

TRUST BOARD MEETING - January 2014
MORTALITY UPDATE

PURPOSE	To inform the Trust Board of matters escalated from the Clinical Governance Strategy Committee and Patient Safety Committee; together with an update on mortality and medical education
PREVIOUSLY CONSIDERED BY	Clinical Governance Strategy Committee, Patient Safety Committee and RAQC in January 2014.
Objective(s) to which issue relates *	<input checked="" type="checkbox"/> 1. To continuously improve the quality of our services in order to provide the best care and optimise health outcomes for each and every individual accessing the Trust's services <input type="checkbox"/> 2. To excel at customer service, achieving outstanding levels of communication and patient, carer and GP satisfaction <input checked="" type="checkbox"/> 3. To provide and support the best standards of integrated care for the elderly and those with long term conditions by developing key partnerships and services <input checked="" type="checkbox"/> 4. To consolidate services and enhance local access to specialist services in order to deliver high quality, safe, seamless, innovative and integrated services which are sustainable <input type="checkbox"/> 5. To support the continued development of the Mount Vernon Cancer Centre and provision of leading local and tertiary cancer services <input type="checkbox"/> 6. To improve our staff engagement and organisational culture to be amongst the best nationally
Risk Issues (Quality, safety, financial, HR, legal issues, equality issues)	As identified in the report
Healthcare/ National Policy (includes CQC/Monitor)	CQC Compliance
CRR/Board Assurance Framework *	<input type="checkbox"/> Corporate Risk Register <input checked="" type="checkbox"/> BAF
ACTION REQUIRED *	
For approval	<input type="checkbox"/>
For discussion	<input checked="" type="checkbox"/>
For decision	<input type="checkbox"/>
For information	<input type="checkbox"/>
DIRECTOR:	Medical Director
PRESENTED BY:	Medical Director
AUTHOR:	Head of Quality and Patient Safety / Clinical Improvement Lead / Senior Information & Research Analyst / Director of Medical Education
DATE:	January 2014

We put our patients first We work as a team We value everybody We are open and honest

We strive for excellence and continuous improvement

1. MORTALITY UPDATE

1.1 Introduction

Regular monitoring of mortality rates is a key indicator in assessing improved outcomes for patients and for evaluating the effects of the implemented redesign of clinical pathways. These pathway changes are occurring due to Trust-wide and community initiatives and as a result of the *Our Changing Hospitals* programme. Reducing mortality remains a Trust improvement priority for 2013/14.

1.2 Mortality indicators.

There are 3 main types of mortality indicator. Crude mortality is a simple analysis of the percentage of patients who died against the number of admissions to hospital and makes no adjustment for complexity. Hospital standardised mortality ratio (SHMI) is the measure used by Dr Foster. It includes case-mix adjustment for 8 variables (*inc.* age, other conditions and palliative care coding). Standardised Hospital Mortality Index (SHMI) is case-mix adjusted for just 5 variables. It does not make an adjustment for palliative care and, importantly, includes deaths in the community up to 30 days after discharge.

Crude mortality is available within one day following the end of the month; HSMR is 3 months in arrears and SHMI 7-9 months in arrears.

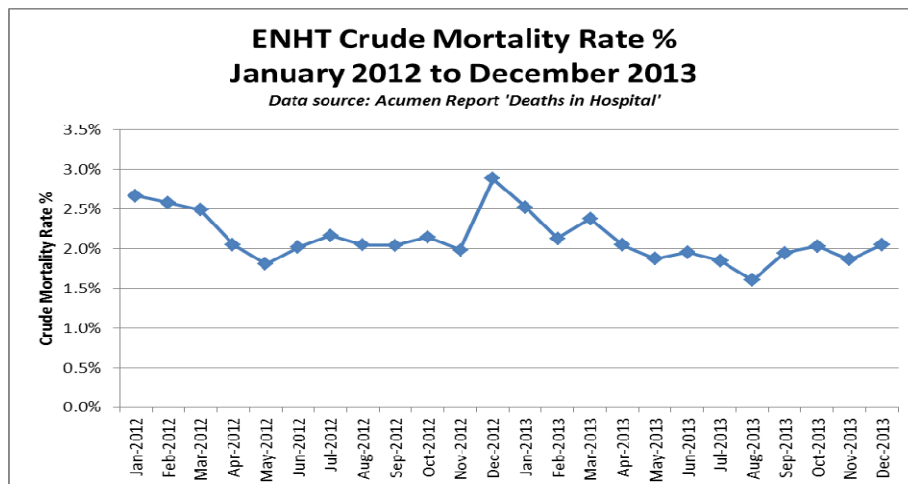
1.3 Crude Mortality

Crude mortality is most useful in monitoring the performance of a defined clinical unit where the case-mix is expected to remain stable over time. It is less useful for comparing the performance of clinical units with differing case-mix. There is a significant seasonal variation in crude mortality.

The Trust's crude mortality rate for the year to date (April to December 2013) is 1.9%. There has been a downward trend in crude mortality since December 2012 although there has been a minor rise with the onset of autumn which likely reflects seasonal variation.

In the calendar year 2013 189 fewer patients died in the trust compared to 2012 despite similar number of inpatients being treated.


Figure 1: Crude Mortality Rate % from Jan 2012 to Dec 2013



1.4 Hospital Standardised Mortality Ratio (HSMR)

The Trust's position for the first seven months of 2013/14 is 6th out of the 17 acute trusts (excluding the cardiac Papworth Hospital) in the East of England (Figure 1) and better than expected at 88.5 (against the 2012/13 data benchmark).

Figure 2: HSMR (April to October 2013) East of England

Peer (SHA)	Spells	Superspells	Deaths		Relative Risk		
			Obs.	Exp.	HSMR	Low	High
Independent Sector Activity (not LSC)	9,812	9,811	-	2.1	-		
Papworth Hospital NHS Foundation Trust	8,523	7,423	58	115.8	50.1	38.0	64.7
Cambridge University Hospitals NHS Foundation Trust	27,248	26,805	642	801.8	80.1	74.0	86.5
West Suffolk NHS Foundation Trust	11,421	11,279	442	526.7	83.9	76.3	92.1
Colchester Hospital University NHS Foundation Trust	18,104	17,989	651	746.9	87.2	80.6	94.1
Hinchingbrooke Health Care NHS Trust	7,769	7,693	242	277.4	87.3	76.6	99.0
The Princess Alexandra Hospital NHS Trust	12,321	12,271	445	506.6	87.8	79.9	96.4
 East and North Hertfordshire NHS Trust	16,902	16,773	730	825.2	88.5	82.2	95.1
Ipswich Hospital NHS Trust	17,286	17,227	611	679.4	89.9	82.9	97.4
Peterborough and Stamford Hospitals NHS Foundation Trust	15,887	15,826	635	696.3	91.2	84.2	98.6
Southend University Hospital NHS Foundation Trust	19,747	19,679	657	716.4	91.7	84.8	99.0
Basildon and Thurrock University Hospitals NHS Foundation Trust	14,953	14,391	676	733.6	92.2	85.3	99.4
James Paget University Hospitals NHS Foundation Trust	9,261	9,095	481	518.3	92.8	84.7	101.5
Luton and Dunstable University Hospital NHS Foundation Trust	14,425	14,333	505	534.7	94.4	86.4	103.1
Norfolk and Norwich University Hospitals NHS Foundation Trust	35,902	35,519	1,154	1,221.7	94.5	89.1	100.1
Bedford Hospital NHS Trust	8,725	8,571	416	434.5	95.7	86.8	105.4
West Hertfordshire Hospitals NHS Trust	16,282	16,172	673	685.4	98.2	90.9	105.9
Mid Essex Hospital Services NHS Trust	15,471	15,332	598	597.3	100.1	92.3	108.5
The Queen Elizabeth Hospital, King's Lynn, NHS Foundation Trust	14,414	14,309	581	569.6	102.0	93.9	110.7
NHS Community Trusts	2,551	1,409	175	106.8	163.9		
ALL	297,004	291,907	10,372	11,296.4	91.8	90.1	93.6

1.4.1 HSMR Trends for Trust and Divisions November 2011 to October 2013

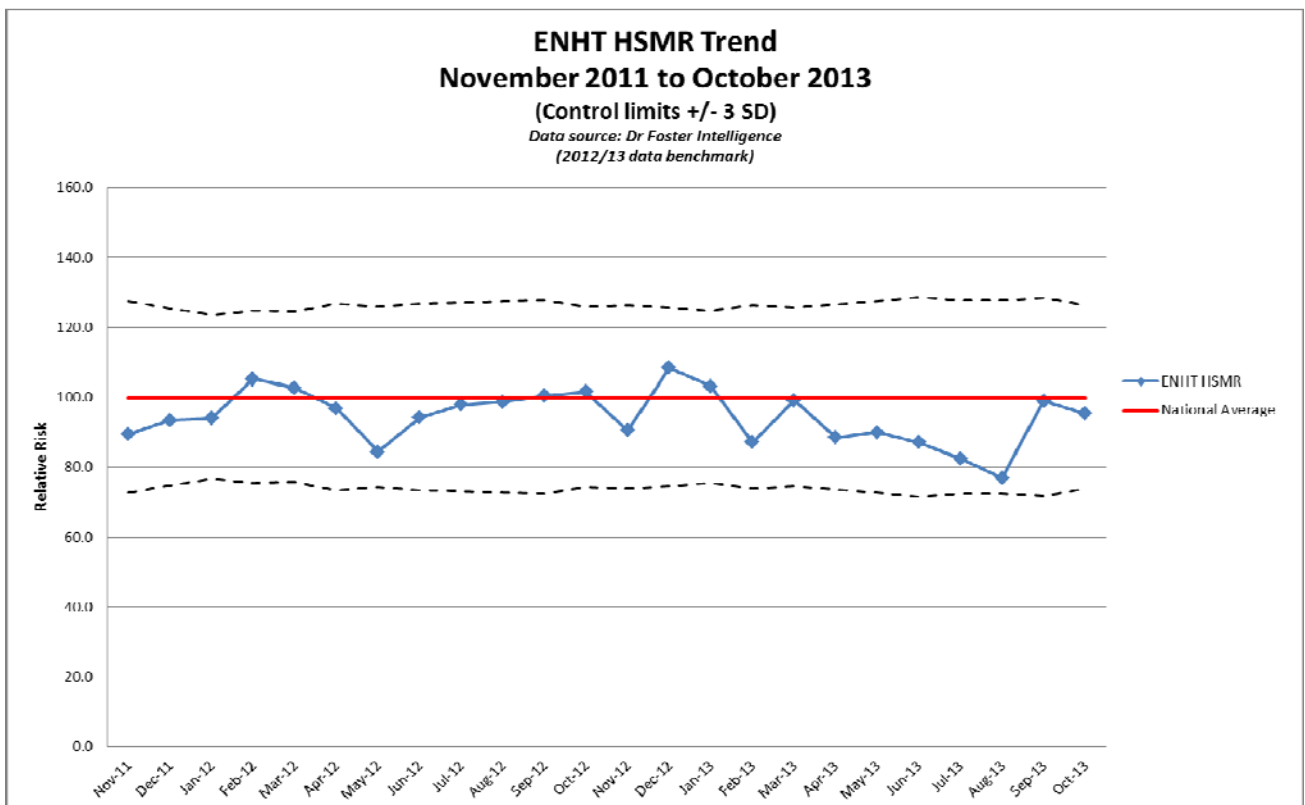
All centralised services continue to show strong performance with Surgery, Women & Children's and Cancer alerting green for the latest rolling year. Medicine is 99.6 for the latest rolling year and is now below 100 although it alerted red in September. Whilst current actions should produce small improvements in mortality in the Medicine division, I do not envisage that significant improvements will occur before full centralisation in late 2014.

Figure 3: Monthly Trust and Divisional HSMR April to October 2013

	April 2013	May 2013	June 2013	July 2013	Aug 2013	Sept 2013	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	HSMR RY
Trust	88.1	89.7	88.0	83.9	79.6	99.0	95.3						92.7
Medicine	94.2	92.8	89.0	93.1	85.9	106.5	97.9						99.6
Surgery	91.6	87.7	100.9	82.8	84.1	60.7	101.5						81.1
Women & Children	0.0	253.9	0.0	0.0	0.0	0.0	0.0						71.4
Cancer	51.1	75.0	77.1	51.3	57.4	99.0	79.1						67.6

The following 5 charts show the HSMR trends for the Trust and the Divisions from November 2011 to October 2013.

Figure 4: Trust HSMR trend November 2011 to October 2013



Performance within the Divisions shows a predictable month on month variability.

Figure 5: Medicine Division HSMR trend

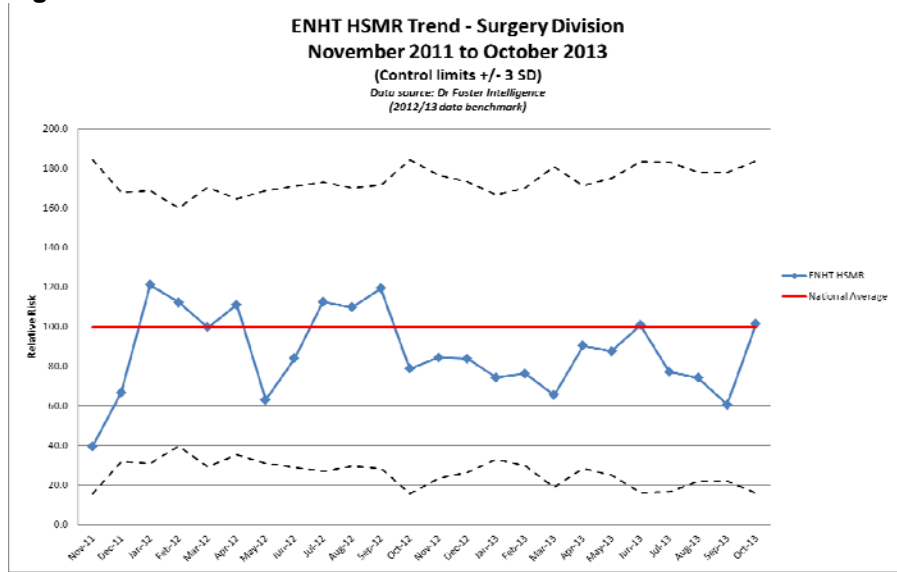


Figure 6: Surgery Division HSMR trend

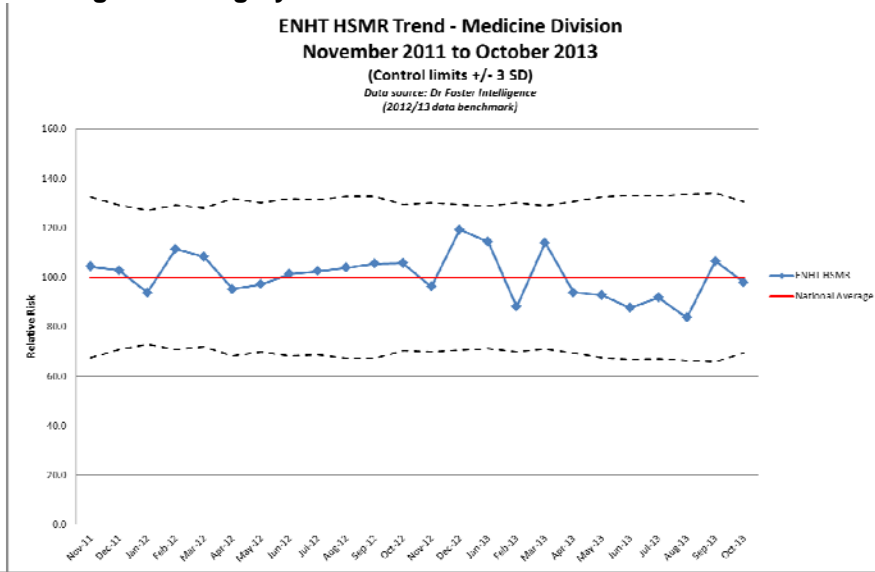


Figure 7: Women's & Children's Division HSMR trend

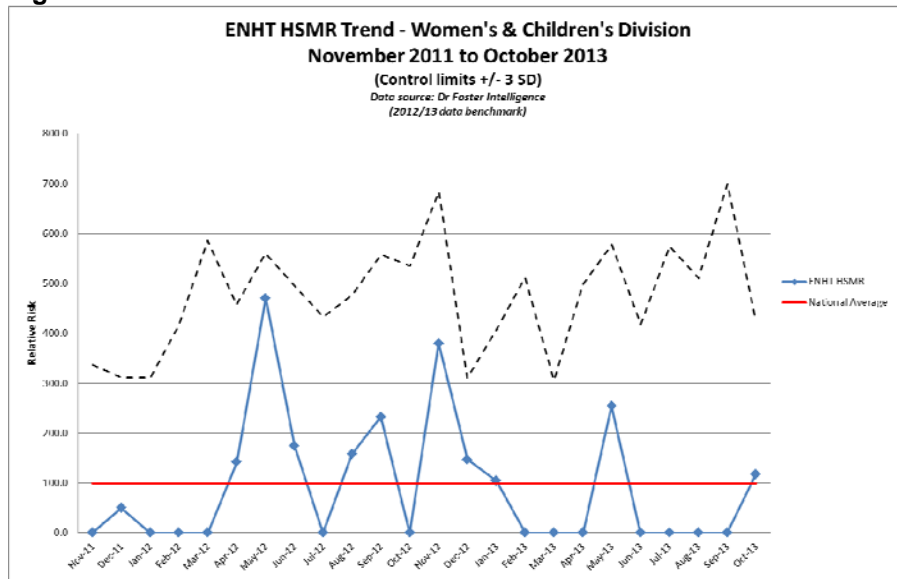
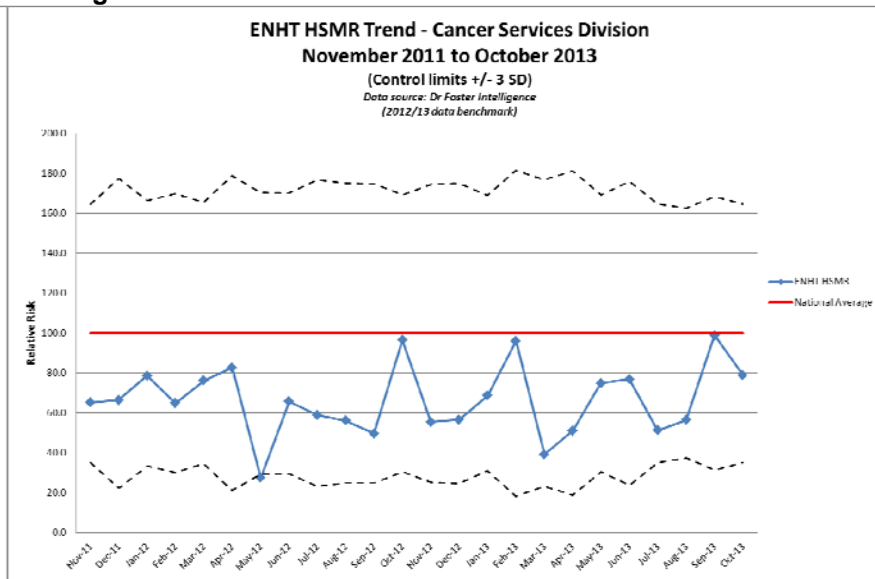


Figure 8: Cancer Services Division HSMR trend



1.5. Standardised Hospital Mortality Index (SHMI)

This has not been updated since the last MD report which saw the Trust at 111.9 as back in the “as expected” range for the NHS Information centre..

1.6. CQUIN Pathway Monitoring

Mortality monitoring of 9 pathways currently under review as part of the CQUIN agreement is ongoing. 8 pathways are shown below and the data for 2013/14 are included in Appendix 1. Those pathways in yellow will be monitored by SHMI and those in mauve by HSMR. Q4 RAG rating is estimated from the HSMR herald for SHMI against the set CQUINS targets. New schemes to not have a target in 13/14.

Figure 10 CQUINS Pathways

CQUIN Pathways	HSMR 2011/12	HSMR 2012/13	SHMI Apr '12 – Mar '13	HSMR Apr '12 – Mar '13	HSMR Nov '12 - Oct '13
Acute Renal Failure	113	101.3	102.2	101.3	81.4
Congestive Heart Failure	108.1	103.6	110.9	103.6	89.8
Septicaemia	122	109.0	101.6	109.0	73.4
Urinary Tract Infection	106.1	83.8	120.3	83.8	83.4
Pneumonia (replacing Respiratory Infections)		101.2	111.9	101.2	92.4
Acute Myocardial Infarction (AMI)		128.6	136.3	128.6	122.7
Acute Cerebrovascular Disease (includes stroke)		98.6	131.1	98.6	84.1
Fracture of Neck of Femur (#NOF)		88.0	123.0	88.0	77.6

The 9th CQUIN pathway is for ‘Unexpected ITU Admission for Patients who deteriorate in hospital’. An initial audit has being undertaken and the pathway changes to address deficiencies have been agreed by the CGSC.. As it is impossible to monitor this pathway through SHMI or HSMR, other indicators are to be agreed, once the initial audit has been discussed at the next meeting of the East & North Hertfordshire CCG Mortality review Group.

1.7 Update by Specific Pathways

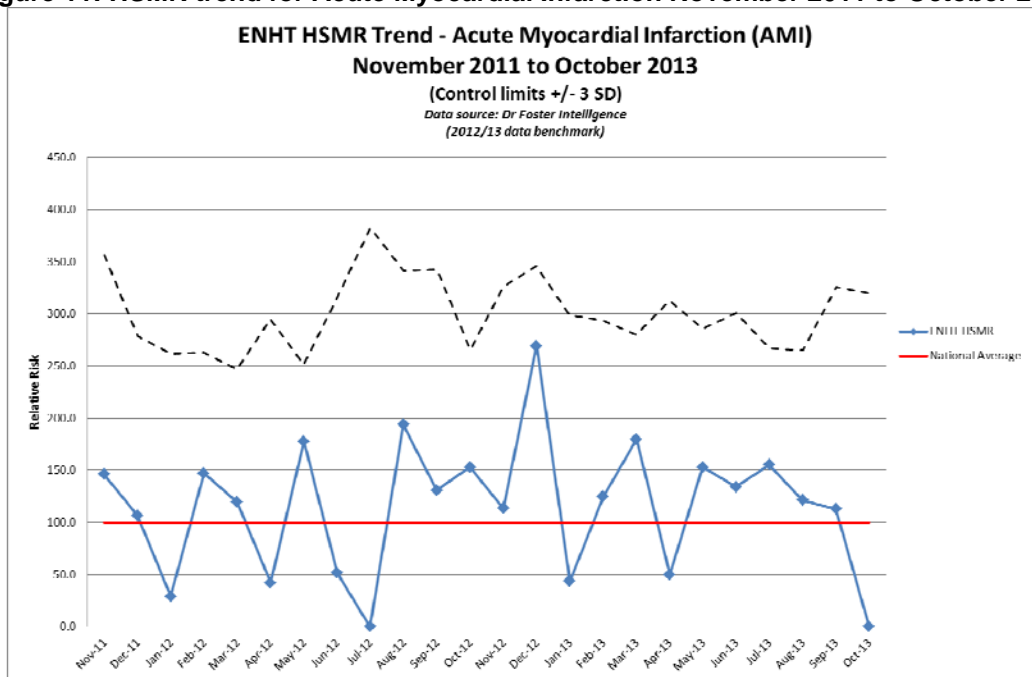
1.7.1 Acute Myocardial Infarction

The Acute myocardial infarction (AMI) HSMR has been a cause for concern, particularly in light of the strategic decision to be taken about location of 24/7 PPCI sites in Herts & Beds and its inclusion in the CQUIN pathway monitoring report for this year. Whilst latest rolling year mortality for neither SHMI nor HSMR are statistically elevated both are above average (see Figure 10 and Appendix 1). HSMR has deteriorated slightly in 2013/4. My last report detailed the range of clinical developments that had taken place to improve the service as well as coding enhancements to improve data collection prospectively.

The entire cohort of AMI patients who died between April and September 2013 has now been reviewed and the coding corrections will transfer through by year end. It is estimated that this will reduce AMI mortality to around 100 but there will be small deterioration in other diagnoses.

The chart below shows the HSMR trend for AMI over the past two years.

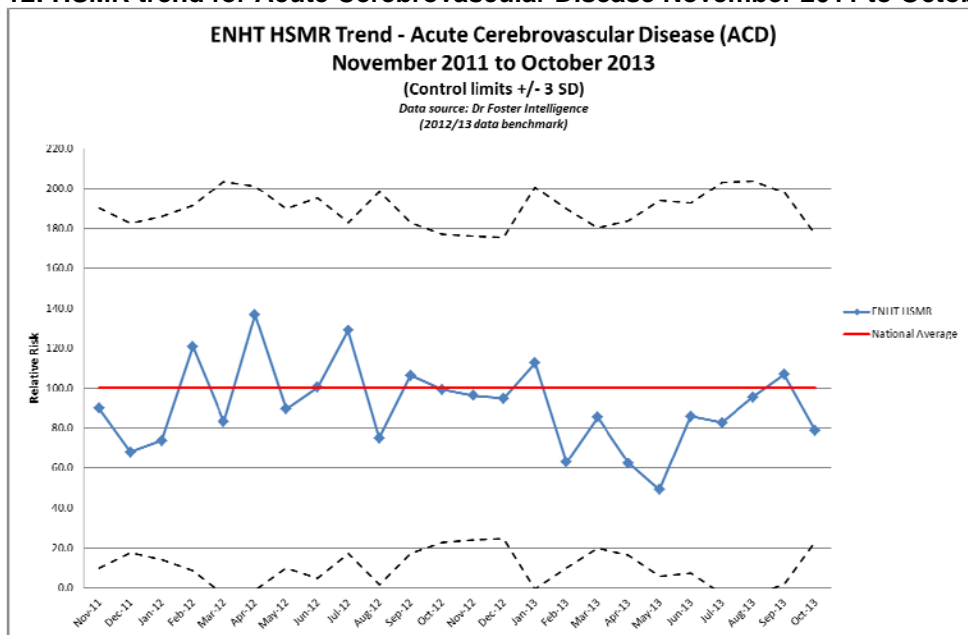
Figure 11: HSMR trend for Acute Myocardial Infarction November 2011 to October 2013



1.7.2 Acute Cerebrovascular Disease (Stroke)

Stroke mortality has been a cause for concern, particularly in light of the strategic decision to be taken about location of hyper-acute stroke units (HASU) in Herts & Beds and its inclusion in the CQUIN pathway monitoring report for this year. SHMI for April 2012 to March 2013 was significantly elevated (see Figures 10) but there has been a dramatic improvement in HSMR since April 2013 (see Appendix 1) and SHMI improvement will follow. The chart below shows the HSMR trend for Stroke over the past two years. My last report details plans for clinical and coding improvements.

Figure 12: HSMR trend for Acute Cerebrovascular Disease November 2011 to October 2013

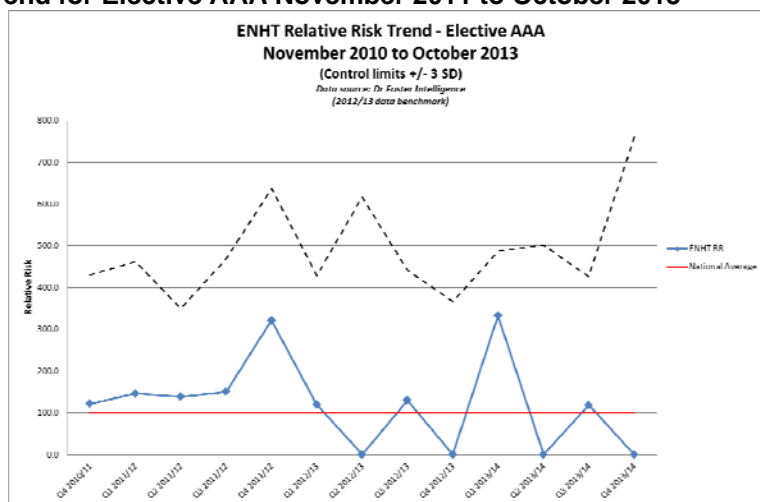


1.7.3 Elective Abdominal Aortic Aneurysm Repair (AAA)

The Vascular service is currently scheduled to centralise to Watford, in part because of historical mortality concerns at the Lister Hospital following elective AAA surgery. The chart below shows a quarterly relative risk trend for elective AAA procedures and performance is now good (see Figure 13).

The SHMI (which includes elective and non-elective activity) for the CCS group aortic, peripheral and visceral artery aneurysms for the period April 2012 to March 2013 is 91.21; the relative risk for all AAA procedures for the same period was 100.9.

Figure 13: HSMR trend for Elective AAA November 2011 to October 2013



1.7.5 Urinary Tract Infection

Urinary tract infections (UTI) are a group with a high SHMI but HSMR within the 'as expected' range and the CQUIN pathway is being monitored by HSMR. 41% of the deaths within this group occur in the community.

A reaudit was undertaken in September 2013 to see if patients are correctly diagnosed with a lower UTI, have the correct initial investigations and are treated with an appropriate course of antibiotic. 38 patient notes were reviewed.

- The diagnosis of UTI was correct for 27 (**71%**) patients.
- All the tests were carried out correctly for 26 (**68%**) patients.
- 23 (**61%**) of patients were given the correct treatment

As a result of the audit the following actions have been reinforced:

- All patients with a diagnosis of UTI to be prescribed antibiotics in line with the Trust's Antibiotic guideline
- Consultant Microbiologist's opinion to be sought as per Trust's antibiotic guideline

The CCG have initiated an audit on patient's who die in the community within 30 days of a hospital admission with the primary diagnosis of UTI

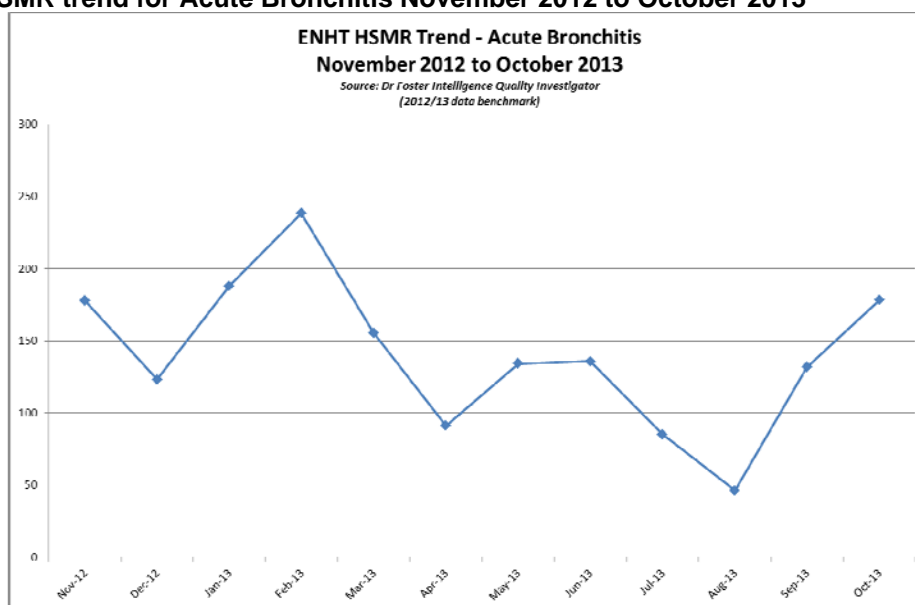
1.8. CQC CUSUM Alerts

In October 2013 the CQC notified the Trust of a mortality outlier alert for acute bronchitis and requested a review of 33 patients who died with this diagnosis between January and March 2013.

In the response to the CQC, the Trust outlined the changes to the Respiratory Service which had already taken place, described coding improvements and covered the improvements to Medical records. These initiatives have yet to produce the desired effect and further analysis is required.

Figure 14 shows the HSMR trend for acute bronchitis for the rolling year to October 2013.

Figure 14: HSMR trend for Acute Bronchitis November 2012 to October 2013



As a result of the review actions have been put in place as follows:

- A local policy has been developed for coding lower respiratory tract infections
- Work is currently being undertaken to improve the quality of patient notes
- A consultation has been undertaken to change physician cover to ensure all patients are reviewed within 12 hours

Overall the review highlighted the difficulties faced by clinical teams in making early clear diagnosis in the complex elderly patient. The Trust has a focussed strategy for this patients group and in conjunction with commissioners we are setting up an interface geriatrician model. This model will place Elderly Care Consultants in the Emergency Department and medical assessment units, to support and enhance decision making in exactly this group of patients.

In order that they have a basis on which to make a full assessment of our response, the CQC have requested further information on the actions and timescales, on the nursing homes patients within the review were admitted from and on the level of general practice support available to care homes locally. The Trust response to the CQC was sent on 9th January

There have been no further CUSUM alerts.

1.9 Progress on schemes identified through Keogh inspections

- *100% detailed Mortality reviews.* This scheme has formally been piloted since early November. We have identified a small group of trained reviewers. A database, supported by the audit and information teams has been developed and is being made more user friendly for direct entry by the reviewers. There is a common clinical section then separate sections for surgical or medical patients. Clinical audit will assist with quarterly trend analysis.
- *Better feedback to directorates after mortality reviews.* It is proposed that quarterly analysis of themes from the 100% mortality reviews will be supplied to the RHDs. Individual cases where the death was deemed avoidable (estimated to happen in 5-6% of cases) or where concerns were raised should be scrutinised in the directorate in greater depth.
- *Greater clinical involvement in mortality reduction programme.* This scheme has launched. The Acumen system enables monthly on-line notification to Consultants about patients who are reported to have died under their care. There has been good Consultant engagement in this initiative.
- *Focus not just on those who die.* This is improving due to care bundle development through the CQUINS pathways and the Coding improvement plan.
- *Systematic focus on all apparently outlying pathways.* The information team supply a monthly list of 99 and 95% CUSUM alerts to the Medical Director. The investigations (coding or clinico-coding) are co-ordinated via the Coding Review group.
- *Community/Interface geriatrician to educate care homes and reduce demand for admission.* This appointment is out to advert.

1.10. Summary of Key Issues

- Crude mortality has reduced substantially since December 2012.
- Overall HSMR performance continues to improve
- SHMI is back in the 'as expected range' and the next update is due later this month.
- Improvement and monitoring of 8 CQUIN mortality pathways is on-going – an increase in diagnostic groups from last year.
- Audit has been undertaken on a further clinical pathway, 'Unexpected ITU Admission for Patients who deteriorate in hospital'. Indicators for monitoring progress have yet to be agreed.
- 100% detailed mortality reviews are in place.
- Mortality monitoring is on-going with regular reporting to DEC, RAQC, Board, CCG and TDA.
- Regular joint meetings with NHS Hertfordshire to improve mortality rates
- Attendance at the East of England NHS Dr Foster User Group meetings.

Appendix 1 CQUIN Pathway Monitoring

1 Acute Cerebrovascular Disease

Full year 2012/13: HSMR – Relative risk 96.1

Crude mortality 24.1%

For November 2012 to October 2013:

Period	HSMR - Relative Risk	HSMR Crude Mortality		SHMI Apr '12 - Mar '13
	January Update	Count	Rate	
Nov-12	96.3	15	30.0%	131.1
Dec-12	94.9	15	34.9%	
Jan-13	112.6	10	23.3%	HSMR Apr '12 - Mar '13
Feb-13	62.8	7	14.9%	
Mar-13	85.5	12	17.9%	95.3
Apr-13	62.3	8	16.3%	HSMR Crude Mortality Apr '12 - Mar '13
May-13	49.1	5	9.6%	
Jun-13	85.9	9	20.0%	24.1%
Jul-13	82.8	7	18.9%	
Aug-13	95.5	8	16.3%	
Sep-13	106.9	10	23.8%	
Oct-13	78.8	12	19.7%	
Nov 12/Oct 13	84.1	118	20.2%	

2 Acute Myocardial Infarction

Full year 2012/13: HSMR – Relative risk 127.6

Crude mortality 12.7%

For November 2012 to October 2013:

Period	HSMR - Relative Risk	HSMR Crude Mortality		SHMI Apr '12 - Mar '13
	January Update	Count	Rate	
Nov-12	113.6	2	8.0%	136.3
Dec-12	269.0	4	25.0%	
Jan-13	43.8	1	3.9%	HSMR Apr '12 - Mar '13
Feb-13	124.6	3	11.5%	
Mar-13	179.7	5	20.8%	121.6
Apr-13	50.1	1	4.2%	HSMR Crude Mortality Apr '12 - Mar '13
May-13	153.1	4	13.3%	
Jun-13	134.2	3	13.6%	12.7%
Jul-13	155.2	5	19.2%	
Aug-13	121.4	4	15.4%	
Sep-13	112.8	2	8.7%	
Oct-13	0.0	0	0.0%	
Nov 12/Oct 13	122.7	34	11.8%	

3 Acute Renal Failure

Full year 2012/13: HSMR – Relative risk 90.3

Crude mortality 15.9%

For November 2012 to October 2013:

Period	HSMR - Relative Risk	HSMR Crude Mortality		SHMI Apr '12 - Mar '13
	January Update	Count	Rate	
Nov-12	0.0	0	0.0%	102.2
Dec-12	108.1	4	22.2%	
Jan-13	52.0	3	10.0%	97.8
Feb-13	117.9	4	16.7%	
Mar-13	102.3	4	16.0%	16.2%
Apr-13	136.0	4	22.2%	
May-13	78.9	3	14.3%	HSMR Crude Mortality Apr '12 - Mar '13
Jun-13	100.7	3	12.5%	
Jul-13	28.4	1	4.2%	16.2%
Aug-13	124.4	5	20.0%	
Sep-13	47.0	1	5.3%	16.2%
Oct-13	53.4	2	8.3%	
Nov 12/Oct 13	81.4	34	12.7%	

4 Congestive Heart Failure

Full year 2012/13: HSMR – Relative risk 100.8

Crude mortality 16.7%

For November 2012 to October 2013:

Period	HSMR - Relative Risk	HSMR Crude Mortality		SHMI Apr '12 - Mar '13
	January Update	Count	Rate	
Nov-12	79.1	5	13.5%	110.9
Dec-12	116.8	4	22.2%	
Jan-13	82.8	4	14.3%	103.0
Feb-13	76.6	2	8.0%	
Mar-13	141.1	7	22.6%	HSMR Crude Mortality Apr '12 - Mar '13
Apr-13	169.1	8	25.0%	
May-13	46.2	3	8.8%	16.5%
Jun-13	23.8	1	3.6%	
Jul-13	52.6	2	6.1%	16.5%
Aug-13	23.9	1	3.6%	
Sep-13	141.3	5	17.9%	16.5%
Oct-13	127.7	7	18.4%	
Nov 12/Oct 13	89.8	49	13.6%	

5 Fracture of Neck of Femur

Full year 2012/13: HSMR – Relative risk 82.5

Crude mortality 10.6%

For November 2012 to October 2013:

Period	HSMR - Relative Risk	HSMR Crude Mortality		SHMI Apr '12 - Mar '13
	January Update	Count	Rate	
Nov-12	60.7	2	5.6%	123.0
Dec-12	102.6	6	15.0%	
Jan-13	137.9	8	21.1%	HSMR Apr '12 - Mar '13
Feb-13	54.7	4	7.7%	
Mar-13	57.9	3	6.7%	86.9
Apr-13	85.2	4	9.3%	HSMR Crude Mortality Apr '12 - Mar '13
May-13	74.7	4	10.3%	
Jun-13	81.3	4	8.0%	10.6%
Jul-13	90.5	2	5.6%	
Aug-13	47.9	2	4.4%	
Sep-13	55.6	2	5.4%	
Oct-13	69.8	3	9.4%	
Nov 12/Oct 13	77.6	44	8.9%	

6 Pneumonia

Full year 2012/13: HSMR – Relative risk 97.3

Crude mortality 21.9%

For November 2012 to October 2013:

Period	HSMR - Relative Risk	HSMR Crude Mortality		SHMI Apr '12 - Mar '13
	January Update	Count	Rate	
Nov-12	114.7	26	25.5%	111.9
Dec-12	115.9	29	25.0%	
Jan-13	106.5	33	20.0%	HSMR Apr '12 - Mar '13
Feb-13	56.3	15	13.0%	
Mar-13	98.8	27	20.2%	100.1
Apr-13	86.0	21	18.0%	HSMR Crude Mortality Apr '12 - Mar '13
May-13	96.9	17	16.2%	
Jun-13	79.0	13	20.0%	21.9%
Jul-13	97.4	15	20.0%	
Aug-13	61.0	8	12.7%	
Sep-13	93.2	15	20.3%	
Oct-13	86.4	20	18.7%	
Nov 12/Oct 13	92.4	239	19.3%	

7 Septicaemia

Full year 2012/13: HSMR – Relative risk 89.1

Crude mortality 21.3%

For November 2012 to October 2013:

Period	HSMR - Relative Risk	HSMR Crude Mortality		SHMI Apr '12 - Mar '13
	January Update	Count	Rate	
Nov-12	33.7	1	6.7%	101.6
Dec-12	105.0	4	23.5%	
Jan-13	140.9	5	35.7%	HSMR Apr '12 - Mar '13
Feb-13	60.7	2	15.4%	
Mar-13	37.0	1	7.7%	105.6
Apr-13	85.5	3	20.0%	HSMR Crude Mortality Apr '12 - Mar '13
May-13	45.4	1	7.7%	
Jun-13	33.1	1	5.9%	21.3%
Jul-13	62.4	2	11.8%	
Aug-13	34.5	1	4.6%	
Sep-13	125.7	3	15.8%	
Oct-13	87.4	4	20.0%	
Nov 12/Oct 13	73.4	28	14.4%	

8 Urinary Tract Infection

Full year 2012/13: HSMR – Relative risk 83.2

Crude mortality 4.6%

For November 2012 to October 2013:

Period	HSMR - Relative Risk	HSMR Crude Mortality		SHMI Apr '12 - Mar '13
	January Update	Count	Rate	
Nov-12	44.4	3	2.5%	120.3
Dec-12	24.5	1	1.2%	
Jan-13	80.1	8	6.0%	HSMR Apr '12 - Mar '13
Feb-13	92.0	7	6.4%	
Mar-13	39.4	2	1.9%	85.1
Apr-13	111.9	7	5.9%	HSMR Crude Mortality Apr '12 - Mar '13
May-13	136.6	7	7.1%	
Jun-13	179.5	9	7.5%	4.6%
Jul-13	60.7	4	3.0%	
Aug-13	60.8	3	2.6%	
Sep-13	107.1	8	6.6%	
Oct-13	55.4	3	2.5%	
Nov 12/Oct 13	83.4	62	4.5%	