

NATIONAL AUDIT OF HOSPITAL MORTALITY SUMMARY REPORT 2019

The National Audit of Hospital Mortality (NAHM) monitors the outcomes of patients admitted for treatment in 44 acute hospitals in Ireland. NAHM uses a web-based tool called NQAIS NAHM to calculate a standardised mortality ratio (SMR). The data used are from information routinely collected from patients in hospitals, managed by the Healthcare Pricing Office, and sent to the HSE to be applied to NQAIS NAHM. Each hospital can examine its mortality patterns and learn from them. The hospitals have an ongoing view of their data for all the different diagnoses patients may present with. Hospitals can compare data to the national average for a condition and produce reports for presentation to hospital management.

WHAT IS AN SMR?

An SMR is the ratio of patients who die after being admitted to hospital, versus the number expected to die. The expected number of deaths is a calculation based on the patient's principal diagnosis – what is found to be the main reason a for admission to hospital for treatment – and the following factors:

- Age
- Gender
- Co-morbidities (other existing medical conditions)
- Type of admission (emergency or elective)
- Source of admission (from home, nursing home etc.)
- No. of emergency admissions to the same hospital in last 12 months
- Proxy level of deprivation (medical card)
- Palliative Care (receiving care and treatment for life threatening illness)

The main reason a patient is admitted to hospital is not always the cause of their death. SMR's are an indicator of quality in hospitals. This method acts as an alert system – if the SMR is unexpectedly high or low, it alerts the hospital to the fact that further review is necessary.

The National Quality Assurance Improvement System, National Audit of Hospital Mortality (NQAIS NAHM) is the name of the web-based tool which calculates the SMR. This tool was developed by the Health Intelligence Unit, Strategic Planning and Transformation, HSE. It is a complex tool and it is very valuable to hospitals to help monitor and interpret the mortality patterns for their hospital.



Forty four acute hospitals from the seven hospital groups contribute data to the NAHM audit.



Thirty three hospitals met the criteria to be included in the 2019 report.



11 hospitals did not have sufficient numbers of patients in any of the six diagnoses to have their data published

WHAT DIAGNOSES ARE INCLUDED IN THE NAHM ANNUAL REPORT 2019?

AMI, heart failure, ischaemic stroke, haemorrhagic stroke, COPD and pneumonia. These were chosen to try to make sure that some of the conditions which have a big impact on the health service, and its patients, are included in this report. The report does not limit hospitals view of mortality to these six diagnoses as data for all of the other diagnoses can be viewed using the NQAIS NAHM web-based tool.

FOR THE 2019 REPORT, NAHM LOOKS AT MORTALITY FOR SIX MEDICAL CONDITIONS

CARDIOVASCULAR



ACUTE MYOCARDIAL INFARCTION

happens when blood flow to the heart stops or is severely restricted, often by a blood clot, causing damage to the heart muscle. It is also referred to as a heart attack.

HEART FAILURE

is a weakening of the heart muscle which prevents the heart from effectively pumping blood around the body.

AMI

Significant (35%) reduction in in-hospital mortality for AMI over the past 10 years up to 2019.

35%

Data in this report represents 91% of all cases admitted with a principal diagnosis of AMI in 2019.

91%

2% of AMI cases had palliative care coded on their medical records

2%

64% of AMI cases had a CCI score of less than 1, meaning the risk of dying within 12 months from their other conditions is low.

64%

Heart Failure

Significant reduction (23%) in in-hospital mortality over the past 10 years between 2010 and 2019.

23%

Data in this report accounts for 96% of cases admitted with a principal diagnosis of heart failure in 2019.

96%

6% of heart failure cases had palliative care coded on their medical records

6%

50% of heart failure cases had a CCI score of less than 1, meaning the risk of dying within 12 months from their other conditions is low.

50%

ISCHAEMIC STROKE

is a clot or blockage of blood vessels in the brain.

Ischaemic Stroke

Significant reduction (38%) in in-hospital mortality between 2009 and 2018, however this has risen slightly in 2019.

38%

This report accounts for 82% of all cases admitted with a principal diagnosis of ischaemic stroke in 2019.

82%

6% of ischaemic stroke cases had palliative care coded on their medical records

6%

32% of ischaemic stroke cases had a CCI score of greater than 5, meaning for these cases, the risk of dying within 12 months from their other conditions is high.

32%



HAEMORRHAGIC STROKE

is a ruptured blood vessel which leads to bleeding into the brain.

Haemorrhagic Stroke

9% reduction in in-hospital mortality over the past 10 years, 2010 to 2019.

9%

Data in this report represents 74% of all cases admitted with haemorrhagic stroke as their principal diagnosis between 2017 and 2019.

74%

12% of haemorrhagic stroke cases had palliative care coded on their medical records

12%

Although 47% of Haemorrhagic stroke cases had a CCI score of less than one, 32% had a score of 6 or more which means for those cases the risk of dying within 12 months is high.

32%

RESPIRATORY



CHRONIC OBSTRUCTIVE PULMONARY DISEASE

is a chronic lung condition which makes it hard to empty air from the lungs. Common symptoms include shortness of breath and chest tightness.

COPD

Increase (12%) in in-hospital mortality for COPD between 2010 and 2019

12%

This report accounts for 97% of cases admitted with a principal diagnosis of COPD in 2019.

97%

5% of COPD cases had palliative care coded on their medical records

5%

The majority, 65% of COPD cases had a CCI score of less than 1, meaning for those cases the risk of dying within 12 months is low.

65%

PNEUMONIA

is an infection of the lungs which causes the tiny air sacs to fill with fluid. Common symptoms can include a cough and difficulty breathing.

Pneumonia

Significant reduction (27%) in in-hospital mortality for pneumonia over the past 10 years up to 2019

27%

Data in this report represents 98% of cases admitted with a principal diagnosis of pneumonia in 2019

98%

9% of pneumonia cases had palliative care coded on their medical records

9%

Although 45% of pneumonia cases had a CCI score of less than 1, 36% had a score of 6 or more which means for those cases the risk of dying within 12 months is high.

36%

COMMENT FROM NAHM PUBLIC AND PATIENT INTEREST (PPI) REPRESENTATIVE

"Our healthcare system is a stressed system and this is something that is likely to continue, because of increased demands and constrained resources. When media report on our healthcare system the focus is usually on the bad stories. When the NAHM statistics over the past 10 year period are analysed, we see that solid steady improvements are continuously being made. This is a tribute to all the workers within our healthcare system".

Alan Egan, NAHM Public and Patient Interest (PPI) Representative



CHARLSON COMORBIDITY INDEX (CCI)

NQAIS NAHM calculates the Charlson Comorbidity Index (CCI) score for each patient. This is a score which is based on other significant conditions (co-morbidities) a patient has, alongside the reason for being admitted to hospital for treatment. The scores give a predicted mortality (death) risk within the following year as a result of their comorbidities. The scores are grouped as less than 1 (low), between 1 and 5 (medium), and greater than 5 (high).

CCI

KEY RECOMMENDATION

The National Audit of Hospital Mortality recommends that NOCA should develop more structured guidance on statistical outlier reviews, and it also recommends that this should be completed during the second quarter of 2021.



FINDINGS

OUTLIERS

There were four occasions in 2019 when there was a statistical outlier in an individual diagnosis in NQAIS NAHM. These outliers were from two hospitals, Cork University Hospital and the Mater Hospital. A review of their data has been carried out. One of these outliers relates to one of the key diagnoses featured in the report and the other three were in diagnoses which are not publicly reported on. However, the summaries of all the reviews are published in the statistical outliers section of Data Quality chapter in the main report. There were no issues of concern raised in any of the reviews.



ONGOING WORK

This report is a snap shot of mortality in the 44 hospitals in NAHM. It doesn't contain all the information on what happens in all hospitals or for all the different possible diagnoses throughout 2019. NAHM will carry out more analysis during 2021 to look at data for the hospitals not meeting the criteria for inclusion in the main report. One important area which can be improved is the documentation or wording in patient's medical records. In last year's report it was recommended that the wording to show when there was palliative care treatment given to a patient is one of these areas. The work planned for this improvement was delayed this year due to COVID-19. Work will be started on this as soon as possible.



QUALITY IMPROVEMENT

NAHM is an important indicator for quality improvement in hospitals. St James's Hospital describes how they are continually checking the data when an SMR is high or above average in a diagnosis. The work they carried out was very positive and meant that they avoided being a statistical outlier at the year-end for 2019.



ENGAGEMENT WITH HOSPITALS

A survey conducted among NQAIS NAHM users shows that for the majority of people using the tool, the new enhancements, designed to make the information from the web-based tool easier to understand, have been very useful.



NOCA National Office of
Clinical Audit

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