

Announcement of methodological changes to the Summary Hospital-level Mortality Indicator (SHMI)

Background

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.

The expected number of deaths is calculated from 142 logistic regression models (corresponding to 142 diagnosis groups) derived to estimate the risk of mortality based on the characteristics of the patients (including the condition the patient is in hospital for, other underlying conditions the patient suffers from, age, gender, method and month of admission to hospital, and birthweight (for the perinatal diagnosis groups)).

Methodological changes

Previously, the logistic regression models have been fitted using the logistic procedure in the SAS Enterprise Guide software. As part of our move to using open source software, the models are now fitted in the R software using the glm function with the binomial family and the logit link function.

Timing

The first publication to be affected by this change will be the September 2023 release, which will cover discharges in the period May 2022 – April 2023.

Impact

This change will have very little impact on the SHMI results. Analysis using data for the period June 2021 – May 2022 showed a change of less than 0.04% in the SHMI value for all trusts, and no impact on the SHMI banding.

Further information

Questions and feedback on the publication are welcomed and should be sent to enquiries@nhsdigital.nhs.uk or alternatively call 0300 303 5678.