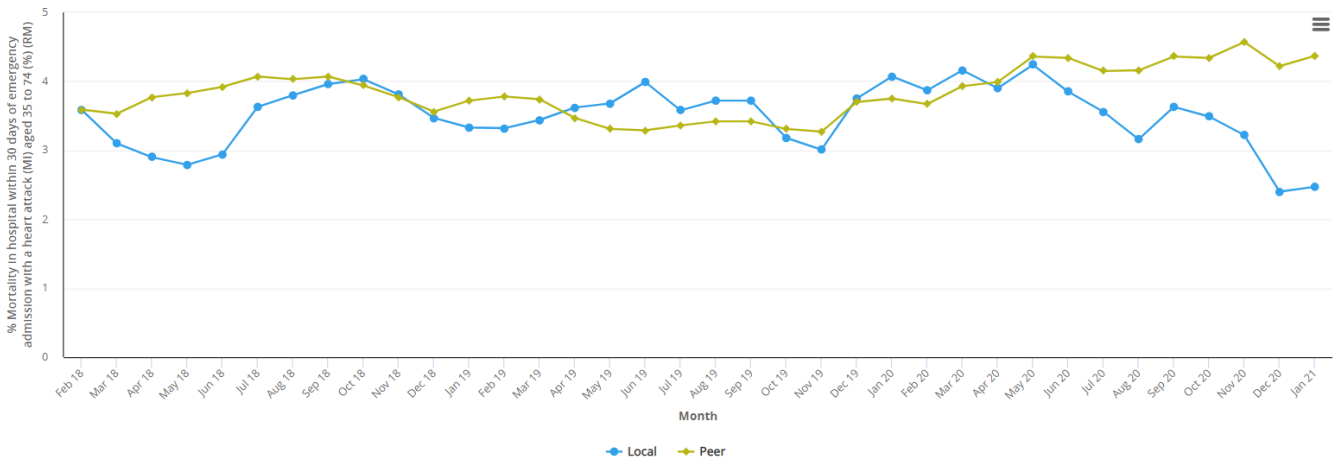
The Health Board has supported the proposal to continue to improve the frailty service. A Business Plan has been written to enhance the frailty service through the appointment of additional clinical staff across the three acute sites. Improvements have been seen with the appointment of orthogeriatricians to provide more comprehensive medical care and improved availability of senior orthopaedic clinicians during COVID-19 pandemic.



Hip Fracture (rolling 12 month)

Heart Attack

The following chart shows the rolling 12 month mortality within 30 days of admission with a heart attack for patients aged 35 to 74. The latest data shows the Health Board performed well in comparison to the peer; 2.47% of patients died (1 in 40), compared to the Welsh average of 4.37% (1 in 23 patients). The Health Board participates in the Myocardial Ischaemia National Audit Project (MINAP), and through this closely monitors the quality of care and delivery of best standards. The Health Board was able to maintain the full primary PCI service throughout the pandemic and maintain interventional and diagnostic angiography for those considered high risk.

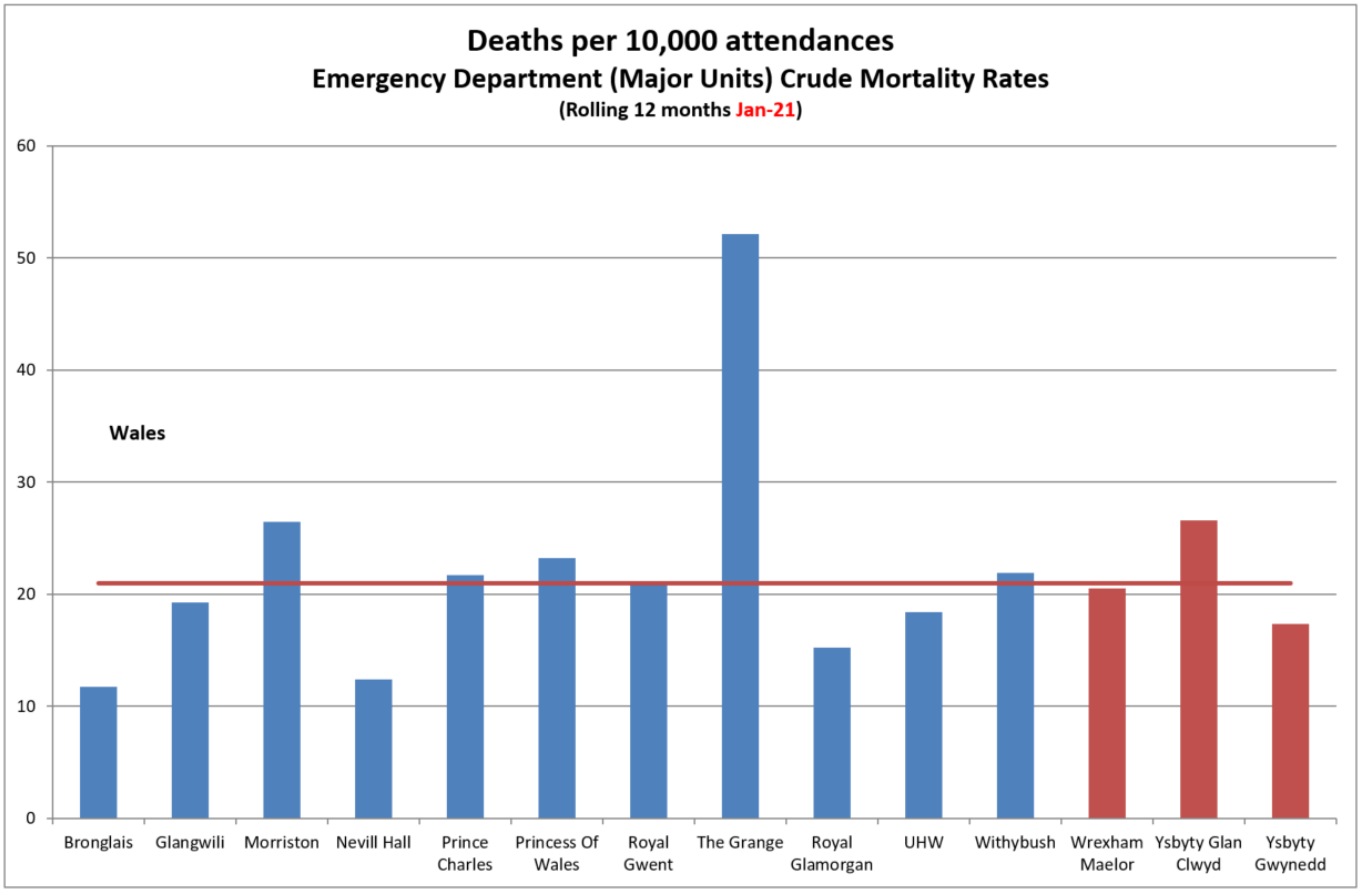


Heart Attack (rolling 12 month)

Emergency Department Mortality

The following chart shows the number of deaths per 10,000 attendances for each major Emergency Department (A&E). It should be emphasised the figures reported are a crude mortality, and unlike deaths elsewhere in the hospital, no attempt is made to 'standardise'. As such, there is no accommodation for factors such as age and severity of illness, factors known to impact on the risk of death. There is no standard definition for the deaths included in this indicator and local investigation has suggested that this may vary between departments across BCUHB and the other Health Boards.

Whilst Ysbyty Glan Clwyd does have one of the higher rates, it is not very different to units of a similar size. All deaths within the department are reviewed and any learning is shared. The department does have a number of patients who remain physically within the department whilst under the care of other specialities for longer than elsewhere. If these patients die they are categorised as Emergency Department deaths.



Deaths per 10,000 attendances

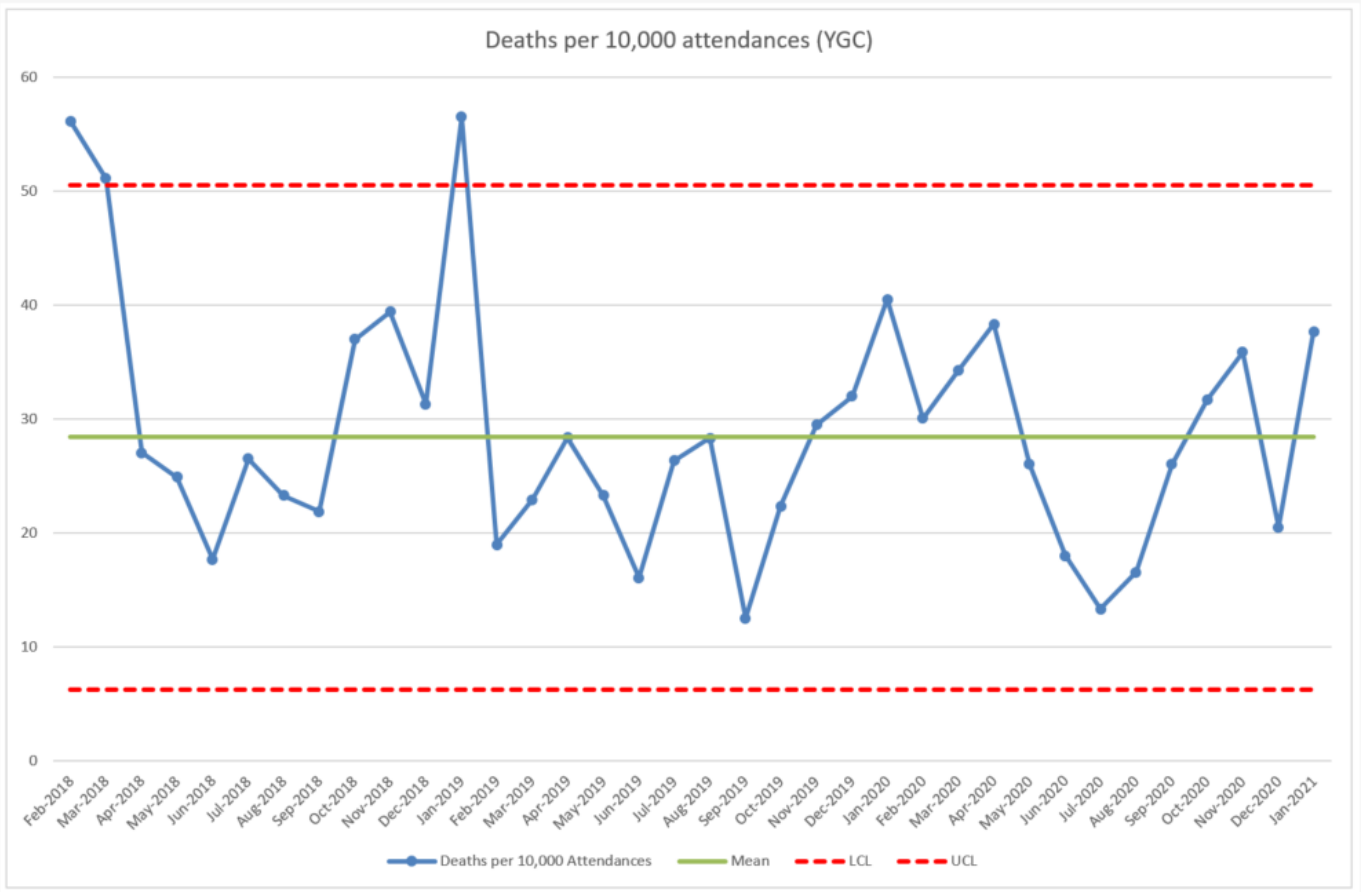
Emergency Department (Major Units) Crude Mortality Rates

(Rolling 12 months to January 2021)

The 3 major departments in North Wales are highlighted in red. The Welsh average is 21 deaths per 10,000 attendances. The latest data shows the highest number of deaths at The Grange* (52.2 deaths per 10,000 attendances), whilst the lowest are at Bronglais (11.7).

*Note: The Grange has only just started to be included in these figures; it is a new hospital / Major Emergency Treatment and Assessment Unit located near Cwmbran for people across Gwent that need highly specialised services including critical care.

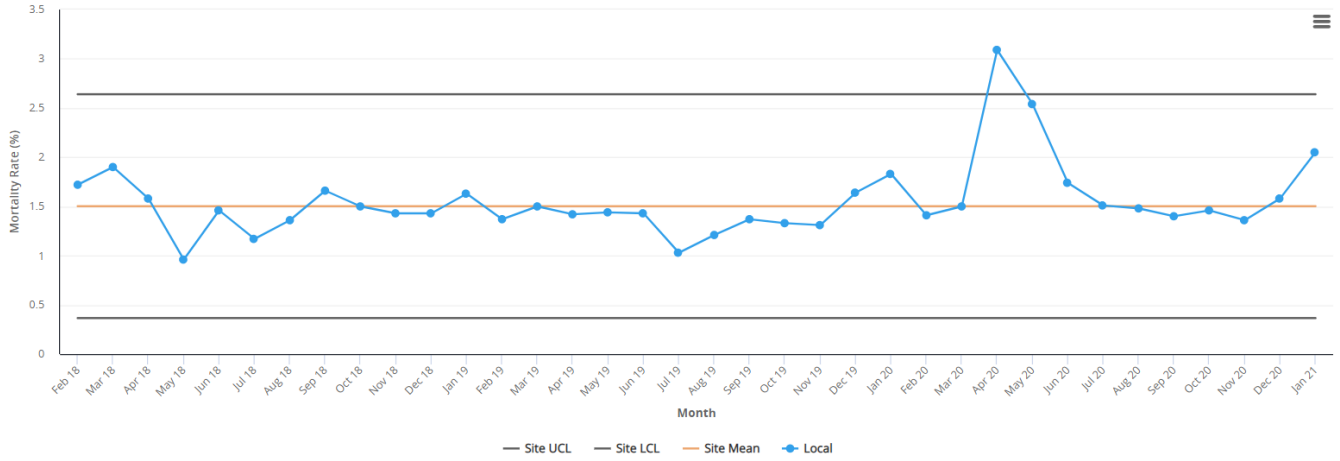
The following chart shows the Emergency Department mortality per 10,000 attendances for Ysbyty Glan Clwyd over the past three years.



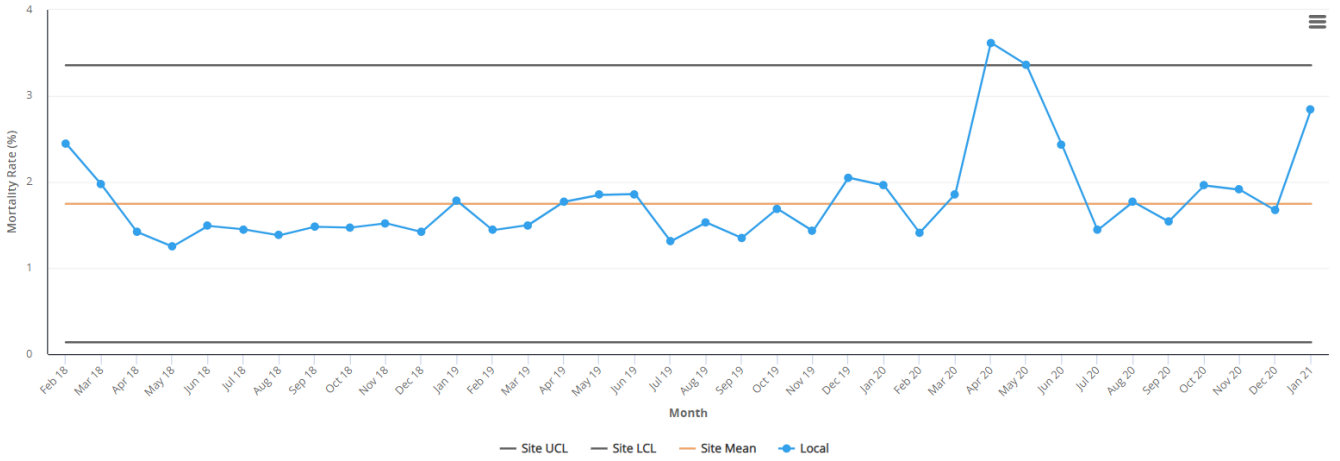
This indicator has suggested the crude death rate in YGC has been high for a number of years. This was extensively investigated in 2018/19 and a number of factors identified that contributed to these deaths and most were not amenable to change. Subsequently, a robust and timely review process has been implemented within the department to explore whether care provided was appropriate and any learning is shared and acted on.

Mortality by District General Hospital (DGH)

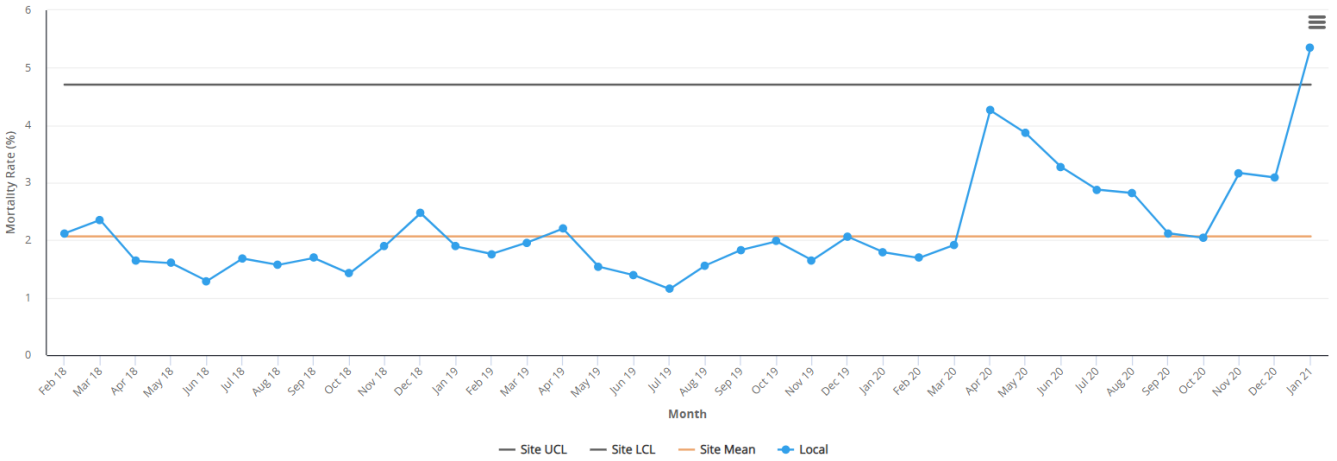
BCUHB provides major DGH services at three hospitals, Ysbyty Gwynedd, Glan Clwyd and Wrexham Maelor. The following charts show the individual monthly crude mortality figures for the last three years. The impact of the Covid pandemic is clearly seen.



Ysbyty Gwynedd Crude Mortality (rolling 12 month)

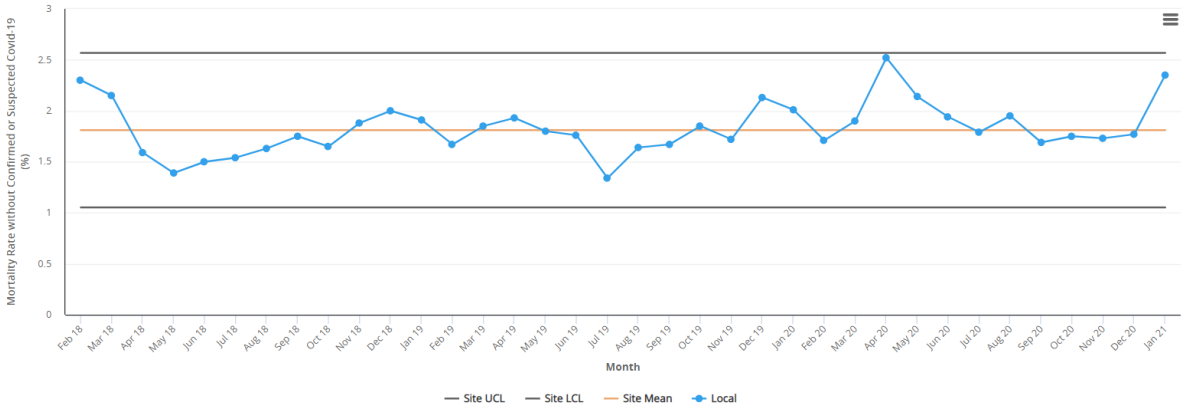


Ysbyty Glan Clwyd Crude Mortality (rolling 12 month)

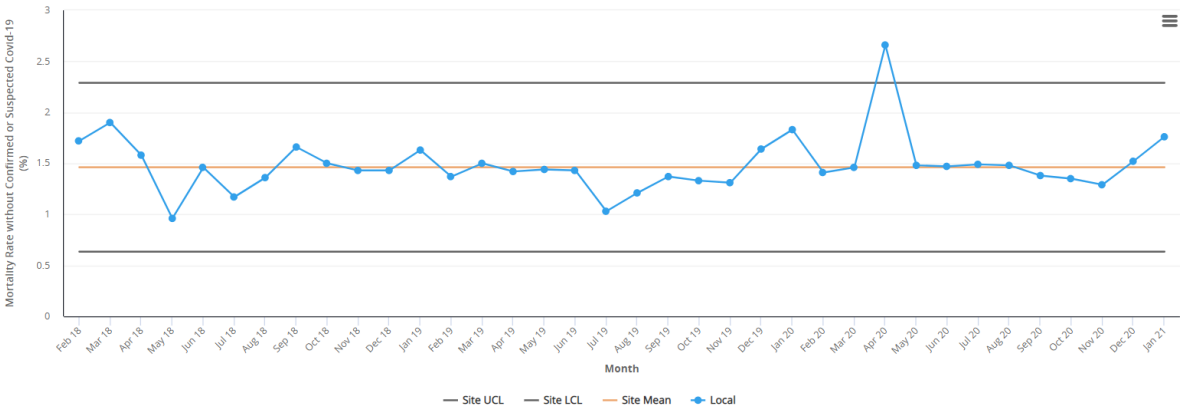


Wrexham Maelor Crude Mortality (rolling 12 month)

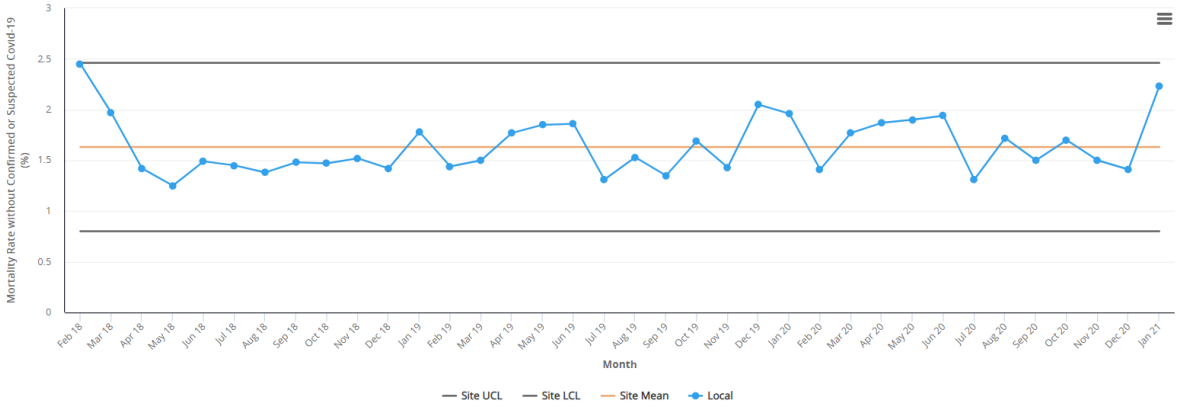
The following charts show the individual monthly crude mortality figures for the three sites excluding cases related to Covid-19 (based on clinical coding criteria using diagnostic codes U071 - confirmed and U072 - suspected). During peaks in Covid-19 activity, only the most seriously ill people were kept in hospital so unfortunately they potentially had an increased risk of dying. This explains why the peaks for inpatient death rate mirror the Covid surges.



Ysbyty Gwynedd Crude Mortality (rolling 12 month) excluding Covid-19



Ysbyty Glan Clwyd Crude Mortality (rolling 12 month) excluding Covid-19



Ysbyty Wrexham Maelor Mortality (rolling 12 month) excluding Covid-19

Other Mortality Indicators

Detailed, longer-term analysis provided by Public Health Wales of other mortality indicators that are measured in Wales is available on our web site[2].

[2] http://www.wales.nhs.uk/sitesplus/861/page/68460