

**PRESS RELEASE**

**16<sup>th</sup> February 2022**

**Report shows a rise in crude mortality rates for respiratory diagnoses in 2020**

The National Office of Clinical Audit (NOCA) announces the publication of the sixth report from the National Audit of Hospital Mortality (NAHM). Analysis of the NAHM data shows that there was a reduction in the number of cases admitted for in-hospital treatment in acute hospitals in 2020 compared with 2019. These reductions were anecdotally found to be due to people's reluctance to go to a hospital for fear that they would contract coronavirus disease 2019 (COVID-19) while there. There has been a rise in the crude mortality rate in the respiratory diagnoses included in this report, particularly for pneumonia, despite the decreased number of overall cases, and this rise can be directly attributed to COVID-19.

The NAHM Annual Report 2020 presents standardised mortality ratios (SMR) for six medical conditions<sup>1</sup>: 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, with 30 hospitals meeting the criteria for inclusion in this report. All hospitals were within expected ranges for the included medical conditions.

**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 FINDINGS**

- There was a slight increase in in-hospital mortality for pneumonia between 2011 and 2020, from 127 deaths per 1,000 admissions in 2011 to 131 deaths per 1,000 admissions in 2020; however, there was a significant increase between 2019 and 2020, from 103 deaths per 1,000 admissions reported in 2019 to the 131 deaths per 1,000 admissions reported in 2020. Analysis of NAHM records shows that in 19.4% of pneumonia cases, the COVID-19 flag was present, indicating that COVID-19 had been laboratory confirmed or clinically diagnosed.
- The COPD crude mortality rate has increased slightly in 2020 (38 in-hospital mortalities per 1,000 admissions recorded) compared with the relatively static rate recorded in 2018 and 2019 (37 in-hospital mortalities per 1,000 admissions recorded in both years), with a downward trend having been recorded between 2011 and 2018.
- In-hospital mortality for AMI declined steadily from 2011 to 2019, from 69 deaths per 1,000 admissions in 2011 to 47 deaths per 1,000 admissions in 2019; this increased slightly to 49 deaths per 1,000 in 2020.
- Heart failure in-hospital mortality decreased significantly (22%) between 2011 and 2020, from 81 deaths per 1,000 admissions in 2011 to 63 deaths per 1,000 admissions in 2020.
- There was a significant reduction (42%) in ischaemic stroke in-hospital crude mortality between 2011 and 2020, from 123 deaths per 1,000 admissions in 2011 to 71 deaths per 1,000 admissions in 2020. The trend continued downward from 2019 to 2020.
- In-hospital crude mortality due to haemorrhagic stroke reduced by 21% between 2011 and 2020, from 355 deaths per 1,000 admissions in 2011 to 280 deaths per 1,000 admissions in 2020. The trend continued downward from 2019 to 2020.

Ms Bridget Egan, NAHM Clinical Lead commented “It is reassuring that there have been no hospitals with mortality outcomes outside of expected ranges in the 2020 data, despite the numbers of cases with COVID-19 in hospitals. NAHM continues to strive for transparency and improvements in mortality outcomes for in-patients. I await, with interest, the results of the external review of NAHM, including the public survey available [here](#), which will inform the future direction of the audit and its reporting”.

The National Audit of Hospital Mortality Annual Report 2020 is available to download [here](#).

**ENDS**

#### **NOTES TO THE EDITOR:**

##### **About NOCA**

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 Office of the Chief Clinical Officer, governed by an independent voluntary board and operationally supported by the Royal College of Surgeons in Ireland.

##### **SPOKESPERSON**

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##### **NOTES ON NAHM**

<sup>1</sup> The NAHM web-based tool allows all hospitals to view and monitor all diagnoses not just those 6 medical conditions used for public reporting. Diagnoses included in this report have met specific inclusion criteria, as set out in the main report on Page 30.

##### **What is an SMR?<sup>2</sup>**

Standardised Mortality Ratio (SMR) is an important measurement tool that compares in-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
- sex
- 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, and should be investigated to understand why there is a difference. This could happen for many reasons:

- Data collection
- Documentation of principal diagnosis
- Differences in patient case mix (not accounted for by Charlson Index)
- Differences in service delivery

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 Supporting Appendix Document 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.