

# SHMI: interpretation guidance

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## Purpose of this guidance

This guidance has been produced to aid communication professionals and others when writing about the Summary Hospital-level Mortality Indicator (SHMI). Its purpose is to help non-statisticians to accurately describe the SHMI and to avoid some of the common mistakes which have been made in the past over its interpretation.

NHS Digital hopes that this guidance will be of assistance to media teams writing press releases or other material about the SHMI, journalists writing news stories and features and others creating communication materials intended for a general audience.

The NHS Digital media team is always happy to offer advice and guidance on the language that can and cannot be used to accurately describe the SHMI and SHMI bandings, so please do contact us with any queries using the contact details at the bottom of this sheet.

## What is the Summary Hospital-level Mortality Indicator (SHMI)?

The SHMI compares the actual number of patients who die following hospitalisation at a trust with the number that would be expected to die on the basis of average England figures, given the characteristics of the patients treated there.

For any given number of expected deaths, a range of observed deaths is considered to be 'as expected'. If the observed number of deaths falls outside of this range, the trust in question is considered to have a higher or lower SHMI than expected.

The SHMI includes deaths which occurred in hospital or within 30 days of discharge and is calculated using Hospital Episode Statistics (HES) data linked to Office for National Statistics (ONS) death registrations data.

The SHMI is published by NHS Digital as a National Statistic on a quarterly basis, with each publication reporting on a 12-month period. The first publication was in October 2011 and this reported on discharges in the period April 2010 – March 2011. SHMI data for earlier reporting periods is not available.

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## Interpretation of the SHMI

- **The SHMI can be used by trusts to compare their mortality outcomes to the national baseline, with some caveats.**

Where a trust has an 'as expected' SHMI, it is inappropriate to conclude that their SHMI is lower or higher than the national baseline, even if the number of observed deaths is smaller or larger than the number of expected deaths. This is because the trust has been placed in the 'as expected' range because any variation from the number of expected deaths is not statistically significant.

- **The difference between the number of observed deaths and the number of expected deaths cannot be interpreted as the number of avoidable deaths for the trust.**

Whether or not a death could have been prevented can only be investigated by a detailed case-note review. The SHMI is not a direct measure of quality of care.

The expected number of deaths for each trust is not an actual count of patients, but is a statistical construct which estimates the number of deaths that may be expected at the trust on the basis of average England figures and the characteristics of the patients treated there.

- **A 'higher than expected' SHMI should not immediately be interpreted as indicating bad performance.**

Instead, it should be viewed as a 'smoke alarm' which requires further investigation by the trust. Similarly, an 'as expected' or 'lower than expected' SHMI should not immediately be interpreted as indicating satisfactory or good performance.

The methodology used to calculate the expected number of deaths for a particular trust takes into account the number of patients treated and their characteristics (including the condition the patient is in hospital for, other underlying conditions the patient suffers from, age, gender and method of admission to hospital) and so these factors should not influence a trust's SHMI. There are many other factors which have the potential to affect a trust's SHMI including (but not limited to) the quality of the data upon which the SHMI is based, other patient characteristics not listed above, the organisation of services and availability of resources e.g. staff, and quality of care.

The SHMI includes admitted patients for all clinical areas within a trust and it is possible that mortality rates differ across these areas. For this reason, we advise all trusts to investigate their SHMI data in detail using the data broken down by diagnosis group, regardless of whether their SHMI is categorised as 'higher than expected', 'as expected' or 'lower than expected'.

The SHMI requires careful interpretation and should be used in conjunction with other indicators and information from other sources (e.g. patient feedback, staff surveys and other similar material) that together form a holistic view of trust outcomes.

- **The SHMI cannot be used to directly compare mortality outcomes between trusts and, in particular, *it is inappropriate to rank trusts according to their SHMI.***

Instead, the SHMI banding can be used to compare mortality outcomes to the national baseline. If two trusts have the same SHMI banding, it cannot be concluded that the trust with the lower SHMI value has better mortality outcomes.

- **A correlation between the SHMI and other variables of interest does not imply causation.**

Even if a correlation suggests that there is a relationship between the SHMI and another variable, it does not necessarily imply that one is causing the other. For example, other factors may be influencing both the SHMI and other variables, suggesting a direct relationship where there is none.

- To support the interpretation of the SHMI, various contextual indicators are published alongside it. Contextual indicators on the following topics are currently available: palliative care coding, admission method, in and outside hospital deaths, deprivation, primary diagnosis coding and depth of coding.

## More information

A one page summary (containing details of trusts with higher and lower than expected SHMIs) and detailed information on data quality are available to download from NHS Digital's SHMI publication page. The data files and an interactive data visualisation are also provided. In addition, a more detailed report is produced annually as part of the September release (including analysis for trusts identified as repeat outliers and analysis of the SHMI contextual indicators).

- [SHMI publication page](#)

SHMI data are also available to download from NHS Digital's Indicator Portal.

- [NHS Digital Indicator Portal](#)

Further information on the SHMI, including details of the methodology used in its calculation, is available on the SHMI support and guidance page.

- [SHMI support and guidance page](#)

## Contact details

For media queries please contact our press office at [media@nhsdigital.nhs.net](mailto:media@nhsdigital.nhs.net) or phone 0300 303 3888.

For all other SHMI queries please contact [enquiries@nhsdigital.nhs.uk](mailto:enquiries@nhsdigital.nhs.uk) or phone 0300 303 5678.