The Shrewsbury and Telford Hospital NHS Trust

Cover page	
Meeting	Trust Board
Paper No.	13
Paper Title	Review of Mortality in the Emergency Department and Trust Mortality Case-note review Dashboard
Date of meeting	7th February 2019
Date paper was written	10th January 2019
Responsible Director	Medical Director
Author	Tracey Lloyd, Mortality Lead

Executive Summary

a. Review of Mortality in the ED January 2019

This paper examines the number of deaths recorded in the Emergency Departments.

Conclusions:

1. From the indicators available, 'ED Mortality' at SATH is within the expected or average range.
2. 'Pre-hospital' cardiac arrests. More patients are brought by ambulance crews to PRH than RSH. The patients tend to be younger, with potential socio-economic factors.
3. There more patient deaths after arrival in ED at RSH than PRH.
4. 'Post–ED Mortality' of in-patients admitted via ED is within the expected range.
5. There is seasonal variation in the number of deaths and attendances.
6. There is no evidence of out of hours and weekend bias.
7. There is an effective system of mortality review, and reporting of sub-optimal care, with plans to improve the reporting of themes and trends in 'no sub-optimal care deaths' in 2019.

b. Trust Mortality Casenote review Dashboard

The normal seasonal variation is displayed on the dashboard for Quarter 3 but to date, the number of deaths is lower than the same period in 2017.
There was one CESDI 3 death identified at PRH ED. This is being investigated via the Serious Incident investigation process.

An action plan has been developed following the Inquest in November of the patient with Learning Difficulties. This includes changes to nursing assessment of pain and soft signs of patient 'unwellness'. Discussions are underway with the CCG into the Acute Learning Disability service.
Due to the timing of this report, the delay in reviews caused by the Christmas break is apparent. The number of completed reviews will be updated in retrospect for the next report.

Previously considered by	Quality and safety Committee Safety Oversight and Assurance Group

The Board is asked to:			
☐ Approve	☐ Receive	☑ Note	☑ 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:				
☑ Safe	☑ Effective	☐ Caring	☐ Responsive	☐ Well-led

Link to strategic objective(s)	☐ PATIENT AND FAMILY Listening to and working with our patients and families to improve healthcare ☑ SAFEST AND KINDEST Our patients and staff will tell us they feel safe and received kind care ☐ HEALTHIEST HALF MILLION Working with our partners to promote 'Healthy Choices' for all our communities ☐ LEADERSHIP Innovative and Inspiration Leadership to deliver our ambitions ☐ OUR PEOPLE Creating a great place to work
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	◉ Stage 1 only (no negative impact identified) ○ Stage 2 recommended (negative impact identified and equality impact assessment attached for Board approval)
Freedom of Information Act (2000) status	◉ This document is for full publication ○ This document includes FOIA exempt information ○ This whole document is exempt under the FOIA
Financial assessment	No

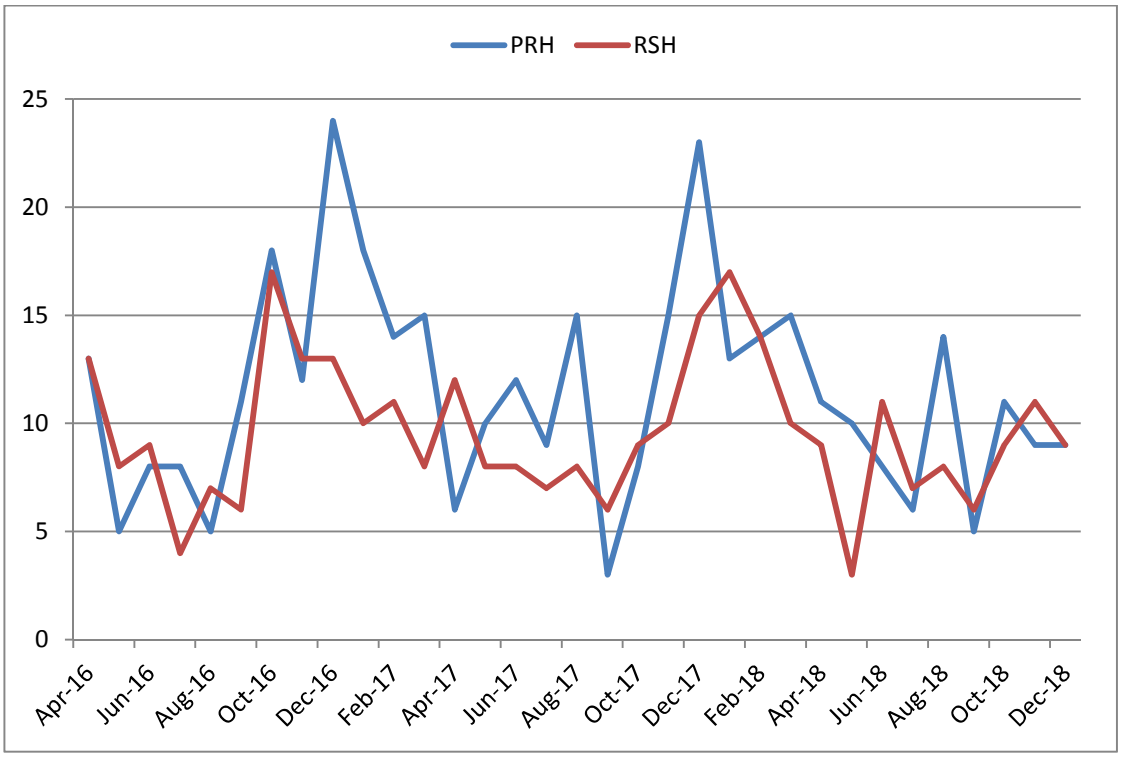
Review of Mortality in the Emergency Departments at SaTH

The Shrewsbury and Telford Hospital NHS Trust (SaTH) Emergency Departments (EDs) provide care for approximately 130,000 Accident and Emergency attendees per year. The service is currently provided at both the Princess Royal Hospital (PRH) and the Royal Shrewsbury Hospital (RSH).

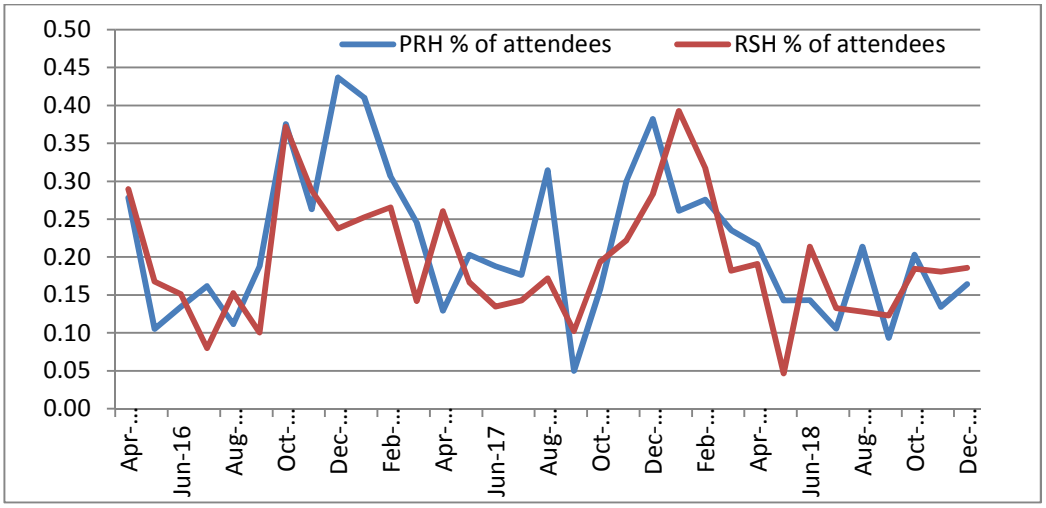
This paper examines the number of deaths recorded in the Emergency Departments:

1. The overall number of recorded deaths
2. Pre-hospital 'deaths' where the patients had a cardiac arrest out of hospital (OOH), but were still being actively resuscitated by the ambulance crew on arrival at ED.
3. Deaths of in-patients who were admitted to the hospital via ED.
4. Consultant review of patient deaths in the EDs.

1. Number of deaths recorded in the Emergency Departments (EDs) by site



The total number of deaths in both EDs during Quarter 3 of 2018/19, has not shown the seasonal pattern of previous years, despite an increase in attendances on both sites in November. (Attendance data includes presentations to the Urgent Care Centres)



	PRH		
	Attendances	Deaths	%
Jan-18	4980	13	0.261
Feb-18	5076	14	0.276
Mar-18	6361	14	0.236
Apr-18	5099	11	0.216
May-18	6997	10	0.143
Jun-18	5581	8	0.143
Jul-18	5692	6	0.105
Aug-18	6548	14	0.214
Sep-18	5352	5	0.093
Oct-18	5413	11	0.203
Nov-18	6696	8	0.134
Dec-18	5477	9	0.164
Total	69272	123	0.178

	RSH		
	Attendances	Deaths	%
Jan-18	4327	17	0.393
Feb-18	4408	14	0.318
Mar-18	5496	10	0.182
Apr-18	4717	9	0.191
May-18	6455	3	0.046
Jun-18	5151	11	0.214
Jul-18	5287	7	0.132
Aug-18	6256	8	0.128
Sep-18	4889	6	0.123
Oct-18	4880	8	0.184
Nov-18	6084	11	0.181
Dec-18	4843	9	0.186
Total	62793	113	0.180

All deaths, as a percentage of attendees to the EDs, are similar between the 2 sites. Since April 2018, this has been between 0.05 and 0.4%. The national Mortality comparison tools do not currently allow us to benchmark ED deaths to attendances.

2. Number of deaths in the EDs, shown by the number of patients who sustain cardiac arrests in the ED, and the number who are still being actively resuscitated by ambulance crews following out of hospital cardiac arrests (OOH), but who die in ED.

Through the Mortality review process, the total number of deaths recorded in the ED is divided into:

a) those patients who deteriorated and had a cardiac arrest once they were admitted to the department,

b) those who had a cardiac arrest before they attended the department, but who were still being actively resuscitated by ambulance crews on arrival. Although the patient's death is declared in the department, the cardiac arrest may have occurred up to an hour prior to arrival.

Historically, the larger numbers of deaths at PRH are attributed to a higher number of patients who were brought to the ED having sustained an out of hospital cardiac arrest. This was the reason behind the spike in total deaths recorded at PRH in August 2018 (highlighted below).

	PRH in ED	PRH OOH	Not reviewed
Apr-18	2	9	0
May-18	2	8	0
Jun-18	0	8	0
Jul-18	2	4	0
Aug-18	4	10	0
Sep-18	3	2	0
Oct-18	3	8	0
Nov-18	2	6	1

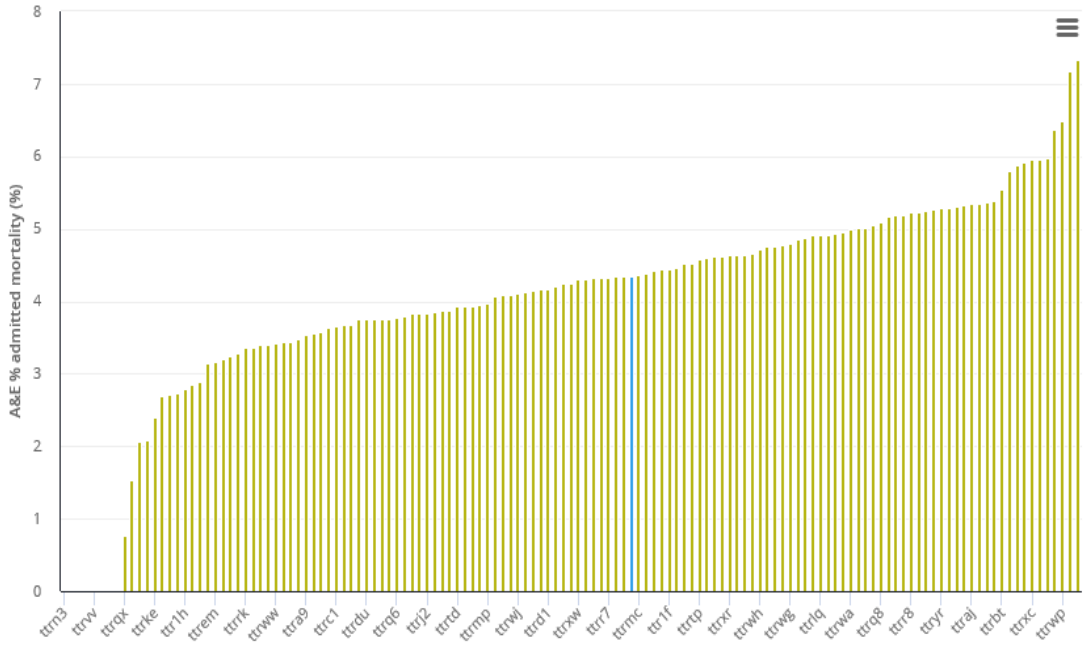
	RSH in ED	RSH OOH	Not reviewed
Apr-18	7	2	0
May-18	2	1	0
Jun-18	4	7	0
Jul-18	2	5	0
Aug-18	4	4	0
Sep-18	3	3	0
Oct-18	1	7	1
Nov-18	6	5	0

The out of hospital cardiac arrest patient data were examined in more detail in the November mortality review and concluded that:

- This review has shown that the majority of patients attending ED following OOH cardiac arrest are generally younger at PRH than RSH.
- At PRH, a larger number, including those from Care Homes, attend during weekdays from 8am-8pm.
- There is no evidence of bias related to out of hours and weekend presentations.
- The Consultant case reviewers will be asked to include the suspected cause of the cardiac arrest in future reviews. However, most of the patients only continue to receive resuscitation in the ED for a short time, so this will only be based on the information given to the ED team by the ambulance crews or family. More accurate assessment needs to be carried out in primary care, including any failures in End of Life Care planning.

3. Mortality of in-patients admitted via the ED.

These data, for adult admissions only, are derived from CHKS. SaTH as a whole (blue line), though slightly above peer average, is within the average range for in-patient mortality for patients admitted via ED. (November 17- October 18)



A&E % admitted mortality	In-patient Deaths	Admissions via ED	Nov 17 - Oct 18	Nov 16 - Oct 17	Change	Peer Value
SATH	1121	25820	4.342%	4.561%	-4.810%	4.135%
RXWAS - RSH	541	11389	4.750%	4.837%	-1.793%	4.761%
RXWAT - PRH	580	14431	4.019%	4.317%	-6.897%	3.953%

It is worth noting that:

1. More adult patients are admitted via PRH ED than RSH ED.
2. Although there are a higher number of deaths following admission at PRH (580) compared to RSH (541), the % admitted mortality is lower. (4.019% at PRH compared to 4.750% at RSH).
3. SATH total A&E percentage admitted mortality is down (- 4.810%) for the same 12 month period from 16/17, with the larger decrease at PRH (- 6.897%). This rate is only marginally above peer value for Nov17- Oct18, at 4.019% compared to 3.953%.
4. Both sites see a mixture of Minors, Majors, Trauma and Resuscitation patients. Patients with suspected Stroke are admitted via ED at PRH, whilst suspected surgical cases, excluding Gynaecology and ENT, are mainly admitted to RSH ED. Paediatric admissions are mainly seen at the PRH site, and are not included in these data.

4. Mortality Reviews

An ED Consultant has reviewed 656 out of 665 total ED deaths since April 2016.

Out of hospital cardiac arrest patients are checked to see if they were discharged from either ED or In-patient wards in the 30 days prior to their arrest. All ED 30 day mortality cases have a notes review and discussion with another ED consultant. If the death is an in-patient 30 day mortality case, the ED Consultant writes to the specialty leads and ask them to review the in-patient stay and discharge. There is one investigation currently underway, identified by the ED reviewer, of a patient who was discharged from medical and orthopaedic care within 30 days of an out of hospital cardiac arrest in December.

The other out of hospital cardiac arrests are not reviewed in detail unless there was an error identified with the resuscitation.

Patients who deteriorated and died in the ED are subject to structured review. They are graded using the Trust-wide Mortality grading system taken from the Confidential Enquiry into Stillbirths and Deaths in Infants (CESDI). This grading system is used by a number of other Trusts for reporting Mortality reviews:

- **Grade 0** No sub-optimal care
- **Grade 1** Sub-optimal care but different management would have made no difference to outcome
- **Grade 2** Sub-optimal care – different care MIGHT have made a difference to outcome (possible avoidable death)
- **Grade 3** Sub-optimal care. WOULD REASONABLY BE EXPECTED to have made a difference to outcome (probable avoidable death)

All CESDI 3 deaths are reported as Serious Incidents even if some time has passed between the death and the review. The patient's family are informed that an investigation is being undertaken as a result of the review and, if it is thought to have made a significant difference to the cause of death, the Coroner will also be informed. CESDI 2 are subject to more in depth review. A proforma is being developed to record themes and trends from deaths graded as CESDI 0 and CESDI 1.

Apr 18-Mar 19	Total identified Deaths	In ED deaths	CESDI 0	CESDI 1	CESDI 2	CESDI 3	ED 30 day mortality
PRH	74	18	19	4	1	1	5
RSH	64	29	31	4			2

Some out of hospital deaths have also been graded

In addition, the Trust submits data to the Trauma Audit and Research Network (TARN).
The August 2018 report for the period April 2017 to March 2018 showed an excess survival rate within the expected range for both PRH and RSH EDs.

- PRH Ws is -1.12. 95% confidence intervals are -3.78 to 1.55
- RSH Ws is -0.72 95% confidence intervals are -2.49 to 1.06

Serious Incidents

Since January 2018, there have been 2 deaths which occurred in the ED, that have been reported as Serious Incidents:

- PRH October 18. (2018/24498)
- RSH March 18 (2018/8027)

There have been a further 4 in-patients, whose deaths are recorded under other specialties, but where management and care in the ED has formed part of the investigation:

- 2 at PRH, (2018-11135, 2018-16144).
- 2 at RSH, (2018-10077, 2018-14296)

There is one Inquest still pending for SI no 2018-16144, and a decision to proceed to Inquest awaited on 2 further Coroner investigations. (2018-14296 and 2018-24498.

A Regulation 28 report was received in December 2018, following the Inquest of a patient who died in December 2017 and was reported as a Serious Incident (2018/177). The report asked the Trust to consider the opinion of the expert witness regarding the diagnosis of small bowel volvulus, and the Coroner asked whether the Trust, the GP and Shropdoc records can be accessible to one and other. A response is being formulated.

Themes and trends from Serious Incidents since January 2018

- Lack of regular observations by nursing staff. This was raised as an issue for both EDs and actions have been implemented to improve compliance which is subject to audit.
- Where observations had been performed, there was a lack of recognition of the need to escalate concerns in two cases.(action as above)
- The Sepsis screening tool was not always fully completed or actions taken in a timely manner. A review of the sepsis screening tool has been undertaken and a new tool implemented.
- Reliance on agency nurses and locum medical staff.
- Education on the diagnosis of small bowel volvulus.
- Reinforcement of Emergency department guidelines which recommend that patients over the age of 50 presenting with suspected renal colic should have the diagnosis of Aortic Aneurysm eliminated by an abdominal CT scan.
- A review of the Guidelines for performing nurse-led investigations in the ED. i.e. blood tests on triage.

Conclusions

1. From the indicators available, 'ED Mortality' at SATH is within the expected or average range.
2. 'Pre-hospital' cardiac arrests. More patients are brought by ambulance crews to PRH than RSH. The patients tend to be younger, with potential socio-economic factors.
3. There more patient deaths after arrival in ED at RSH than PRH.
4. 'Post–ED Mortality' of in-patients admitted via ED is within the expected range.
5. There is seasonal variation in the number of deaths and attendances.
6. There is no evidence of out of hours and weekend bias.
7. There is an effective system of mortality review, and reporting of sub-optimal care.

Future work underway for Quarter 4 2018/19

1. A review is underway of in-patients who have died, who were discharged from ED within 30 days, but admitted via other emergency portals. i.e. not via ED and therfore identified by the current ED mortality review. This relies on comparison of 2 datasets which are not able to be easily cross-referenced.

2. A proforma is being developed to record themes and trends in deaths graded as CESDI 0 and 1.

3. The proforma will also record the suspected cause of cardiac arrest, in patients who succumb to a cardiac arrest outside of hospital

January 2019

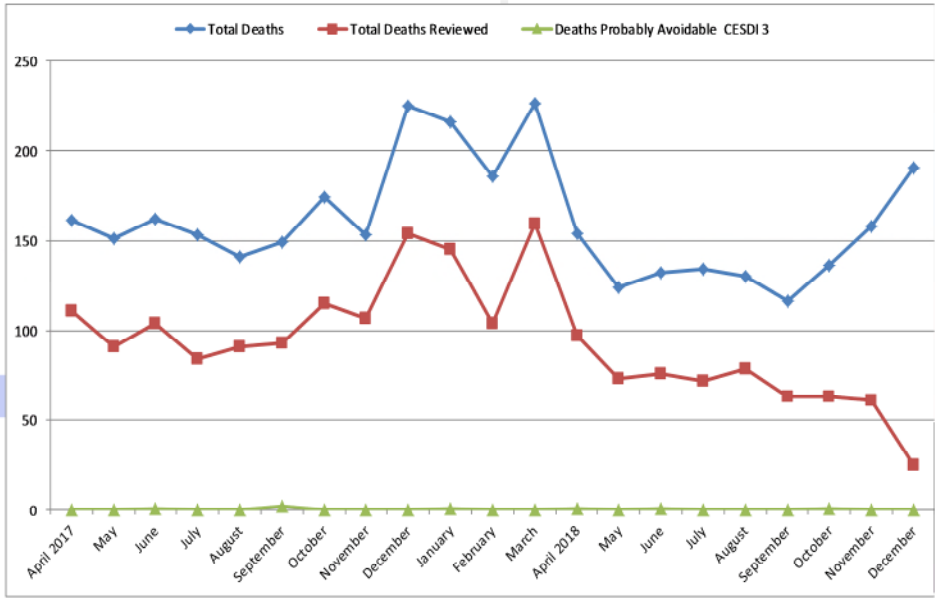
Summary of total number of deaths and total number of cases reviewed under the Trust Casenote Review Methodology

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
191	158	25	61	0	0
This Quarter (QTD)	Last Quarter	This Quarter (QTD)	Last Quarter	This Quarter (QTD)	Last Quarter
485	380	149	214	1	3
This Year (YTD)	Last Year	This Year (YTD)	Last Year	This Year (YTD)	Last Year
1275	2097	609	1358	4	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	
This Month	23	This Month	2	This Month	0
This Quarter (QTD)	147	This Quarter (QTD)	18	This Quarter (QTD)	2
This Year (YTD)	576	This Year (YTD)	47	This Year (YTD)	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
2	1	2	1	0	0
This Quarter (QTD)	Last Quarter	This Quarter (QTD)	Last Quarter	This Quarter (QTD)	Last Quarter
3	4	3	3	0	0
This Year (YTD)	Last Year	This Year (YTD)	Last Year	This Year (YTD)	Last Year
10	13	10	13	1	0