NEWS RELEASE
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No significant clinical issues identified in mortality ratios across 6 key diagnoses in 2017

The National Office of Clinical Audit (NOCA) announces the publication of their third report from the National Audit of Hospital Mortality (NAHM). The report presents information across six medical conditions[1]: acute myocardial infarction (AMI) / heart attack, heart failure, ischaemic stroke, haemorrhagic stroke, chronic obstructive pulmonary disease (COPD) and pneumonia. NAHM uses data from 44 publicly funded hospitals in Ireland.

This report cannot be used to compare hospitals to one another. No two hospitals are expected to be the same, as hospitals have very different case mix or patient profiles.

KEY HIGHLIGHTS

- The report presents standardised mortality ratios (SMR)[2] for in-hospital mortality in 2017 (2015-2017 combined for haemorrhagic stroke). All hospitals were within the expected range for AMI, heart failure, ischaemic stroke, haemorrhagic stroke, COPD and pneumonia.
- Shared learnings from hospitals are once again highlighted in this report. St James's Hospital had a statistical outlier in AMI during 2016 which continued through into 2017. The hospital used the experience to make real changes to its processes, which resulted in improvements to the quality of its AMI data and were able to ensure they were not a statistical outlier at the end of 2017. There were no patient safety concerns.
- Twenty percent of all admitted patients with a respiratory condition in 2017 had acute lower respiratory infection (unspecified) documented as their principal diagnosis. This finding has resulted in two broad-ranging recommendations: the first is aimed at clinicians to improve the accuracy of documentation, and the second is aimed at NAHM to improve its web-based tool.
- There has been a significant reduction over 10 years (47%), in AMI in-hospital deaths per 100 admissions, from 9.3 in 2008 to 4.9 in 2017.
- There has been a significant reduction over 10 years (26%), in heart failure in-hospital deaths per 100 admissions, from 9.5 in 2008 to 7.0 in 2017.
- There has been a significant reduction over 10 years (28%), in ischaemic stroke in-hospital deaths per 100 admissions, from 13.4 in 2008 to 9.7 in 2017.
- There has been no significant reduction over 10 years (10%), in haemorrhagic stroke in-hospital deaths per 100 admissions, from 30 in 2008 to 27.1 in 2017.
- There has been no significant reduction over 10 years (18%), in COPD in-hospital deaths per 100 admissions, from 4.2 in 2008 to 3.5 in 2017.
- There has been a small but significant reduction over 10 years (17%), in pneumonia in-hospital deaths per 100 admissions, from 14.1 in 2008 to 11.7 in 2017.

Dr Brian Creedon, NAHM Clinical Lead said "the inclusion of a clinically lead hospital review from St James's Hospital, showing where there are data issues and how they have been delved into, is very important". He added "it shows that hospitals are now using NAHM data to make an impact on the health system".

NOCA was established in 2012 to create sustainable clinical audit programmes at national level. NOCA enables those who manage and deliver healthcare to improve the quality of care through national clinical audit. NOCA is funded by the Health Service Executive Quality Improvement Division, governed by an independent voluntary board and operationally supported by the Royal College of Surgeons in Ireland.

ENDS

NOTES TO EDITOR

Copies of the report will be available to download from www.noca.ie/publications
For further information or comment, contact NOCA at 01 402 8577 or nahm@noca.ie

[1] The NAHM web-based tool allows all hospitals to view and monitor all diagnoses not just those publically reported. Diagnoses included in this report have met specific inclusion criteria, as set out in the main report on Page 30.

What is an SMR?[2]

Standardised Mortality Ratio (SMR) is an important measurement tool that compares hospital mortality with the overall national average rate for that speciality or diagnosis. SMRs are calculated as a ratio of the actual number of deaths to the expected number of deaths among patients in acute hospitals, presented with control limits set at 99.8%. The expected number of deaths is calculated using statistical methods to risk adjust for factors that are known to impact in-hospital mortality.

- age
- gender
- the presence of certain co-morbidities based on the Charlson index (e.g. congestive heart failure, dementia, COPD)
- emergency or non-emergency admission
- admission source (home, nursing home or other hospital)
- emergency admissions within the preceding 12 months
- receipt of palliative care (as indicated on HIPE)
- indicator of deprivation (medical card)

The SMR provides a starting point to assess mortality rates and identify areas for potential improvement.

How should the NAHM report not be used?

This report cannot be used to compare hospitals. No two hospitals are expected to be the same, as hospitals have very different case mix or patient profiles. Some hospitals will have greater numbers of patients with severe conditions e.g. hospitals such as specialist referral centres may only admit patients with more complicated conditions. SMRs, because of their statistical properties, **can only be used to examine mortality patterns within a hospital and not to compare hospitals with each other**. Furthermore, SMRs cannot be used to generate a league table of hospital mortality (e.g. attempting to rank highest to lowest).

Does an SMR outside of control limits mean the hospital in question is unsafe?

No it does not mean a hospital is unsafe.

Where a hospital's SMR is unexpectedly high or low, further examination is warranted. If a hospital's actual mortality level for a diagnosis is outside the expected range, it means that more patients died than was expected.   This indicates a difference from the expected range that is unlikely to have arisen by chance alone, rather than a definitive problem with the quality of care.   This could happen for many reasons:

- Data collection
- Differences in patient case mix (not accounted for by Charlson Index)
- Differences in service delivery
- Or quality of care

Hospitals should investigate an SMR which is outside the expected range to see if a reason can be identified for this result. The purpose of the SMR is to provide hospitals with a means to review their mortality and to support their efforts to identify potential areas for improvement.

How is this report different to NHQRS published by the DoH?

The methodological approach used by the Department of Health National Healthcare Quality Reporting System (NHQRS) for the selected diagnoses of AMI, haemorrhagic stroke and ischaemic stroke is the Organisation for Economic Co-operation and Development's (OECD's) direct standardised death rate. This method allows for comparison between Ireland and other countries. The reference population is based on the age and gender profile of the OECD 2010 population admitted to hospital with the selected conditions. This method is of greatest value when it compares practice across international boundaries.

NQAIS NAHM uses an indirect SMR, which adjusts for patient characteristics (see Appendix 2: methodology for measuring in-hospital mortality). This method takes account of a large number of variables which are known to impact on inpatient mortality. This allows hospitals to compare their observed death rate against the death rate that would be expected in that hospital if other variables affecting mortality could be taken into consideration. Therefore, it is an appropriate way to measure in-hospital mortality in Ireland. Due to the differences in methodology, it is not possible to compare in-hospital mortality indicators in this report against those presented by the Department of Health in the NHQRS report.