

The Shrewsbury and Telford Hospital NHS Trust

Trust Board – Oct 2011

Mortality (HSMR) Update

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Corporate Objective	C4. Deliver services that offer safe, evidence-based practice
Goal	
Executive Summary	<p>In November 2011 Dr Foster will publish the 2011 Hospital guide which will include the Hospital Standardised Mortality Ratio (HSMR) position for all the Trusts in England. SaTH has an HSMR score that is higher than the National average and is likely to position the Trust as a mortality outlier.</p> <p>This update seeks to explain the main reasons for the high score and to highlight that over the last year there has been a significant improvement in the HSMR, especially in the most recent 8 months.</p> <p>115 - HSMR expected to be reported in the 2011 Hospital Guide (Apr 10 – Mar 11) 110 – Latest HSMR (Aug 10 – Jul 11) 86 – Latest “in month” HSMR (Jul 11) 103 – HSMR year to date (Apr – Jul 11)</p> <p>Key areas of improvement that have been implemented:</p> <ul style="list-style-type: none"> • Introduction of Palliative care coding at PRH • Improvements to the depth of co-morbidity coding • Implementation of new coding model at PRH • Introduction of regular reviews using Global Trigger Tool • Introduction of regular reviews of Dr Foster data with the Dr Foster Analysts to conduct specific analysis where needed and general peer reviews • Future introduction of mortality reviews at Specialty level in Medicine
Recommendations	Trust Board are asked to NOTE current trends and actions being taken

Contribution to Inspection, Registration, Performance and Delivery

Risks and Assurance	Not Applicable
Contribution to Key Performance Indicators	This report directly relates to the Strategic Performance Report - Mortality
Compliance with Clinical and other Governance Requirements	Not Applicable

Impact Assessment

Quality	The work programme set out in this paper will support the Trust to use mortality ratios as part of a wider process of quality analysis, assurance and improvement and in turn support public accountability for the quality of our care.
Financial	The Trust currently has a contract with Dr Foster for the provision of data analysis services using their "Real Time Monitoring" tool.
Workforce	Not Applicable
Legislation and Policy	Not Applicable
Equality and Diversity	Not Applicable
Communication and Marketing	The Trust's HSMR is expected to be published as "high" in the forthcoming Dr Foster Hospital Guide, due for publication at the end of November. This paper will support the Trust to understand the reasons for this and to reassure ourselves, and our patients and partners, that there have been significant improvements already and that there continues to be a drop downwards in the HSMR.

Engagement and Decision-Making Process

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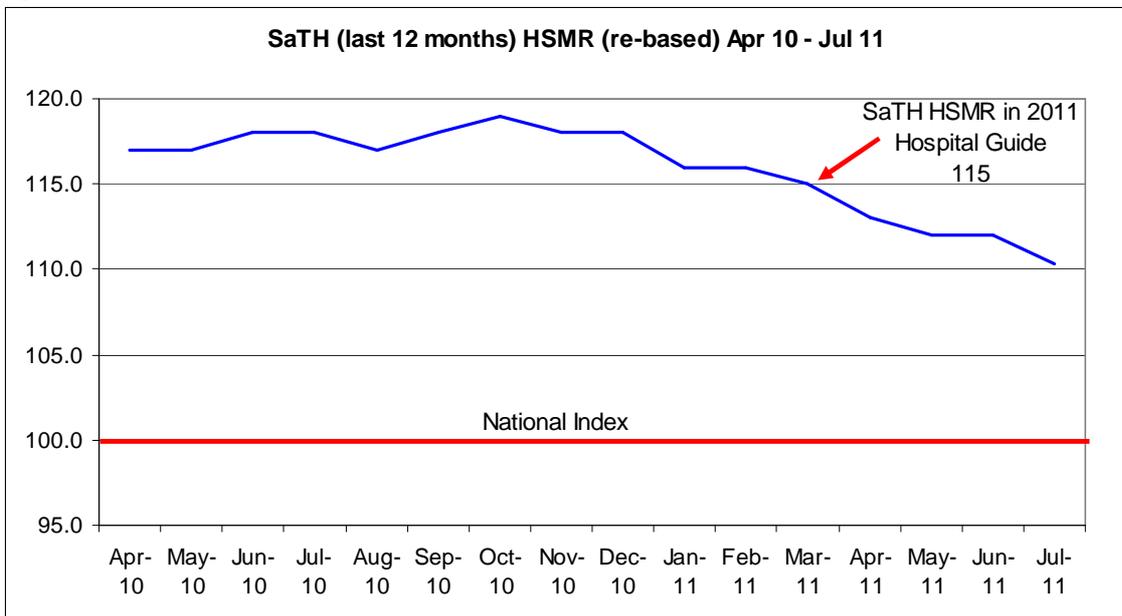
Update on HSMR – October 2011

1. Introduction

In November 2011 Dr Foster will publish the 2011 Hospital guide which will include the Hospital Standardised Mortality Ratio (HSMR) position for all the Trusts in England. SaTH has an HSMR that is higher than the National average and is likely to position the Trust as a mortality outlier.

This document aims to explain the reasons for the Trust's current HSMR, and as **graph 1** below shows, to put this in the context of an improving situation.

Graph 1



2. The HSMR Construction

The Dr Foster HSMR calculation is based upon the 56 major diagnosis groups which account for approximately 80% of hospital deaths; the calculation uses the number of deaths within the 56 diagnosis groups against the number of expected deaths within the same groups.

$$\text{HSMR} = \frac{\text{Observed Deaths}}{\text{Expected Deaths}} \times 100$$

Expected Deaths:

Calculating the ratio begins with assigning a probability of dying to each eligible patient who has received care within the 56 diagnosis groups. The expected number of deaths is the sum of the estimated risks of death for every patient.

These estimated risks take into account those patient characteristics that are most strongly correlated with death and which reflect the patient's risk profile rather than the way in which the hospital has treated them. These factors are:

1. Diagnosis – based on the main, or primary, diagnosis
2. Levels of Co-morbidity- as described by the Charlson Index of Codes
3. Age
4. Sex
5. Deprivation based on the Townsend Index
6. Ethnicity
7. Method of Admission
8. Month of Admission
9. Source of Admission
10. Whether or not patient receives palliative care from member of specialist team

The HSMR score is extremely sensitive to particular aspects of clinical coding which have a major bearing on the level of patients 'expected to die' at a hospital. These are the diagnosis codes which make up the Charlson Index of codes linked to a likelihood of death, and the presence of the Z515 diagnosis code for palliative care.

Patients with a lower Charlson index (less comorbidity) have lower expected mortality in the Dr Foster HSMR. Therefore, if the Charlson index was systematically under-coded in a hospital it would be assigned artificially inflated standardised mortality ratios and vice versa.

In September each year DR Foster rebases all the mortality scores for the previous financial year to take into account improvements in mortality across the Country over that year. This "rebased" HSMR takes into account the difference between the National index and our own HSMR score and is the figure reported in the Dr Foster Hospital Guide each November.

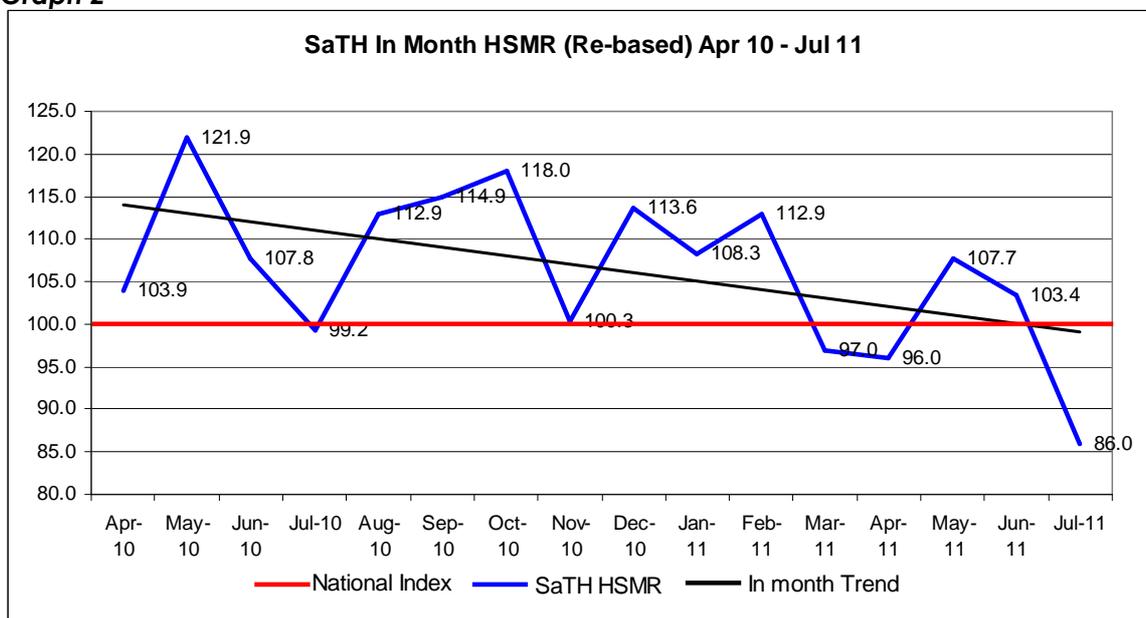
As mortality levels improve across the country during the year, so the National index will reduce to reflect this improvement, in the last 2 years this reduction has been 10 points each year. To reduce the rebased HSMR, a Trust must reduce its HSMR by more than the average of all other Trusts in the Country.

3. SaTH's HSMR

In early 2010 the Trust discovered it had a high and increasing HSMR score and at the end of 2009/10 was reported as 117. In the summer of 2010 the Mortality Group was formed to explain the high HSMR and to identify and implement actions needed to reverse this.

Graph 2 below shows the "in month" rebased HSMR for SaTH and shows an increasing improvement, especially over the last 5 months and reflects the impact of the improvements to coding and other areas.

Graph 2



4. Adopting Best Coding Practices

When the high HSMR score became known to the Trust the Mortality Group conducted a review, starting in May 2010, of 500 in hospital deaths to explain the reasons for the HSMR. This review was presented, as part of a general HSMR update, to the Trust Board in November 2010 and highlighted a number of issues with the current coding practices including; palliative care coding, depth of co-morbidity codes and consistency within the coding team.

Palliative Care Coding

One of the issues identified was that the palliative care code Z515 was not being used at PRH. As explained above these effectively removed patients on a palliative care pathway from those Dr Foster would categorise as more likely to be expected to die than from other Patient groups.

Palliative care rates are now currently higher than the national average, see **graph 3** below, which is not unexpected. The PCT Commissioners have made considerable improvements in awareness of the end of life care pathways in order to support patient choice in their place of death, and as a result of this, identifying patients who should be on the end of life care pathway has improved across both our Hospitals. Enhanced care has also been provided by improved access Palliative care Consultants supporting SaTH.

Graph 3

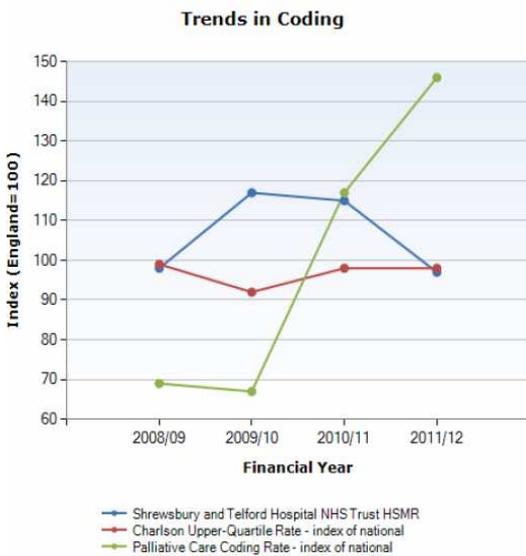


Table 1 demonstrates the significant rise in the rate of palliative care codes from 2010/11 as a result of the use of this code at PRH.

Table 1

National Palliative Care Coding Rate					
	2007/08	2008/09	2009/10	2010/11	YTD 20011/12
National rate	1.1	1.4	2	2.2	2.1
SaTH rate	0.8	1	1.3	2.6	3.1

Depth of Co morbidity Coding

The second major issue with coding practices identified as part of the review of 500 in hospital deaths were the differences between the depth of coding between the coding teams in each Hospital.

The HSMR score is extremely sensitive to particular aspects of clinical coding and has a major bearing on the level of patients 'expected to die' at a hospital. One of the more important aspects is the number of co morbidities a patient has. It is important to record this effectively in order to recognise and accurately record the complexity and depth of treatment.

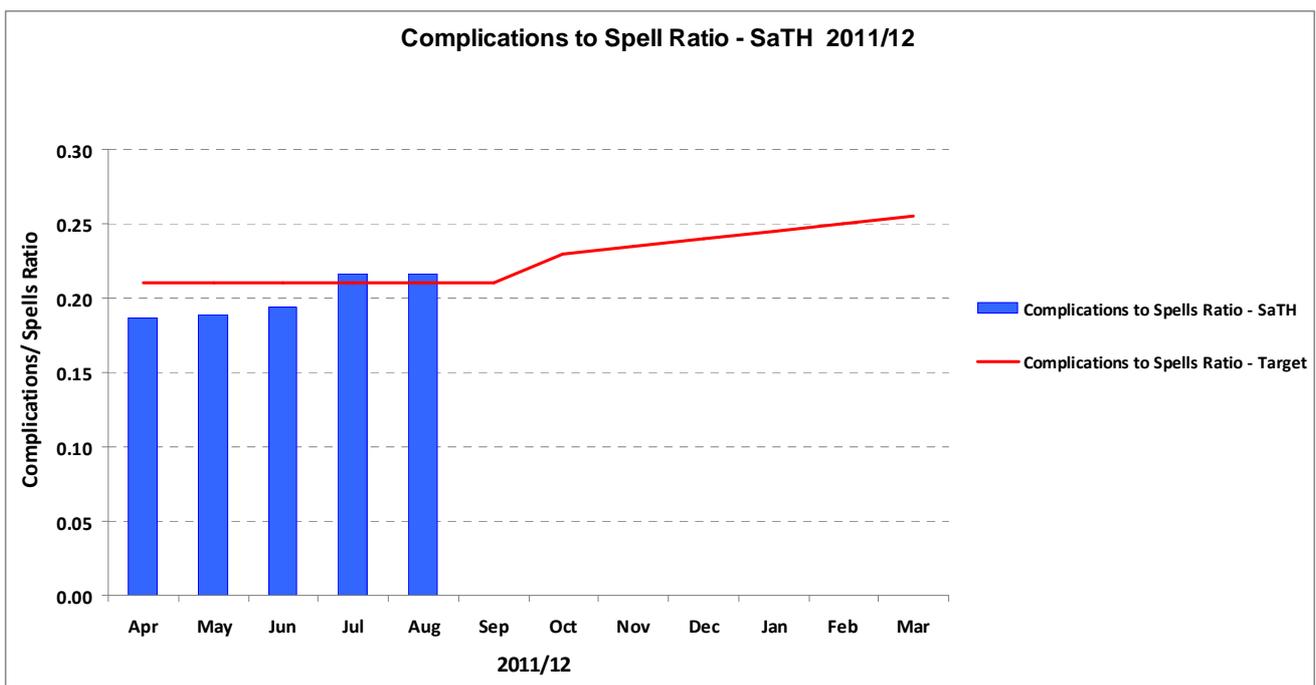
The coding team have implemented a number of improvements, these include:

- Having a more consistent approach to coding across all coders
- Automated/manual prompting during coding to ensure previous co morbidities are included, where relevant, in the current patient's spell in Hospital

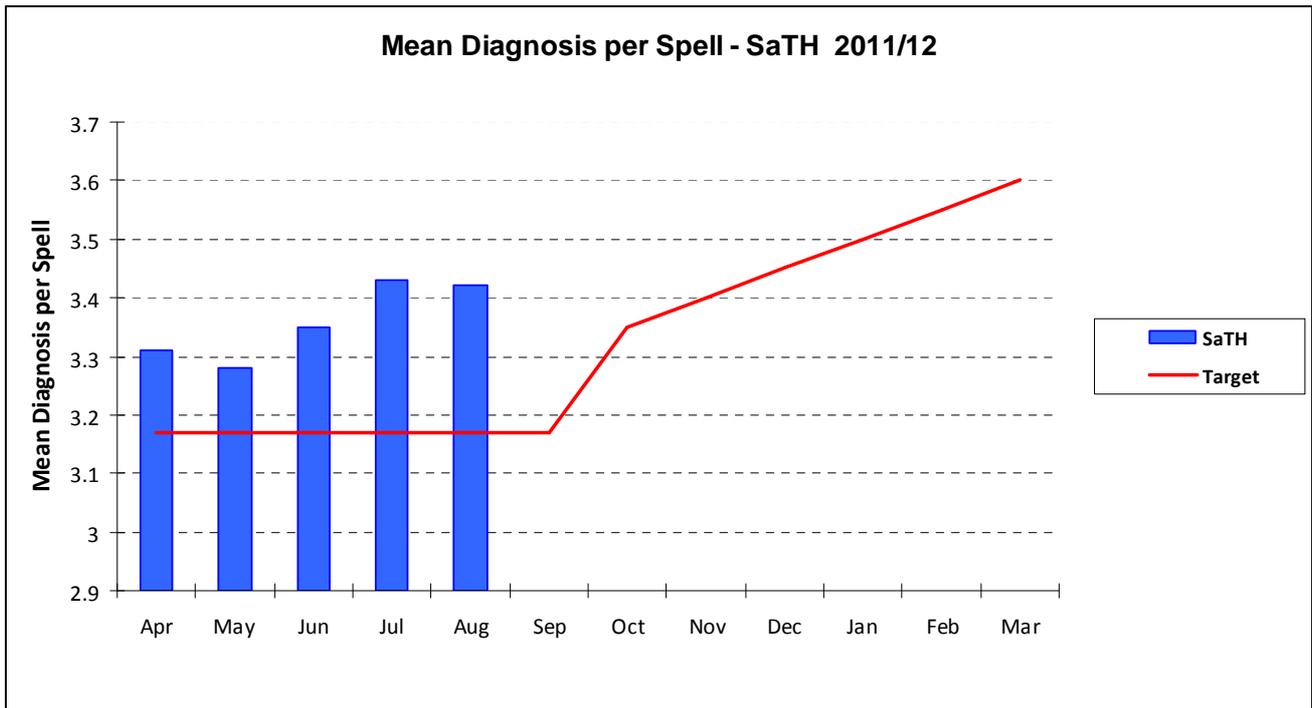
In May 2011 a re-coding exercise was completed to identify any further differences between the 2 coding teams. The outcome of this exercise was audited by an external Auditor to validate the results. This process confirmed that there were still significant differences between the two teams, especially in the depth of co-morbidity coding at PRH which was some 30% less than RSH.

As a result of this exercise a new coding model was implemented at PRH in June 2011 which has increased the depth of coding at SaTH.

Graph 4 showing the increase in co morbidity (complications) to number of Patient spells



Graph 5 showing the increase in diagnosis codes used per Patient spell



Further improvements to coding are planned under the governance of one of the six streams of work being monitored by the newly formed Project Management Office (PMO). These improvements include:

- Further work to remove inconsistencies in depth of coding within the coding teams
- Implementation of the new coding model (already in use at PRH) at RSH once more appropriate accommodation becomes available

5. Reviews of Mortality Performance

Although much of the focus on reducing HSMR has been through implementing improvements to the coding methodologies and processes, it is recognised that any long term reduction in the HSMR must include improvements to clinical practice.

In addition to the review of 500 patient deaths in May 2010 and the reviews as part of the LIPS programme in early 2011, the Mortality Group have undertaken an audit of deaths in January 2011 and a peer review of HSMR data on Dr Foster. The outcomes of these reviews have been incorporated into the areas of work within the LIPS programme.

The latest performance report from Dr Foster (see **graph 6** below) shows Observed deaths are now falling in this financial year indicating that the awareness of our mortality programme and impact of LIPS is starting to have a positive effect on mortality.

Graph 6



Ongoing Review Process

The HSMR is a useful tool in identifying areas for improvement but we should not rely on it as the only source. It is important to have a number of sources that can triangulate on potential issues. As part of the move to a more regular process of reviewing deaths and general clinical performance the Trust has adopted other review processes. These are:

The Global Trigger Tool (GTT). The GTT process supports regular monthly reviews of random patient notes. This is being conducted in order to provide an additional data source to:

- Identify any systemic clinical process and safety issues
- Clinically evaluate the original coding of diagnosis and co-morbidity of recent in hospital deaths

Quarterly meetings with Dr Foster analysts to review our performance and complete in-depth analysis of any specific areas of concern highlighted elsewhere. In addition the Dr Foster team currently meet monthly with Clinical Coding to look at general trends in improving coding practice.

A new governance approach is being proposed within the Medicine Centre to support the monthly review of deaths in Medicine. This will be delivered at Specialty level through Specialty Governance Leads and feed into the general Centre Governance meetings.

These review processes will strengthen our knowledge of clinical and coding practices and identify areas of concern prior to them becoming issues. Although our current HSMR as of July 2011 is still high at 110, we have made significant improvements over the last year and the trend continues downwards. The HSMR for the financial year to date is 103 rebased and confirms the impact of recent changes made across the Trust.

Graph 7 – All England Acute Trust HSMR's (Rebased) - 2011/12 Year to Date (Apr to Jul 2011)

SaTH – 2011/12 YTD = 103

