
Director General for Regulation

Scott Heald,
ISD

24 April 2018

Dear Scott

We have recently had concerns raised about Scottish Government's news release on hospital mortality targets¹ and also about the accuracy and integrity of the hospital standardised mortality statistics in the July-September 2017 statistical release it draws on.

Having looked at the concerns in detail, I concluded that, on the whole, the figures in the press release are consistent with the way that ISD is estimating the long-term changes in hospital mortality in the statistical bulletin. However, there are some areas where I would like to see clearer explanation and presentation.

The [Code of Practice for Statistics](#) expects statistics and data to be presented clearly, explained meaningfully and provide authoritative insights that serve the public good. The HSMR released produced by ISD is clear and conforms with Code of Practice for Statistics, as recognised by the "National Statistics" status of this publication. One area where ISD could be clearer is in the explanation about the figures that are derived from its regression model so that users can easily see the data that substantiates the claim that hospital mortality rates have fallen. We have spoken with the team involved and note that they intend to address this in the next release.

It is also important that policy, press and ministerial statements reflect the range of plausible reasons for the fall in hospital mortality - the statistical bulletin released by ISD does this well but the press release released by the Scottish Government falls short on this issue and I would expect to see this addressed in future press releases. I am copying this letter to Roger Halliday, the Scottish Government's Chief Statistician as the principal adviser and accountable officer on statistical matters within Scottish Government.

I have provided more detail on the issues raised with me in an Annex to this letter.

I would welcome a discussion on the measures you intend to take to address the Code of Practice standards raised here.

Your sincerely



Ed Humpherson

Director General for Regulation

¹ <https://news.gov.scot/news/patient-safety-aim-met-15-months-early>

Annex

Confusion about whether the target of a 10% reduction in the Scottish HSMR had been achieved after the July- September 2017 quarter appeared to stem from the Scottish Government news release, rather than the ISD release. The news release states *“The latest Hospital Standardised Mortality Ratios (HSMR) show there were 7,800 fewer than expected deaths between the first quarter of 2014 and the third quarter of 2017 – a drop of 10.6 per cent”*

The approximately 7,800 reduction in expected deaths (105,702 to 97,879) is not a 10.6% reduction as stated in the government news release.

ISD reports progress not against the actual observed values for HSMR for Jan 2014 and the latest quarter (July- September 2017) but against the trend line (the regression line) values over the period elapsed between those quarters. This trend line accounts for seasonality because the regression includes past data from all four seasons. So, the percentage change used to measure progress against the target is the difference between the trend line values of January to March 2014 (first after baseline) and the latest quarter.

Chart 1 of the statistical publication² shows the regression line with the first value being the HSMR for January to March 2014 with the fitted value being slightly higher than the actual HSMR. The chart shows that in some quarters the fitted value exceeds the actual HSMR and in others its smaller. Chart 2 in Table 1 (of the accompanying tables) shows this more clearly. Selecting the data table, reveals the regression line values for the HSMR where the fitted value for Jan-March 2014 is 0.98 and the fitted value for the latest quarter is 0.87 – a reduction of 11 points (unrounded) which appears to be the source of the 10.6% reduction figure has been calculated. I would expect the Scottish Government press release to be clearer that this is what is being quoted.

While the Press Release has quoted accurate figures, which reflect the actual HSMR figures in the statistical bulletin, these are not the figures that ISD has smoothed out to account for seasonal variations, which the trend line does. The use of these unadjusted HSMR figures in the Press Release appears to confuse rather than illuminate the main conclusions. I also think it's important that the press release and ministerial statements reflect the range of plausible reasons for the fall in hospital mortality - the statistical bulletin does this well but the press release falls short on this issue. The Code of Practice for Statistics (Practice T3.8) says that *‘[policy, press or ministerial] statements referring to regular or ad hoc official statistics should meet basic professional standards of statistical presentation, including accuracy, clarity and impartiality’*. I am sure that some further advice from you to those preparing these news statements on the appropriate use of the statistics in the statements will prevent confusion going forward.

² <https://www.isdscotland.org/Health-Topics/Quality-Indicators/Publications/2018-02-20/2018-02-20-HSMR-Report.pdf>