Hospital Standardised Mortality Ratios
October to December 2017
A National Statistics publication for Scotland

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About this release
In this quarterly publication, Information Services Division (ISD) provides information on Hospital Standardised Mortality Ratios (HSMRs) from 1 January 2011 to 31 December 2017. An HSMR is a measure of mortality adjusted to take account of some of the factors known to affect the underlying risk of death.

Main Points
- The HSMR for Scotland decreased by 9.9% between January to March 2014 and October to December 2017.
- Royal Alexandra/Vale of Leven (HSMR of 1.13) had a significantly higher standardised mortality ratio in October to December 2017 compared with the national average.
- One hospital had a significantly lower standardised mortality ratio in October to December 2017 compared with the national average: Western General Hospital, Edinburgh (HSMR of 0.69).

Of the 29 hospitals reported, 11 have shown a reduction of more than 10% since January to March 2014:
- University Hospital Ayr
- University Hospital Crosshouse
- Dumfries & Galloway Royal Infirmary
- Forth Valley Royal Hospital
- Inverclyde Royal Hospital
- Queen Elizabeth University Hospital/Gartnavel
- University Hospital Hairmyres
- University Hospital Monklands
- University Hospital Wishaw
- Balfour Hospital
- Western Isles Hospital
Background
Hospital mortality measures have an important role to play in stimulating reflection on the quality and safety of patient care.

ISD has produced quarterly HSMRs for hospitals participating in the Scottish Patient Safety Programme since December 2009. The programme’s aim is to reduce hospital mortality by 10% by the end of December 2018. The methodology used by ISD was updated in August 2016.

The HSMR is based on all acute inpatient and day case patients admitted to all specialties in hospital. The calculation takes account of patients who died within 30 days from admission and includes deaths that occurred in the community as well as those occurring in hospitals.

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\text{HSMR} = \frac{\text{Observed Deaths}}{\text{Predicted Deaths}}
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The Scottish HSMR for October to December 2017 is 0.95. Compared to an index of 1.00, this means that there were 5% fewer deaths in the period than predicted. Analysis for Scotland indicates that there had been a 9.9% reduction in hospital standardised mortality since January to March 2014, estimated from regression line values.

A regression line has been fitted to the HSMR trend from the baseline period through to the latest HSMR. This technique is used to smooth out seasonal variations in HSMR and to provide a more stable basis on which to monitor long term change. ISD does not report the change using the actual observed values of HSMR, but as the difference between the regression line values for January to March 2014 (first after baseline) and the regression line value for the latest quarter.

It is possible to see a decrease in HSMR without a corresponding decrease in the unadjusted rate of deaths per 100 patients (crude rate). This is because HSMR reflects variations in patient case mix over the period which calculations of crude death rates do not.

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Further Information
The data from this publication is available to download from our web page.

A Technical Document is available on how HSMR is calculated. A Frequently Asked Questions document is also available. For more information on HSMR see the HSMR section of our website.

The next release of this publication will be 14 August 2018.

NHS Performs
A selection of information from this publication is included in NHS Performs. NHS Performs is a website that brings together a range of information on how hospitals and NHS Boards within NHSScotland are performing.

ISD and Official Statistics
Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of ‘Official Statistics’. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. Further information about our statistics.