

Cover page				
Meeting	Trust Board			
Paper Title	Learning from Deaths Report QTR2 2019-20			
Date of meeting	28 <sup>th</sup> November 2019			
Date paper was written	11 <sup>th</sup> November 2019			
Responsible Director	Dr Edwin Borman, Director for Clinical Effectiveness			
Author	Tracey Lloyd, Patient Safety Advisor and Mortality Lead			
Executive Summary				
<p>The Trust has well-developed systems for reviewing mortality and has published corporate mortality data quarterly as a dashboard since 2017. Thematic analyses of deaths - with focused reviews generating identified areas for improvement - have been completed each quarter, with action plans confirming delivery.</p> <p>For the year 2019/20, the local reporting requirements have changed. This report includes those changes.</p> <p>This report for Quarter 2 is based on available reports, prepared by the Care Groups, and has been triangulated by the author. Systems and processes to triangulate learning from the various quality measures will be further strengthened during 2019 - 20.</p> <p>Due to the timing of the report, that must meet national reporting requirements, the number of casenote reviews appears low for Quarter 2. There has been increased focus on timely casenote review – supported by the Medical Director and the Director for Clinical Effectiveness.</p>				
Previously considered by	Quality and Safety Committee			
The Board is asked to:				
<input type="checkbox"/> Approve	<input type="checkbox"/> Receive	<input checked="" type="checkbox"/> Note	<input type="checkbox"/> Take Assurance	
To formally receive and discuss a report and approve its recommendations or a particular course of action	To discuss, in depth, noting the implications for the Board or Trust without formally approving it	For the intelligence of the Board without in-depth discussion required	To assure the Board that effective systems of control are in place	
Link to CQC domain:				
<input checked="" type="checkbox"/> Safe	<input type="checkbox"/> Effective	<input type="checkbox"/> Caring	<input type="checkbox"/> Responsive	<input type="checkbox"/> Well-led

Link to strategic objective(s)	<p>Select the strategic objective which this paper supports</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> PATIENT AND FAMILY Listening to and working with our patients and families to improve healthcare</li> <li><input checked="" type="checkbox"/> SAFEST AND KINDEST Our patients and staff will tell us they feel safe and received kind care</li> <li><input type="checkbox"/> HEALTHIEST HALF MILLION Working with our partners to promote 'Healthy Choices' for all our communities</li> <li><input type="checkbox"/> LEADERSHIP Innovative and Inspiration Leadership to deliver our ambitions</li> <li><input type="checkbox"/> OUR PEOPLE Creating a great place to work</li> </ul>
Link to Board Assurance Framework risk(s)	RR 423 If we do not get good levels of staff engagement to get a culture of continuous improvement then staff morale & patient outcomes may not improve

Equality Impact Assessment	<ul style="list-style-type: none"> <li><input checked="" type="radio"/> Stage 1 only (no negative impact identified)</li> <li><input type="radio"/> Stage 2 recommended (negative impact identified and equality impact assessment attached for Board approval)</li> </ul>
Freedom of Information Act (2000) status	<ul style="list-style-type: none"> <li><input checked="" type="radio"/> This document is for full publication</li> <li><input type="radio"/> This document includes FOIA exempt information</li> <li><input type="radio"/> This whole document is exempt under the FOIA</li> </ul>
Financial assessment	No

## Main Paper

### Situation

The Trust has well developed systems for reviewing mortality and has published corporate mortality data quarterly, as a dashboard since, 2017. Thematic analysis of deaths, with focused reviews, generating identified areas for improvement, have been completed each quarter, with action plans confirming delivery.

### Background

The Learning from Deaths report will be published quarterly and includes:

- emerging trends and themes following mortality reviews.
- evidence of embedded learning, triangulated with other quality measures (Serious Incidents, LeDer reviews, complaints).
- an action plan on identified themes of deaths (including LeDeR findings) based on the findings of the review.
- a copy of the Learning from Deaths dashboard, in line with the date of national reporting submission of the dashboard.

### Assessment

- There have been no avoidable deaths reported in this quarter.
- There have been 5 Serious incidents reported in which the patient died. The investigations have not yet all been completed, but at the time of this report it is believed they will be graded CESDI 1-2, (sub optimal care which might or might not have affected the outcome).
- The Serious incident reported of the patient who choked when eating has been graded as CESDI 3 – probably avoidable. The Coroner has concluded this case as Accidental death, and the family has received a copy of the report.
- Overall, the Mortality metrics for the Trust, including HSMR, are within the expected range. There is normal seasonal variation, with the Trust slightly above peer during the winter, but below peer for the spring months. Overall, the Trust results are within the expected range.
- The Commissioners have requested an update on the Trauma Audit and Research Network (TARN) The Executive summaries for Apr 18- Mar 19 are included in this report. Both sites are within the expected mortality range. Although PRH mortality appears higher than RSH, the report advises caution because of the low number of eligible cases.

### Recommendation

- A review of the mortality casenote review process in Unscheduled Care Group is being conducted to identify what support the process needs to improve completion rates.

# Learning from Deaths

July-September 2019

## 1. Avoidable deaths

There have been no avoidable deaths reported via the case-note review process. The Serious Incident reported last quarter of the patient who choked while eating a sandwich has been reported as CESDI 3.

There have been 5 Serious Incidents, reported in Quarter 2, in which the patient died.

The extent to which the incident affected the outcome is still to be determined by the investigations.

<u>Reported date</u>	<u>SI number</u>	<u>Description</u>
03/07/2019	2019/14633	Fall resulting in a #Neck of femur
21/08/2019	2019/18777	Diagnostic delay and patient developed oesophageal cancer
30/08/2019	2019/19109	Delayed diagnosis of abdominal obstruction
02/09/2019	2019/19258	Delay in treatment of Rhabdomyolysis
05/09/2019	2019/19528	Delay Diagnosis/Treatment C.difficile

No common themes have been identified between the incidents.

## 2. Learning and CESDI outcomes from last quarter's incidents

### 1. 2019/9288 leaking abdominal aortic aneurysm (AAA) CESDI 2

Inquest Conclusion – natural causes. *'It is possible but cannot be said that the delay caused or contributed to his death'*

The following recommendations have been identified and will be implemented:

- In order to reinforce the AAA red flag message, posters highlighting the potential diagnosis are to be displayed in appropriate areas in both SaTH Emergency Departments, and all staff are to be made aware of these.
- This will refer staff to the Think Aorta Campaign website for information and further learning <https://thinkaorta.org/>
- Teaching sessions for all nursing staff; substantive, bank and agency- reinforcing the signs and symptoms of ruptured AAA will be reinforced. This is to be monitored and all staff must sign to state they have received this teaching session, and it must be continued in on-going Nursing teaching programs.
- To remind all staff that communication between health care professionals on clinical matters should be recorded accurately.
- Reinforcement of the RCEM best practice guideline for the management and transfer of patients with a diagnosis of ruptured AAA to a speciality vascular Centre. This information must be distributed to Medical staff at ED and highlighted in ED clinical governance meetings together with the results of this report.
- Replacement of the ED Fast scanner and training in its use for the relevant staff.

2. 2019/10416 choking while eating CESDI 3

Inquest Conclusion - Accidental death

Learning and recommendations:

- The soft option menu card did not state the appropriate sandwich type for a soft option diet; a review of the soft option menu is required to ensure the choices of soft diet sandwiches are clearly defined. Following this incident the senior catering team has commenced a review of all menus in line with the International Dysphagia Diet Standardisation Initiative (IDDSI). New menus will be introduced Trust-wide. Soft option menu cards will be changed using the new IDDSI standard [Level 7 Easy to Chew]; these will state the specific sandwich type that can be offered to the patient.
- The Catering Ward manual also requires updating in line with IDDSI. This has been reviewed and implemented across all wards.
- The referral mechanism to SLT requires review in order to ensure a robust referral process.
- The incident is to be shared via the Nursing and Midwifery Forum (NMF) and other local meetings/groups to highlight learning from this unfortunate incident.

3. 2019/12134 myocardial infarction CESDI 1

The Coroner's investigation concluded, after receipt of the RCA report and discussion with the family, with a finding of death due to natural causes.

Learning and recommendations

- Ambulance notes need to be printed off on arrival at the ED and placed in the patient's notes. Ambulance notes must be checked by the clinicians if the patient has arrived by ambulance.
- ECGs should be performed in the ED as per the ECG protocol.
- Junior doctors involved in the case to undertake personal learning regarding ECG interpretation.
- New confusion needs to be appropriately scored in EWS scores.
- Deteriorating patients should have an appropriately experienced Doctor called to assess them.

4. 2019/13418 Unexpected neonatal death – Following initial investigation, this incident has been downgraded. CESDI 0

Nil of note identified which resulted in the outcome.

5. 2019/14274 intra-cerebral haemorrhage

Investigations not yet complete

### **3. Deaths where family, carers or staff have raised a concern about the quality of care provision.**

- A Patient died from a perforated proximal small bowel adenocarcinoma. The family have raised many questions and a case review has been completed . An offer has been made to meet with the family but they have declined.
- A patient died from SMV occlusion. A case review was held and a meeting has been arranged with the family for November

### **4 . LeDeR reviews**

There were 10 patients with Learning Disabilities who died in SaTH during Quarter 2.

There were 2 patients with Learning Disabilities who died and whose cases were referred to the Coroner:

- a gentleman who had severe Learning Disabilities from XYY syndrome, who died in August. He was obese with Type 1 diabetes, heart failure and sleep apnoea. He had been on the ward since May as his home situation was thought no longer viable and a very complicated discharge package was being put in place. He did not have a long life expectancy but his death was sudden and unexpected. The Coroner's Post mortem examination confirmed the cause of death as 1a Respiratory arrest secondary to 1b Obstructive Sleep Apnoea and he has closed the investigation. The patient's mother has raised multiple concerns about his care which are being managed via the Trust's processes.
- a gentleman with a history of epilepsy and autism died in August on ITU. This gentleman had had 4 previous admissions to ITU for pneumonia since 2011. He had been on ITU since January 2019. The family have raised multiple concerns with the Coroner regarding his PEG feeding and issues around his capacity.

No completed external LeDeR reviews have been returned to the Trust this quarter for additional learning.

### **5. Review of a Patient admitted under Section 2 of the Mental Health Act (MHA)**

A lady was admitted from home under a Section 2 of the MHA – *'this patient is suffering from mental disorder of a nature or degree which warrants the detention of the patient in hospital for assessment (or for assessment followed by medical treatment for at least a limited period'*

She refused all assessment and treatment and died 3 days after admission. The post mortem examination reported that she had suffered a Pulmonary Embolism (PE) secondary to a Deep Vein Thrombosis (DVT) and osteoporotic fracture of her right hip. It is highly unlikely her death could have been prevented; and the Coroner has concluded natural causes and closed the investigation. Nevertheless, there were a number of learning points for the Trust around management of patients admitted under a section 2 pathway.

If a patient is refusing all investigations and treatment, a Capacity Assessment should be performed, even on a patient admitted under Section 2 of the MHA. Where capacity is unclear, the assessment should be completed by a Psychiatrist. For legal purposes, a Consultant Physician's assessment is valid, but would be better supported if a second Consultant Physician also performs and documents an assessment. In this case, a Consultant spent a long time talking to the patient and deemed that she had capacity to refuse treatment for an assumed urinary infection and potential sepsis. The on-call Psychiatrist offered advice over the phone, but could not attend to assess the patient himself.

In this case, the DNAR form was completed on the grounds of physical frailty, but in a case such as this one, the DNAR order should also be countersigned.

If the patient's condition is life threatening, the assessor may have a lower threshold for deciding whether the patient has capacity to refuse treatment. At the time the Consultant made his assessment of this patient and deemed she had capacity, and that although frail, her condition was not thought to be life threatening. Her collapse from the PE was a completely unexpected and sudden event.

Trust solicitors can be contacted via Legal Services (in hours) or the Clinical Site manager out of hours.

A new Service level Agreement was already in the process of being developed between SaTH and MPFHT and learning from this incident is informing improvements in this. There was a lack of information about this patient's Mental Health background, and the Section papers were kept in the Site Office, so the doctors did not know the reasons given for her being admitted under Section 2.

Action being taken under the new agreement:

- There is a new checklist for Clinical Site Managers.
- The CQC recommended that if a patient was detained or admitted to SaTH from another setting, SaTH should receive a copy of the AMHP report for the patient.
- The Mental Health Liaison Team will print off the electronic MH records.
- 2 copies will be taken of the section papers. One will be inserted into the notes.
- Section papers will be scanned and sent to the Redwood centre.
- A laminated guide has been produced explaining the Mental Health Act.

Training

- Medical staff get Mental Capacity training incorporated into their regular training
- In January / February 2020, the Mental Health Liaison Team will deliver a rolling training programme
- A training session is organised for Matrons and ward managers to be provided in November.
- The incident has been discussed with the Psychiatrists on call
- The RAID Psychiatrist has delivered a session to the weekly Medical meeting (Consultants)

## **6. Themes from Speciality Mortality Reviews and incidents.**

### **a) Communication with other Trusts – Surgery**

A patient died in May 2019 who had had a Whipple's procedure performed at Queen Elizabeth hospital (QEH) and was admitted to SATH after discharge with bleeding. The patient was accepted by QEH but a bed was not available. The patient had a serious bleed while waiting for a bed. A case review has been held and an inquest date set for December 12th

Patient 2 had previous bariatric surgery in Stoke in April 2016 and was admitted as emergency to RSH in 2017, requiring surgery for an internal hernia. They had further admissions with urosepsis and biliary sepsis and, in June 2018 they were admitted to UHNM where the patient underwent a cholecystectomy, but died. Malnutrition played a role in the patient's death. The Coroner found no failure of care at SaTH and no failure of care at UHNM, but suggested a lack of communication between the Trusts.

Learning - any pertinent emergency care of a patient who is undergoing treatment for a condition under an outside Trust or agency is communicated by letter to that parent Trust

### **b) Patients with known end of life co-morbidities did not have end of life decisions made – Emergency departments**

Many patients brought to ED could have had End of Life decisions made in the community which would have prevented them dying in an Emergency Department. The ReSPECT form has been introduced in the Trust on 31<sup>st</sup> October, and it is hoped the roll out in the community will prevent some of these patients being brought to hospital when they deteriorate at the end of their life.

c) Consideration of endocarditis in a patient with a persistent pyrexia – T&O

A patient was admitted with persistent pain and swelling in his knee. He had had a lateral ligament reconstruction to his left knee some 22 years previously. He was treated with antibiotics and had surgical debridement of the knee and removal of screws. His temperature steadily settled and the patient was considered well enough to go home on oral antibiotics. He unexpectedly had a massive intra-cerebral haemorrhage and died. His family donated his organs and, at harvesting, there was evidence of endocarditis affecting the cardiac valves and also some purulent fluid in the peritoneum. The case was discussed with a wide variety of colleagues and Intensivists, who concluded that the cerebral haemorrhage was a completely unconnected event and, as such, his death was not preventable. However, the T&O team has commented on the importance of considering endocarditis in patients who have had septicaemia.

d) Time to admission for patients with fractured neck of femur – T&O

Delays in 4hr admission from ED to ward was raised at the governance meeting. An audit has been completed and will be presented at the next meeting. As of 1st July ED can bleep the Trauma Nurse if a patient has a suspected hip fracture so arrangements can be made to find a bed. There have been some teething problems and potential bed management issues, but the team will monitor and consider how to further improve the situation.

e) Thematic analysis of 9 stillbirths Jan – Sep 2019

All stillbirths are now reviewed against the elements in Saving Babies Lives care bundle 2

Element 1, Reducing smoking in pregnancy (applicable in 5 out of 9 stillbirths)

Element 2, Risk assessment, prevention and surveillance of pregnancies at risk of fetal growth restriction (FGR) (applicable 6 out of 9)

Element 3, Raising awareness of reduced fetal movement (RFM) (3 out of 9)

Element 4, Effective fetal monitoring during labour (not a factor in any of the cases)

Element 5, Reducing preterm birth (1 out of 9)

Focusing on these elements will help to reduce stillbirth rates.

f) Learning from Perinatal Mortality Review Tool - Neonates

· Maintaining adequate temperature prior to and following transfer to the Neonatal Unit

1. Promotion of the correct use of the transwarmer for Neonatal staff
2. Temperature monitoring prior to transfer out of the delivery room
3. Use of transport incubator if concerned about temperature
4. Use of red hats and blankets

Documentation – It was not possible to assess from the notes whether the opportunity for a post-mortem was discussed with the parents prior to their baby's death as part of the end of life care

Information will be disseminated to the Neonatologists regarding the process required following the death of a baby regarding reporting via Datix and discussion of the post mortem findings



## 5. Thematic reviews

<b>2017/2018</b> Quarter 1	Fractured Neck of Femur - RSH
Quarter 2	Fluid and Electrolyte Disorders
Quarter 3	Developing requirements for Learning from Deaths - Dashboard
Quarter 4	Pneumonia – pleurisy, pneumothorax and pulmonary collapse
<b>2018/2019</b> Quarter 1	PE 90 day post-discharge
Quarter 2	ED Mortality
Quarter 3	Fracture Neck of Femur – PRH
Quarter 4	Acute Cerebrovascular disease – HSMR SaTH
<b>2019/20</b> Quarter 1	Implementation of the Medical Examiner process at RSH and the interaction with Serious Incident and Mortality review processes
Quarter 2	There were no identified outliers requiring in-depth review in Quarter 2

### Action Schedule Summaries 2018-19

#### Quarter 4 (2018/19) Acute cerebrovascular disease

The report for this review has been published and circulated in accordance with the Trust's governance pathway.

1. There was a small increase in mortality across all the mortality metrics in 2018-19. The reasons for this is multifactorial and involves a combination of coding, case mix and subtle delays in care and the provision of services. These are being addressed as part of the Stroke Improvement Plan. Efforts will continue to minimise the difficulties arising from the potential presentation of patients to two sites, and access to Interventional Radiology.

2. While SaTH remained within the 'expected range' in the other mortality metrics, despite a small increase during 2018, the reason the Trust became a statistical outlier in HSMR alone, is due to the impact of the small increase on an already elevated ratio due to the lower application of the Palliative care code Z515 at SATH.

The SaTH Palliative Care team does not have the capacity to see every End of Life patient, and the Trust has confidence in the quality of End of Life Care already provided by the MDT Stroke team. The team will continue to refer complex cases, or those who require the services of the in-hospital and community Palliative Care teams, for additional advice as needed.

3. SaTH has assurance that any avoidable deaths, and incidents of serious concern are being escalated through the appropriate governance routes.

#### Recommendations

1. The Stroke team and Unscheduled Care Group must ensure that all patient deaths with a diagnosis of Stroke are subject to formal Consultant mortality casenote review.
2. The clinical team will collaborate with the clinical coding department at RSH to ensure that all patients with Stroke are given the correct primary diagnosis.
3. Action already agreed to eliminate red-rated items on the Stroke Improvement Plan.

## Update on performance measured on the National Hip Fracture database

Both sites are providing care for patients who have sustained a fractured neck of femur. Improvements have been made, in accordance with the recommendations of the review reports, with further work planned.

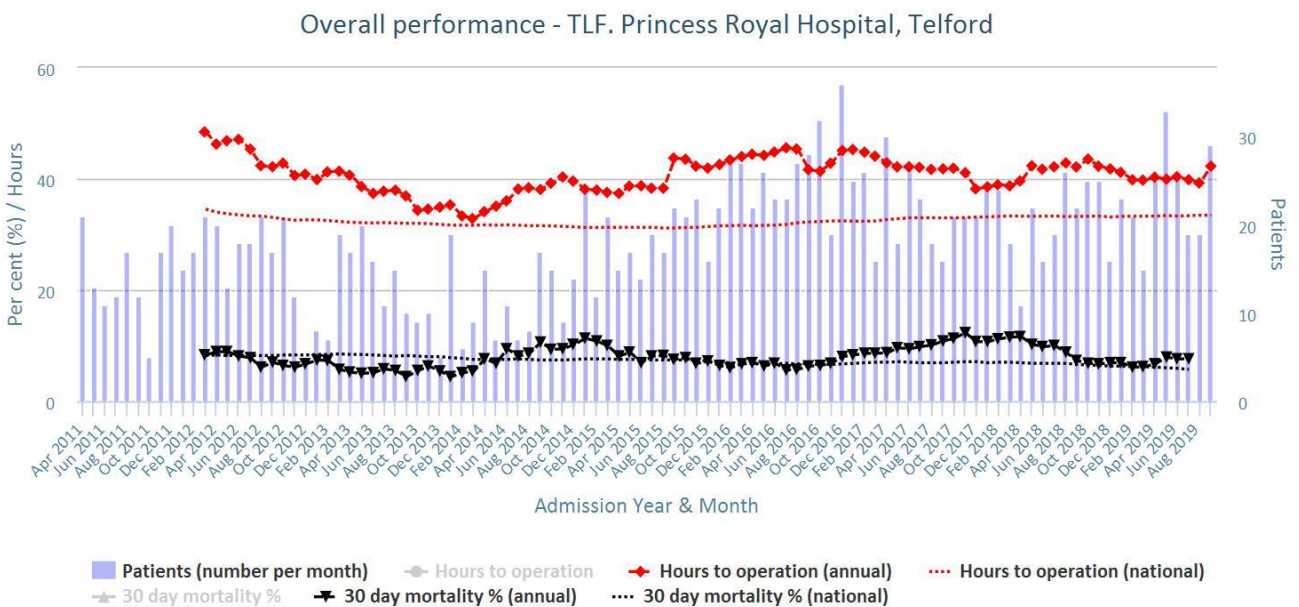
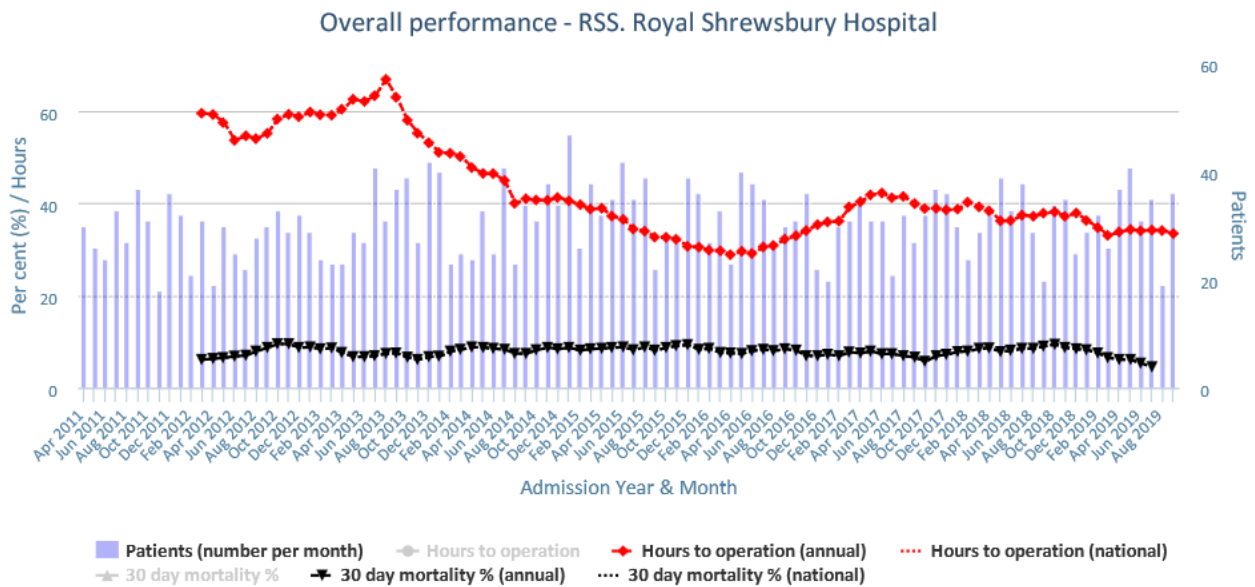


Chart data is indicative status only - www.nhfd.co.uk (c) Royal College of Physicians - Technology by Crown Informatics

# Trauma Audit Research Network

## RSH EXECUTIVE SUMMARY

01 April 2018 to 31 March 2019 core measures

Improvements are shown in **GREEN**, no change in **AMBER** and deteriorations in **RED**.

### Data quality

**Case Ascertainment is 100+**, this is **above** the target of 80%.

This represents **no change** compared to previous year.

**Data Accreditation is 98.4%**, this is **above** the target of 95%.

This represents **no change** compared to previous year.

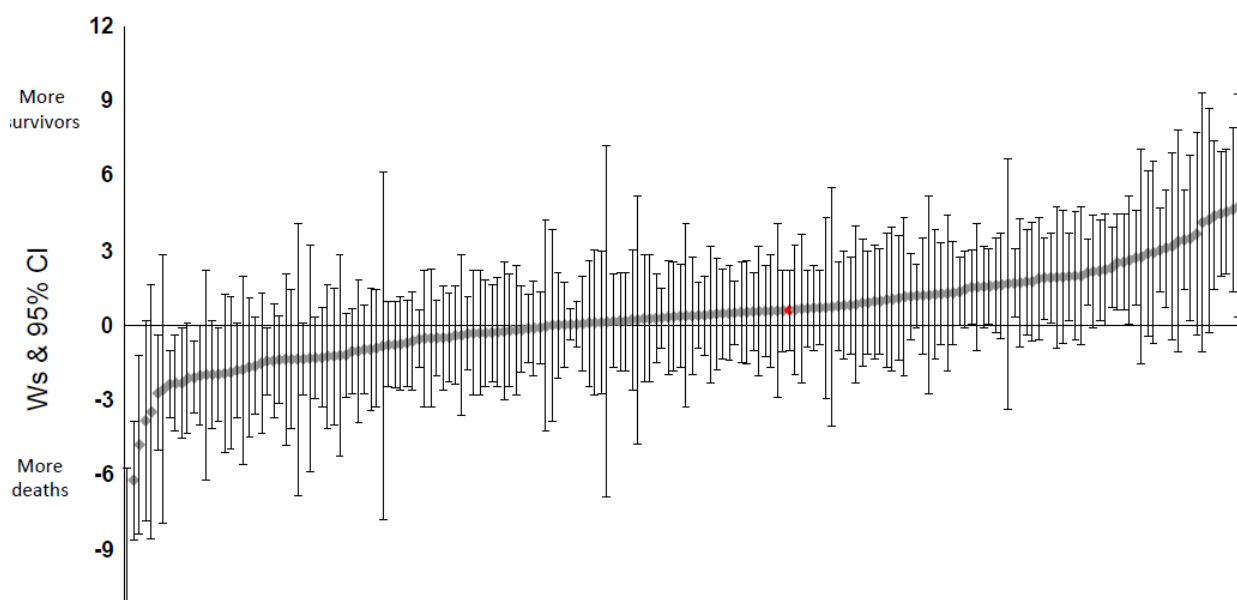
**The excess rate of survival is as expected (RSH red dot compared to other Trusts below)**

**Ws is 0.65**. 95% confidence intervals are **-0.96 to 2.25**

**The survivor / death ratio is 1.13**

The data in this report should be viewed with **confidence** (see data reliability index)

Both Ws and survivor / death ratio are based on a 2 year period Apr17-Mar 19 (628 patients, 577 survivors)



### CORE section

**14% of ISS > 15 patients were seen by a Consultant within 5 minutes of arrival**, this is **above** the TU average of 13.2% and has **remained at the same level** compared to previous year.

**67% of NICE criteria patients had a CT within 60 minutes**, this is **above** the TU average of 56% and has **increased by 17%** compared to previous year.

*33% of the patients that had a CT within 60 minutes arrived between the hours of 08:00 - 20:00.*

**5 days median length of stay for ISS > 15 patients**, this is **below** the TU average of 7 days.

This represents **no change** compared to previous year.

**Rehabilitation prescription was completed for 78% of patients with ISS >8**, this is **above** the TU average of 42%. This has **increased by 22%** compared to previous year.

# TARN

## PRH EXECUTIVE SUMMARY

01 April 2018 to 31 March 2019 core measures

Improvements are shown in **GREEN**, no change in **AMBER** and deteriorations in **RED**.

**Case Ascertainment is 100+**, this is **above** the target of 80%.

This represents **no change** compared to previous year.

**Data Accreditation is 97.3%**, this is **above** the target of 95%.

This represents **no change** compared to previous year.

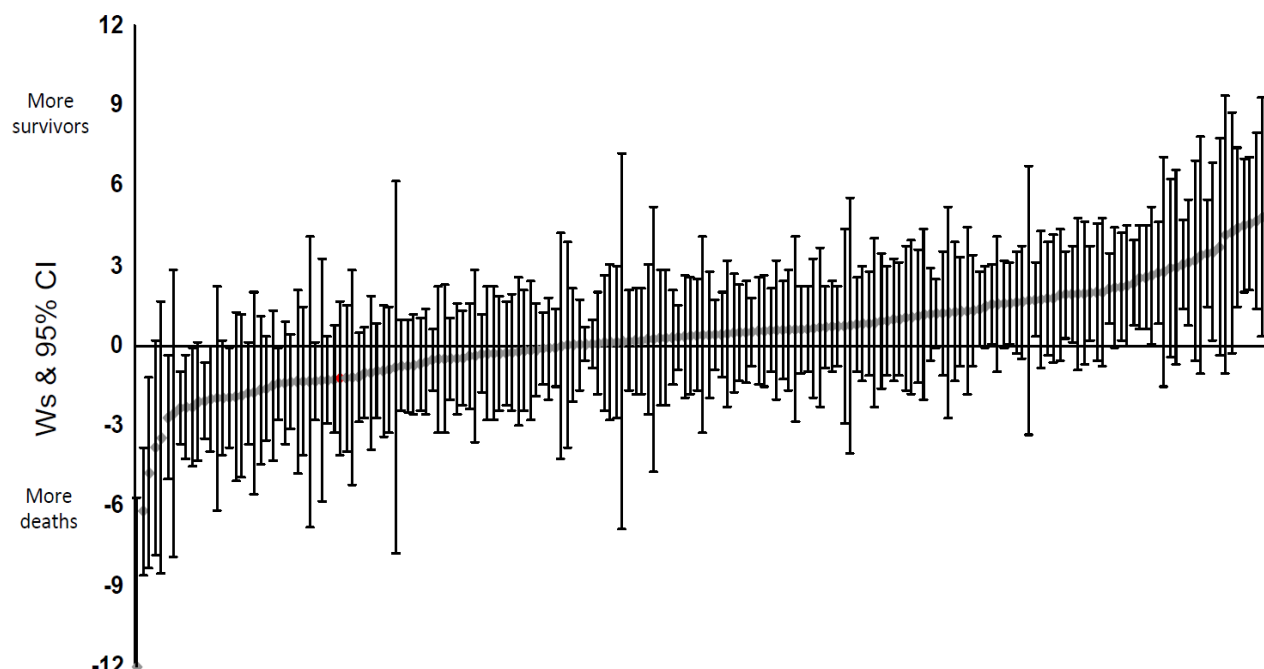
**The excess rate of survival is as expected (PRH red dot compared to other Trusts below)**

**Ws is -1.19**. 95% confidence intervals are **-4.08 to 1.70**

**The survivor / death ratio is 1.28**

The data in this report should be viewed with **caution** (see data reliability index)

Both Ws and survivor / death ratio are based on a 2 year period Apr17-Mar19 (269 patients, 248 survivors)



### CORE section

**2% of ISS > 15 patients were seen by a Consultant within 5 minutes of arrival**, this is **below** the TU average of 13.2% and has **remained at the same level** compared to previous year.

**100% of NICE criteria patients had a CT within 60 minutes**, this is **above** the TU average of 56% and has **increased by 50%** compared to previous year.

*33% of the patients that had a CT within 60 minutes arrived between the hours of 08:00 - 20:00.*

**1 days median length of stay for ISS > 15 patients**, this is **below** the TU average of 7 days.

This represents **no change** compared to previous year.

**Rehabilitation prescription was completed for 79% of patients with ISS >8**, this is **above** the TU average of 42%. This has **increased by 28%** compared to previous year.

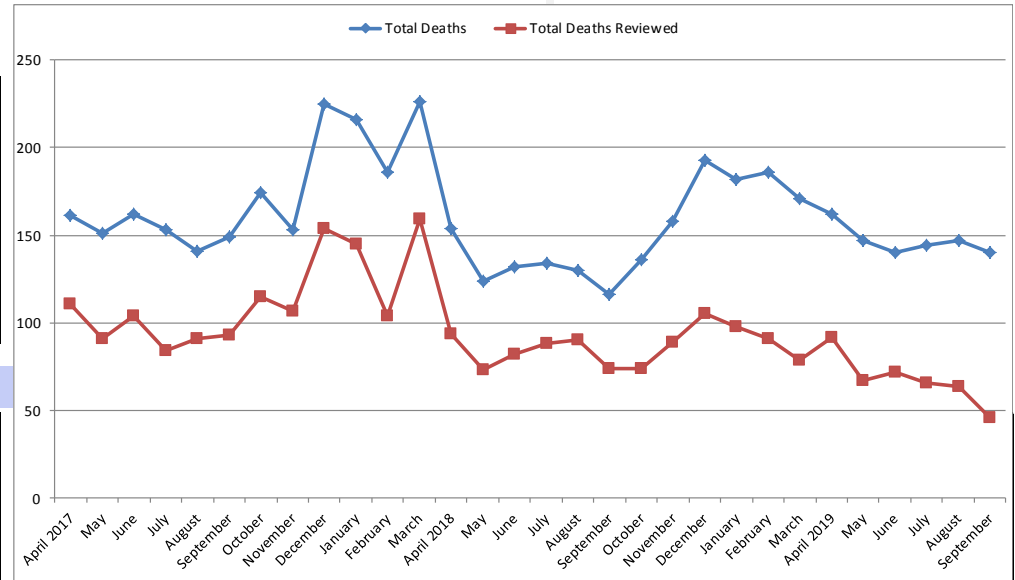
# SATH Mortality Case-note Review Dashboard Quarter 2 2019-20

## Summary of total number of deaths and total number of cases reviewed under the Trust Casenote Review Methodology



### Total Number of Deaths, Deaths Reviewed and Deaths Deemed Avoidable (does not include patients with identified learning disabilities)

Total Number of Deaths in Scope		Total Deaths Reviewed		Total number of deaths considered to have been potentially avoidable (CESDI 3)	
This Month	Last Month	This Month	Last Month	This Month	Last Month
140		46	64	0	0
This Quarter (QTD)	Last Quarter	This Quarter (QTD)	Last Quarter	This Quarter (QTD)	Last Quarter
431	449	176	231	0	1
This Year (YTD)	Last Year	This Year (YTD)	Last Year	This Year (YTD)	Last Year
880	1816	407	1017	1	4



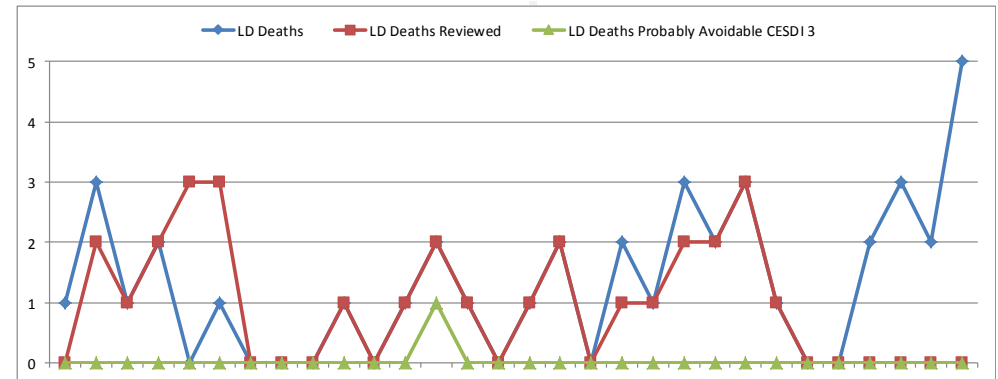
### Total Deaths Reviewed by Methodology Score

CESDI 0 No sub optimal care	CESDI 1 Some sub optimal care which did not affect the patient's outcome	CESDI 2 Some sub optimal care which might have affected the patient's outcome
<b>This Month</b>	<b>This Month</b>	<b>This Month</b>
38	7	1
<b>This Quarter (QTD)</b>	<b>This Quarter (QTD)</b>	<b>This Quarter (QTD)</b>
151	18	3
<b>This Year (YTD)</b>	<b>This Year (YTD)</b>	<b>This Year (YTD)</b>
355	42	4

## Summary of total number of deaths of patients with a Learning Disability and, the total number reviewed under the LeDeR and Trust methodology

### Total Number of Deaths, Deaths Reviewed and Deaths Deemed Avoidable for patients with identified learning disabilities

Total Number of Deaths in scope		Total Deaths Reviewed by Trust or Reported Through the LeDeR Methodology		Total Number of deaths considered to have been potentially avoidable	
This Month	Last Month	This Month	Last Month	This Month	Last Month
5	2	5	2	0	0
This Quarter (QTD)	Last Quarter	This Quarter (QTD)	Last Quarter	This Quarter (QTD)	Last Quarter
10	2	10	2	0	0
This Year (YTD)	Last Year	This Year (YTD)	Last Year	This Year (YTD)	Last Year
12	18	12	18	0	1



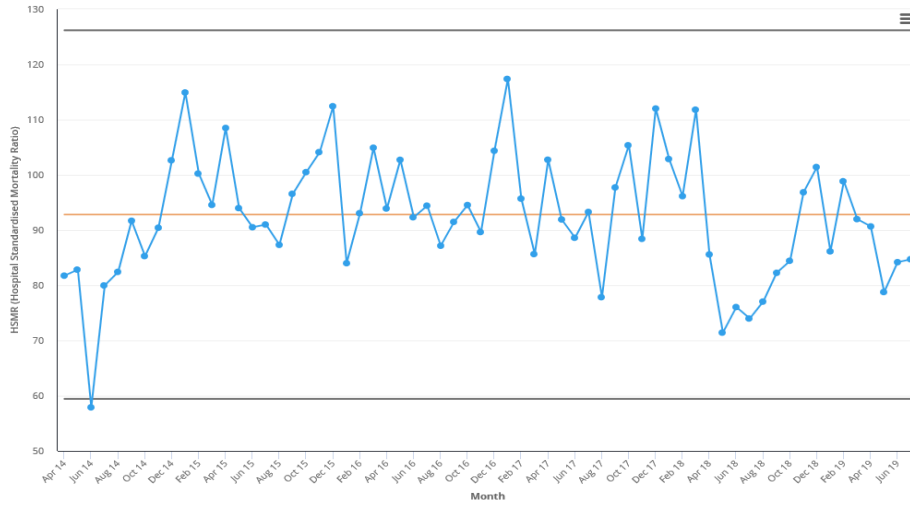
## Mortality metrics CHKS August 2018 – July 2019

Description	Local Numerator	Local Denominator	Aug 18 - Jul 19	Aug 17 - Jul 18	Change	Peer Value	Performance
HSMR (Hospital Standardised Mortality Ratio)	1532	1734	88.33	92.27		90.66	
SHMI (Summary Hospital-Level Mortality Index) +	1358	1368	99.27	101.29		98.29	
In-Hospital SHMI (Summary Hospital-Level Mortality Index) 2018	1636	2827	57.87	63.22		65.77	
Mortality Rate	1636	170594	0.9590%	1.1281%		1.1455%	
RAMI (Risk adjusted mortality index) 2018	1636	1890	86.56	88.52		88.81	
Rate of Mortality in hospital within 30 days of elective surgery	1	3204	0.031211%	0.12492%		0.12575%	
Rate of Mortality in hospital within 30 days of Non elective surgery	83	7882	1.0530%	1.1561%		1.3469%	
% Mortality in hospital within 30 days of emergency admission with a hip fracture (age 65 and over)	6	235	2.5532%	4.333%		4.654%	
Rates of mortality in hospital within 30 days of emergency admission with a stroke	106	946	11.205%	10.348%		11.907%	
% Mortality in hospital within 30 days of emergency admission with a heart attack (MI) aged 35 to 74	3	313	0.9585%	0.8264%		3.195%	
Deaths in Low Mortality CCS Groups	11	12476	0.08817%	0.18781%		0.10746%	
Post operative pulmonary embolism or deep vein thrombosis	7	26152	0.026767%	0.03870%		0.03698%	
% Still Births	17	4197	0.4051%	0.4939%		0.3823%	
Mortality Rate - Admitted via A&E	1253	33470	3.744%	4.473%		3.425%	

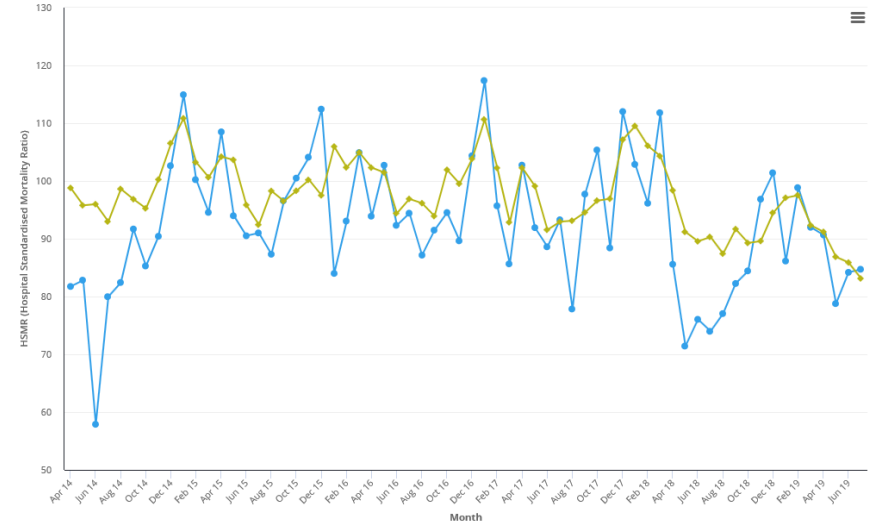
# 5 year Mortality metrics CHKS April 2014 – July 2019

SPC run chart

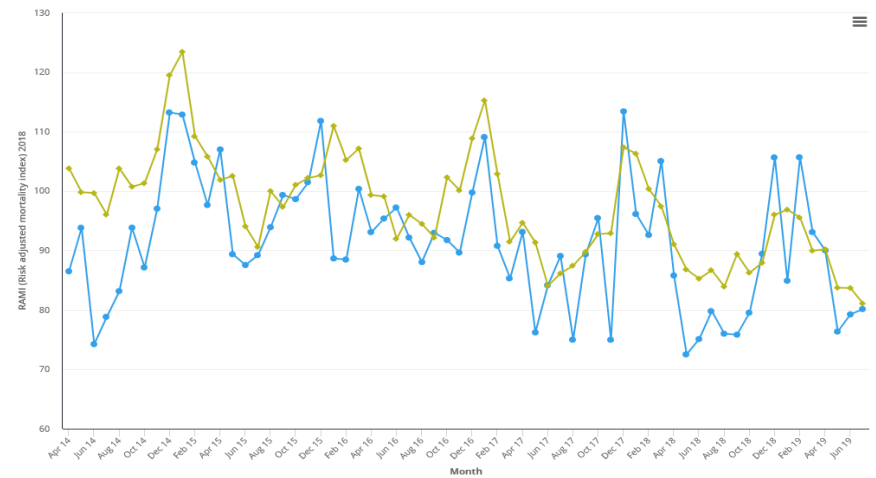
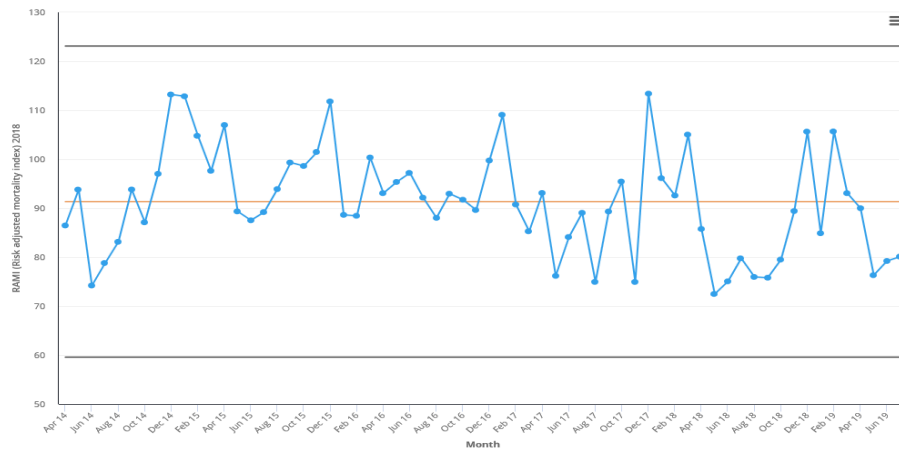
HSMR



Monthly variation compared to peer average (Trust blue line)

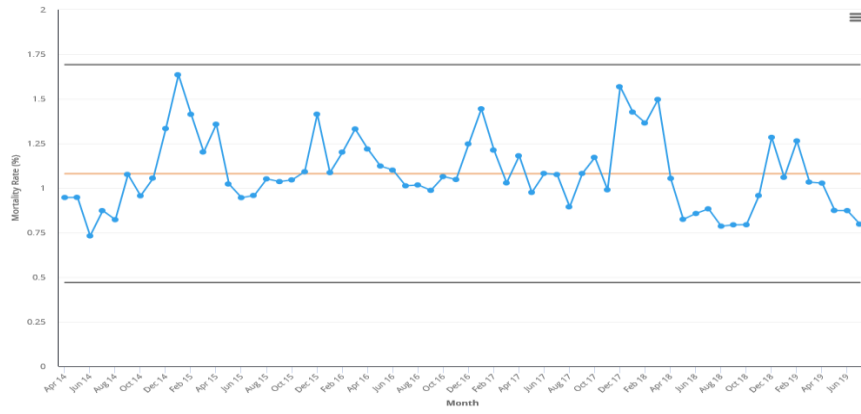


RAMI

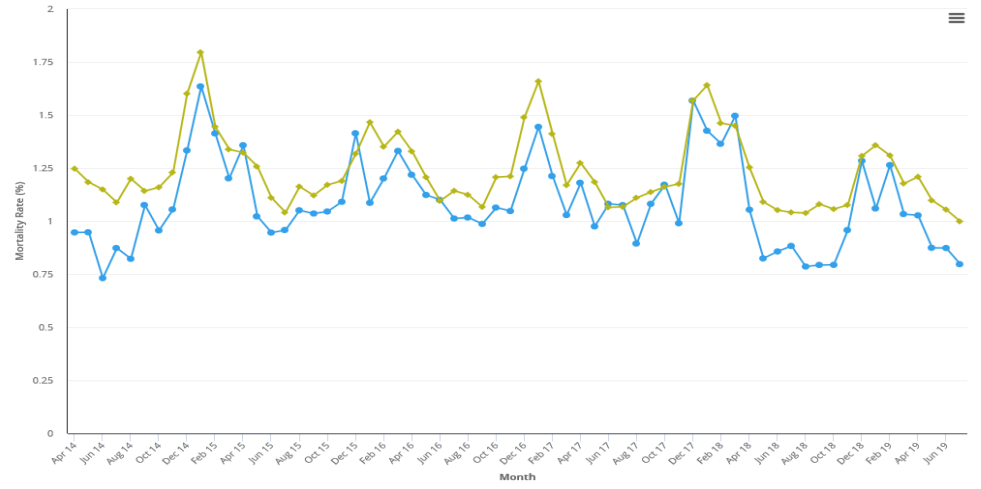


SPC run chart

Crude Mortality Rate



Monthly variation compared to peer average (Trust blue line)



SHMI – note data only available up to April 19

