The National Audit of Hospital Mortality (NAHM) is an audit which looks at the patterns and trends of patients who die (mortality) in hospital. NAHM uses data routinely collected from the healthcare records of patients who are admitted to an acute hospital for treatment. This data is managed by the Healthcare Pricing Office, and sent to the HSE to be applied to a web-based tool which uses it to calculate a standardised mortality ratio (SMR).

**WHAT IS AN SMR?**
The SMR is based on the principal diagnosis – what is found to be the main reason a patient is admitted to hospital for treatment. This is not always the cause of death. An SMR is the actual number of patients who die after being admitted to hospital versus the number expected to die, when the factors (right) are taken into account. The value of the SMR is that hospitals examine mortality data for their own patients in light of what is expected, and learn from it.

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.

**FACTORS CONSIDERED FOR SMR**
- 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 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.

**FOR THE 2018 REPORT, NAHM LOOKS AT MORTALITY FOR SIX MEDICAL CONDITIONS**

<table>
<thead>
<tr>
<th>CARDIOVASCULAR</th>
<th>RESPIRATORY</th>
<th>ACUTE MYOCARDIAL INFARCTION (AMI)</th>
<th>HEART FAILURE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>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.</td>
<td>is a weakening of the heart muscle which prevents the heart from effectively pumping blood around the body.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>ISCHAEMIC STROKE</strong></td>
<td><strong>HAEMORRHAGIC STROKE</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>is a clot or blockage of blood vessels in the brain.</td>
<td>is a ruptured blood vessel which leads to bleeding into the brain.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)</strong></td>
<td><strong>PNEUMONIA</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>is a chronic lung condition which makes it hard to empty air from the lungs. Common symptoms include shortness of breath and chest tightness.</td>
<td>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.</td>
</tr>
</tbody>
</table>
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 2018 report.

All hospitals are able to view their own data throughout the year, for all conditions. This should assure patients, their families and the wider health system that in-hospital mortality is being monitored continuously.

It is not possible to compare hospitals to one another as no hospitals have an identical set of patients. Hospitals can see how they compare to the national average for a condition.

Engagement with hospitals continues to be strong with hospitals hosting training sessions for the new enhanced NAQIS NAHM.

One hospital is a statistical outlier in the pneumonia group and there has been continual links between NOCA and the hospital throughout the year.

NAHMS USE THE SMR TO CREATE GRAPHS FOR IRISH HOSPITALS TO TRACK THEIR IN-HOSPITAL MORTALITY TRENDS.

There are certain criteria / factors which need to be met for each diagnosis in order for a hospital to have data included in the NAHM public report. These factors are put in place to ensure there are sufficient numbers of cases so no patient can be identified from the data. Diagnoses with high mortality, high burden on the health system and clinical risk are highlighted and there needs to be a National Clinical Programme giving direction for the condition.

NQAIS NAHM data are reviewed at least once every quarter and a summary of the findings is included in the Group Clinical Audit Committee report to the UL Hospitals Group (ULHG) Quality and Safety Executive. It is also discussed at the group’s Clinical Director Forum and was presented at hospital grand rounds and the ULHG’s Clinical Audit and Quality Improvement Conference 2019.

The ability to continually monitor our SMRs against a national average, and to see our trends, is very helpful in providing assurance to the ULHG executive, board and service users.

Deirdre King de Montano
General Manager –
Office of the Chief Clinical Director,
UL Hospitals Group
HIGHLIGHTS FROM NATIONAL AUDIT OF HOSPITAL MORTALITY ANNUAL REPORT 2018

**35%** significant reduction in the **AMI** crude mortality rate over past 10 years.

AMI data in this report represents **93%** of all inpatients nationally who had AMI documented as the main reason they were admitted to hospital for treatment in 2018.

**6%** reduction in the **heart failure** crude mortality rate over past 10 years.

Heart failure data in this report represents **97%** of all inpatients nationally who had heart failure documented as the main reason they were admitted to hospital for treatment in 2018.

**38%** significant reduction in the **ischaemic stroke** crude mortality rate over past 10 years.

Ischaemic stroke data in this report represents **82%** of all inpatients who were admitted to a stroke unit (27 units) with ischaemic stroke documented as the main reason they were admitted to hospital for treatment in 2018.

**17%** reduction in the **haemorrhagic stroke** crude mortality rate over past 10 years.

Haemorrhagic stroke data in this report represents **74%** of all inpatients who were admitted to a stroke unit (27 units) with haemorrhagic stroke documented as the main reason they were admitted to hospital for treatment between 2016 and 2018.

**0%** reduction in the **COPD** crude mortality rate over past 10 years.

COPD data in this report represents **99%** of all inpatients nationally who had COPD documented as the main reason they were admitted to hospital for treatment in 2018.

**28%** significant reduction in the **pneumonia** crude mortality rate over past 10 years.

Pneumonia data in this report represents **97%** of all inpatients nationally who had pneumonia documented as the main reason they were admitted to hospital for treatment in 2018.

There is a rise in the number of patients who died and had a note on their record to indicate they were receiving palliative care treatment. This rise is most likely due to the awareness raised about palliative care and its potential importance to NQAIS NAHM.

One hospital had a statistical outlier for pneumonia in 2018. The hospital has done a preliminary review and will provide a further update for the 2019 annual report.

Work is still needed to make sure there is consistency in the documentation in patient’s records.

NAHM data is included in the Hospital Patient Safety Indicator Report (HPSIR) as an indicator of mortality. This ensures that mortality data are continually monitored in hospitals. The report is signed by the hospital management and is publicly available on the HSE website.

The NQAIS NAHM web-based tool is now enhanced with features to make it a much better user experience. Training on the enhanced NQAIS NAHM web-based tool is available every month.
KEY RECOMMENDATIONS

USING NQAIS NAHM

• Hospitals should nominate one accountable person at an executive level to monitor and respond to the NQAIS NAHM web-based tool.

IMPROVING DATA QUALITY

• NAHM will link with existing NOCA audits which contain paediatric mortality information.
• Guidance is being developed on the wording to be used to document when a patient is receiving palliative care. This guidance will be shared with all clinicians to ensure accurate capture of the information.

IMPROVING THE NQAIS NAHM WEB-BASED TOOL

• The ‘fracture neck of femur’ group within NQAIS NAHM web-based tool should be amended to display the same codes as those used by the Irish Hip Fracture Database (IHFD).
• International mortality tools should be monitored for any changes to risk modelling in paediatric mortality. Explore ways to view paediatric patients separately in the tool.

COMMENT FROM NAHM PUBLIC AND PATIENT INTEREST (PPI) REPRESENTATIVE

The data to produce this report were collected using the services of an extensive number of hospital staff; we owe them a huge debt. However, they, like all professionals, use words and technical medical terminology that are particular to their profession. In a report produced for public consumption, it is essential to minimise the use of jargon and, where it is judged they are necessary, to explain them fully.

As the Public and Patient Interest (PPI) Representative on NAHM, I too struggle with technical medical terminology and jargon, and I have worked with the writing group to make this report as readable as possible for the public.

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

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www.noca.ie

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