Executive Summary
Report to the Board of Directors
Being Held on 28 January 2025

Subject	Learning from Deaths Report – Q1 2024/25
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Status[1]	A

PURPOSE OF THE REPORT

This is the quarterly assurance report on the deaths of patients under the care of Sheffield Teaching Hospitals NHS Foundation Trust (STHFT) in line with the Learning from Deaths Guidance dated March 2017 covering Q1 of 2024/25 (1st April – 30th June 2024).

KEY POINTS

This is predominantly a statistical report on hospital mortality; however, we are mindful that every death included in these figures is an individual patient.

1. There have been 2748 deaths at the Trust for the 12-month period to the end of June 2024 (end of Q1), showing a pattern of *special cause – improving variation* for total deaths and mortality rate.
2. When compared with national benchmarks, overall mortality for September 2023 to August 2024 (latest) was lower, albeit the non-elective mortality was slightly higher and is under continual surveillance.
3. The Trust Summary Hospital-level Mortality Indicator (SHMI) remains stable and in the 'as expected' range for August 2023 to July 2024 (latest). A SHMI value and banding is calculated for a subset of 10 diagnosis groups, of which nine were 'as expected' or 'lower than expected'. Acute myocardial infarction was 'higher than expected'.
4. The 12-month rolling Hospital Standardised Mortality Ratio (HSMR) from September 2023 to August 2024 (latest) was 115.00 (110.06-120.08) and banded statistically 'higher than expected'. When Palliative Care adjustment is excluded, this falls to 101.36 and is 'as expected'. Sheffield has a lower proportion of recorded palliative care than average and has fewer patients in the 85+ group compared to other trusts on average, which is a key group when considering the impact of palliative care.
5. The SMR for Acute myocardial infarction remains higher than expected both with and without palliative care coding adjustment and is a 'higher than expected' SHMI diagnosis group. Clinical engagement in reviewing this has identified case mix impacts the SMR (more patients with cardiogenic shock or ventilated out-of-hospital cardiac arrest cases were seen in months with higher mortality and these are sicker patients with a worse prognosis) and opportunities to increase co-morbidity recording have been identified.
6. The STHFT Q1 mortality data, reviewed as part of Learning from Deaths (1st April – 30th June) shows: -
   - Total no. adult deaths at STHFT: 676
   - Total no. adult deaths subject to Structured Judgment Review (SJR): 30
   - Of the deaths subject to SJR in Q1, the number of deaths judged more likely than not to be due to a problem in care: 0
   - Total number of deaths judged more likely than not to be due to a problem in care, following completion of a serious incident investigation during Q1 and reviewed by the Serious Incident Group in Q1: 0
7. Approximately 5% of deaths in Q1 of 2024/25 were referred for SJR of which, 87% have been completed (26/30). One outcome scored less than 3.
8. 73 % of SJR outcomes from the 26 cases completed in Q1 showed 'excellent' or 'good' care overall.
9. Learning points/actions taken from the Mortality Governance Group (MGG) reviewed SJR (overall care score of two) were around fluid balance monitoring, weekend review and investigation of sepsis.
10. Between 1st April 2024 and 30th June 2024 there were 11 neonatal deaths, all of which have been reviewed using the Perinatal Mortality Review Tool (PMRT).
11. The mortality outlier status for Fracture of neck of femur from the National Hip Fracture Data NHFD national audit was above the upper 95% control limit for the audit, as of June 2024, but as expected for both SHMI and HSMR. The formal report from the BOA review is awaited.

IMPLICATIONS[2]

Aim of the STHFT Corporate Strategy		✓ Tick as appropriate
1	Deliver the Best Clinical Outcomes	✓
2	Provide Patient Centred Services	✓
3	Employ Caring and Cared for Staff	
4	Spend Public Money Wisely	✓
5	Deliver Excellent Research, Education & Innovation	
6	Create a Sustainable Organisation	

RECOMMENDATIONS

The Trust Board of Directors is asked to note the content of the report.

APPROVAL PROCESS

Meeting	Date	Approved Y/N
Trust Executive Group	January 2025	
Quality Committee	January 2025	
Trust Board of Directors	January 2025	

[1]Status: A = Approval, A* = Approval & Requiring Board Approval, D = Debate, N = Note

[2] Against the six aims of the STHFT Corporate Strategy 'Making a Difference – The next Chapter 2022-27'

This is predominantly a statistical report on hospital mortality. However, we are mindful that every death included in these figures represents an individual with a unique story.

1. Deaths by month – Crude mortality

1.1. There were 2748 deaths in Sheffield Teaching Hospitals Foundation Trust (STHFT) in the 12-months period to the end of June 2024 (the end of Q1), of which 5.4% (149) were in A&E and 94.6% (2599) were inpatient deaths *(Source: Information Services Report 'Deaths in Hospital').*

1.2. Figure 1 shows deaths per month since January 2022. The monthly crude death rate for all STHFT deaths (inpatient and ED) from January 2022 to most recent is shown in Figure 2. Both crude mortality and crude mortality rate are in a pattern of special cause – improving variation for the latest data.

1.3. The peak in December 2022 shows mortality in this period was higher than any month. The January 2023 Office for National Statistics publication reported that December 2022 deaths registered in England were 13.5% above the December five-year average *(2016-2019 & 2021).*

Figure 1

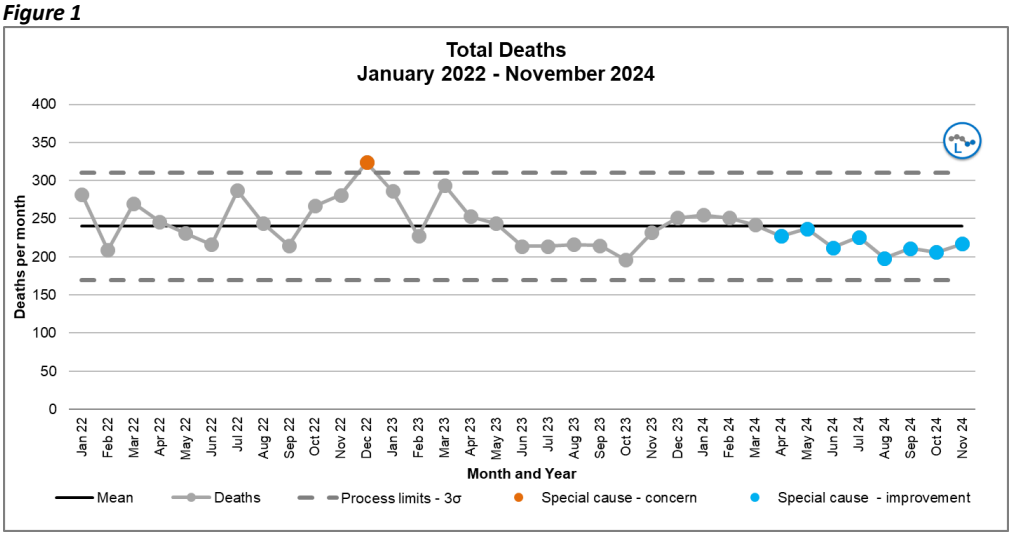
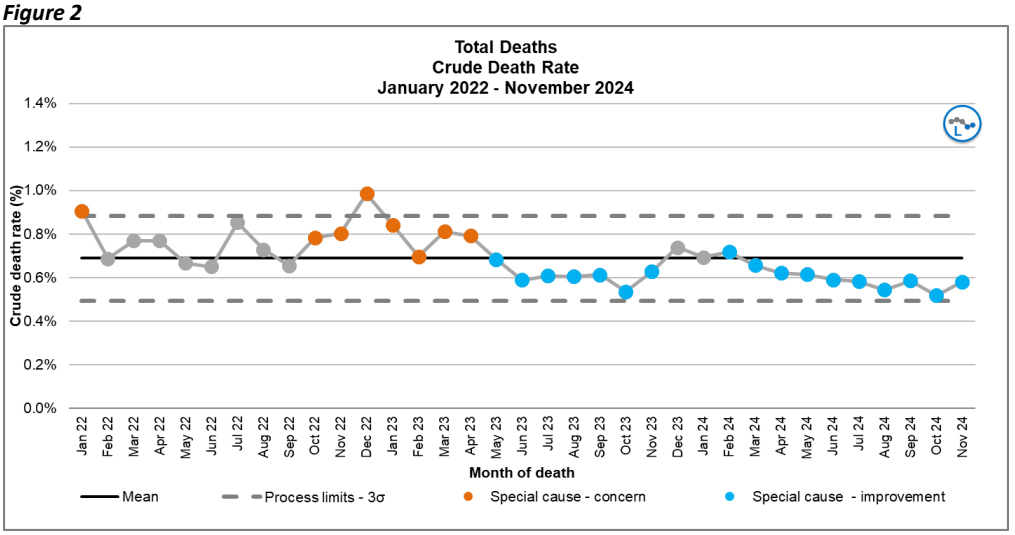


Figure 2



***Source**: Information Services Report 'Deaths in Hospital' (accessed 03/12/2024 & excluding Neonatology and Well babies specialties).*

1.4. The latest crude mortality rate for all STHFT admissions (September 2023 to August 2024) reported by the Healthcare Evaluation Data (HED) was 1.1% compared with 1.3% for all acute, non-specialist trusts.

1.5. When split by admission method, the crude mortality was 0.1% for elective admissions and 2.6% for non-elective admissions, compared with 0.1% and 2.5% respectively nationally *(Source: HED).* The Trust was one of 13 within the regional peer group with a non-elective mortality greater than the national average and ranked 10 out of the 20 regional acute non-specialistTrusts.

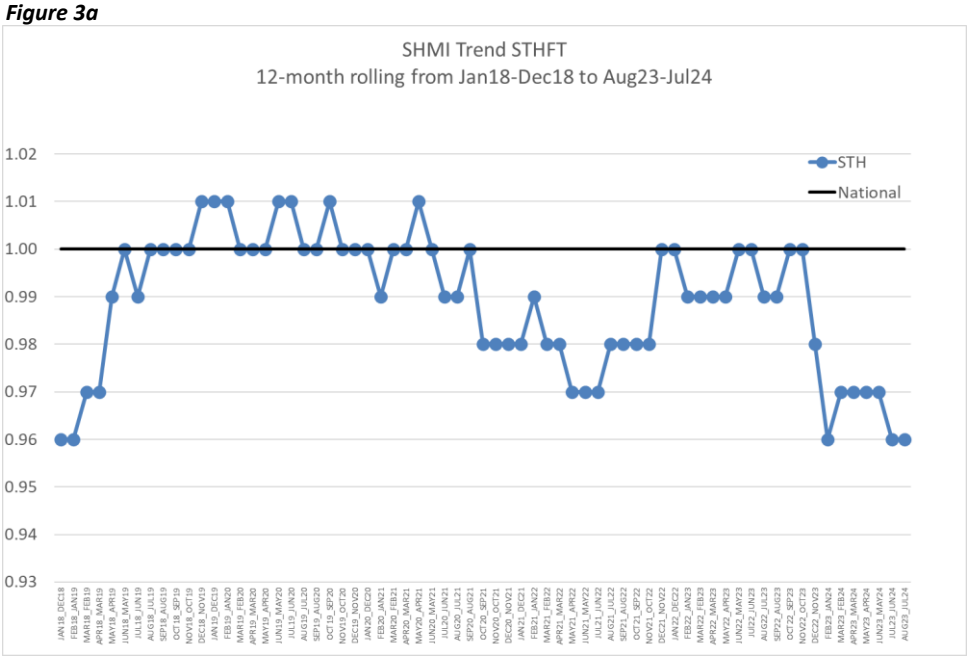
2. Summary Hospital-level Mortality Indicator (SHMI) August 2023 to July 2024

2.1. The latest Trust SHMI value for the period August 2023 to July 2024 was **0.96,** banded "as expected', with an observed number of deaths of 3,585 compared with 3,725 expected deaths (from 126,135 spells). COVID-19 activity is now included in the SHMI if the discharge date is on or after 01 September 2021 because the death rate for COVID19 stabilized from mid-2021 compared to the initial stages of the pandemic.

2.2. From May 2024 the site level breakdown has only been calculated for a subset of sites due to concerns from users around whether SHMI values are calculated on a like for like basis across all sites. A site level SHMI is not calculated if the site is deemed a specialist site (more than 35% of their activity in one diagnosis cluster) as is the case for the Weston Park and Royal Hallamshire Hospital sites. Site level SHMI shows Northern General Hospital (1.06) in the 'as expected banding.'

2.3. Figure 3a depicts the SHMI trend since 2018. The SHMI has remained stable at 1.00 or below for the past 36 months.

Figure 3a



Source: NHS England

2.4. For a subset of 10 diagnosis groups, a SHMI value and banding is calculated by NHS England. Eight are 'as expected', Cancer of bronchus; lung, is 'lower than expected' (0.81) and the group, Acute myocardial infarction is 'higher than expected' (1.30) for STHFT. This is being investigated.

2.5. To support the interpretation of the SHMI, various contextual indicators are published alongside it. SHMI routinely reports the percentage of spells and patient deaths with palliative care coding as contextual indicators. The STHFT percentage of spells with palliative care coding is 1.7% - lower than the national average of 2.1% (national range 0.9% to 4.1%) and the STHFT percentage of deaths with palliative care coding is 36% compared with the England average of 44%.

2.6. In support of this, when we look at the proportion of spells with recorded palliative care in the

Healthcare Evaluation Data (HED), Sheffield has one of the lowest rates of all trusts. It is not clear whether it is influenced by local care provision arrangements, eg the presence of a separate Children's Hospital, or levels of recording palliative care.

2.7. The Trust Coding Manager reviews palliative care coding for accuracy and has implemented a business-as-usual process that ensures that all activity is captured by validating clinical coding against the Palliative Care Services contact report and an Information Services User Report monthly. Connect24 will provide an opportunity for re-coding of input from the service that is visible to the clinical coders, however the backlog of coding has meant that any corrections made may be falling beyond the flex position and therefore not recognised.

2.8. A greater proportion of STHFT SHMI deaths occur in hospital (74%) compared with the national average of 69% with 26% of deaths occurring outside hospital within 30 days of discharge. This may indicate that patients are staying longer in STH than in other hospitals.

2.9. SHMI data shows that Sheffield has a higher than national average percentage of provider spells in the deprivation quintile 1 (most deprived, 40.2% vs 23.0%) and lower representation in groups 2 to 5 (5 being least deprived which will impact mortality rates. 39% of deaths at STHFT are from deprivation quintile 1 compared with a national average of 21%.

2.10. Using the most recently available HES data release, a preview of the value of SHMI for September 2023 to August 2024 is available and stands at 0.96 and 'as expected' *Source: Healthcare Evaluation Data (HED)*. The NHS England data release for this time period is scheduled for 9th January 2025.

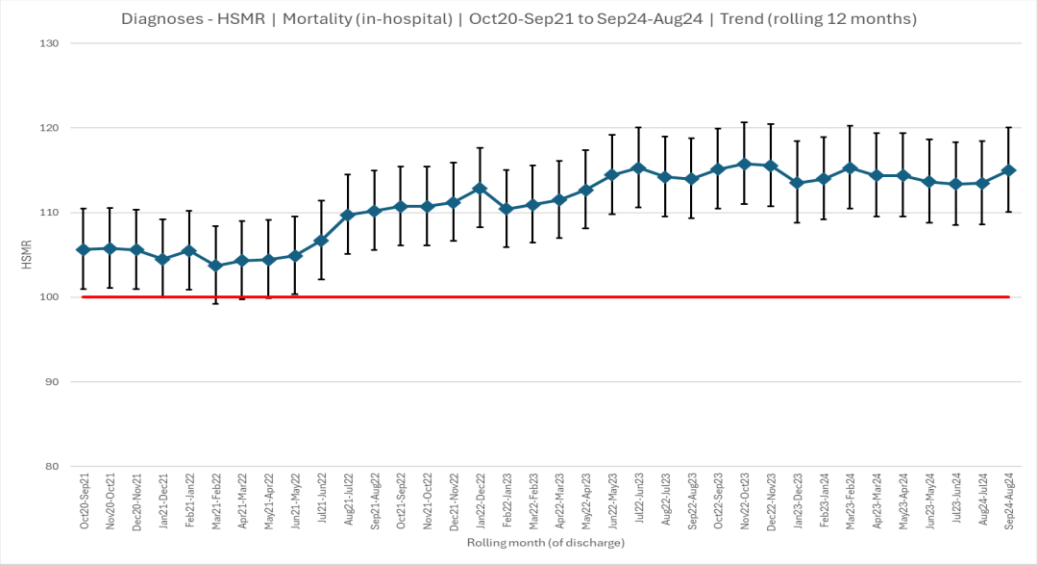
3. Hospital Standardised Mortality Ratio (HSMR) 1 September 2023 to 31 August 2024

3.1. The 12-month rolling HSMR from 1 September 2023 to 31 August 2024 was **115.00 (110.09-120.08)** and banded statistically 'higher than expected' (benchmark: September 2024). The HSMR value has been lagged by one month because less than 80% of the September data was coded at the flex point. The Clinical Coding Department is working with external agencies to clear the coding backlog. Although the aim is to have 80% of coding completed by the flex position (two weeks post month end), the priority is to ensure coding is complete ahead of freeze (six weeks post month end). We are currently managing about 70% complete at flex. Four weeks post month end, 90-95% of coding is complete with 100% completion ahead of the freeze deadline.

3.2. Split by admission method, the non-elective mortality rate for the HSMR activity is consistent with the national average of 5.4% and the elective mortality rate for the HSMR activity is also consistent with the national average of 0.1%. This reflects the pattern in crude mortality as described in section 1.5.

3.3. The HSMR trend for the past 36 months is shown in Figure 4. Over the past 12 data points the HSMR has shown a relatively stable trend, varying between 112 and 115.

Figure 4

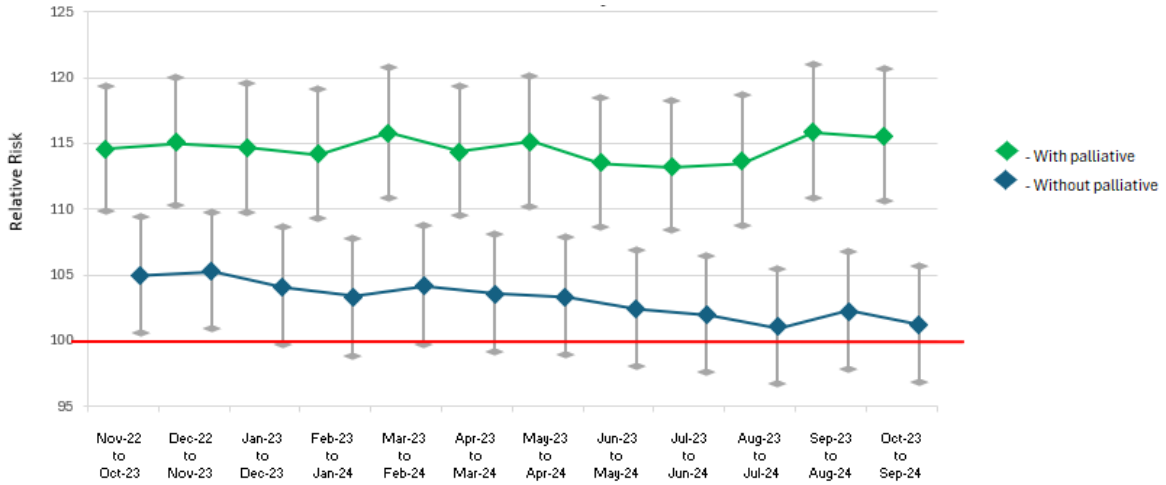


Source: HED

3.4. HSMR includes Covid-19 codes. The HSMR excluding the secondary COVID-19 codes for all trusts reduces to 114.08 but is still statistically 'higher than expected'.

3.5. Palliative care coding has a significant impact on the model when calculating HSMR. When palliative care coding is removed, HED reports the HSMR value for September 2024 to August 2024 as 101.36 (as expected). Figure 5 shows that the trend lines for HSMR values with and without palliative care adjustment are becoming more divergent. Our understanding is that palliative care coding is applied differently between organisations; this will significantly impact the calculation of expected deaths.

Figure 5



3.6. A process is in place to inform all directorates involved in the patient pathway about alerting diagnosis groups, the results of the classification and coding reviews completed centrally and the responsibility to engage in any associated clinical reviews for reporting to the Mortality Governance Group. One HSMR alerting diagnosis group under scrutiny is Acute myocardial infarction.

The standardised mortality ratio (SMR) for Acute myocardial infarction remains higher than expected both with and without palliative care coding adjustment (also alerting in SHMI). Clinical engagement in reviewing this has identified that case mix impacts the SMR (more patients with cardiogenic shock or ventilated out-of-hospital cardiac arrest cases are seen in months with higher

mortality and these are sicker patients with a worse prognosis). As a regional centre, STHFT had a significant number of these patients in the alerting month. This will be compared with other regional centres, to test the view that it may be an issue relating to the cohort of patients seen in regional cardiac centres. All the cases which had a primary PCI procedure have been independently reviewed by the Clinical Lead, and then by the PCI group (up to 13 consultants); no clinical issues have been identified in any of those cases. These, and the non-primary PCI patients who died, are then subject to review at the wider directorate clinical effectiveness meeting.

After meeting with the clinical team to validate recorded data on primary diagnosis and co-morbidities of Acute myocardial infarction for completeness and accuracy, opportunities to increase co-morbidity recording have been identified.

3.7. Comorbidity recording is a variable within HSMR (and SHMI) metrics. According to the data available on HED, Sheffield has a lower recorded average comorbidity level than seen elsewhere (average co-morbidity score per spell 5.03 in STH and 7.39 in all other providers), likely to be leading to a lower calculation of expected deaths and higher HSMR.

3.8. The original HSMR model was established nearly 25 years ago. Limitations of the existing model have led to the development of **HSMR+** which has reduced the number of diagnosis groups from 56 to 41, added a viral infections diagnosis group, removed palliative care, upgraded the Charlson Co-morbidity Index to the Elixhauser Comorbidity Index which expands the range of conditions from 17 to 32, introduced a frailty index, and updated the deprivation index to the Index of Multiple Deprivation which gives a more detailed and accurate reflection of socio-economic factors. It is hoped that a move to HSMR+ from HSMR across the NHS and all providers will address our concerns about the significant impact of adjusting for palliative care coding in the calculation of HSMR.

4. Data from National Audits (Outliers)

This section reports on national clinical audits where the Trust has been notified of mortality outlier status.

4.1. **National Hip Fracture Database** - In October 2024, the latest case mix-adjusted 30-day mortality was published on the NHFD website and figures for the second quarter of 2024 (April to June) showed that the Trust was above the upper 95% control limit (2SD above the mean), but not above the 99% control limit (3SD above the mean) which signifies outlier status. The scores for the audit are calculated over a ten year period and therefore can take a number of months to reduce.

4.2. The Trust had been viewed as an outlier prior to the latest publication and had received and acknowledged formal notification of this outcome, a review by the British Orthopaedic Association (BOA) was carried out on the 6th and 7th November 2024. The Trust is awaiting the outcome of this review, which is anticipated in the New Year.

4.3. The HSMR for fracture neck of femur reported at the end of June 2024 with a value of 138.81 (101.98-184.59) and banded ‘as expected’.

4.4. The SHMI for fracture neck of femur reports on a more recent time frame to NHFD (August 2023 to July 2024), and this metric was also ‘as expected’ at 1.22

5. Mortality Case Review Process – Structured Judgement Review (SJR)

5.1. The annual / quarterly / monthly SJR data breakdown is represented in figure 7. *Source: Datix PALS*

Figure 7

Structured Judgement Review (SJR) Annual Data

=SJR score 3-5 **=SJR score 1-2** **=SJR Rejected** **=SJR not yet complete**

JULY 2023 7% (14/214) Deaths referred for SJR	**AUGUST 2023** 7% (16/216) Deaths referred for SJR	**SEPTEMBER 2023** 4% (8/215) Deaths referred for SJR
OCTOBER 2023 11% (21/196) Deaths referred for SJR	**NOVEMBER 2023** 5% (11/232) Deaths referred for SJR	**DECEMBER 2023** 7% (18/251) Deaths referred for SJR
JANUARY 2024 5% (14/255) Deaths referred for SJR	**FEBRUARY 2024** 6% (16/251) Deaths referred for SJR	**MARCH 2024** 7% (17/242) Deaths referred for SJR
APRIL 2024 6% (8/227) Deaths referred for SJR	**MAY 2024** 7% (15/212) Deaths referred for SJR	**JUNE 2024** 4% (8/226) Deaths referred for SJR
Total 2748 deaths: 166 referred for SJR with 8 rejected* and 152/158 SJRs completed. Data correct as of 12th December 2024		

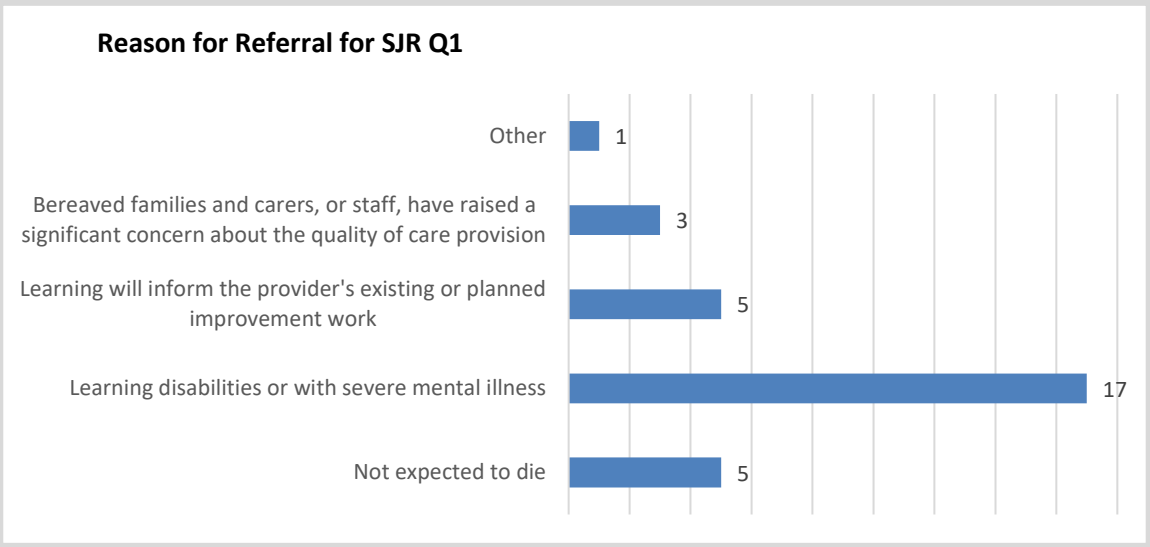
*2 cases: concerns related to care in the community; 1 case: SI process already initiated, 1 case: referred because died following elective surgery but surgery was previous year; 1 case: referred to the coroner and no concerns identified at inquest; 3 cases : concerns related to discharge after previous admission

5.2. Structured Judgement Review (SJR) Quarterly Data

Between 1st April and 30th June 2024 (Q1):

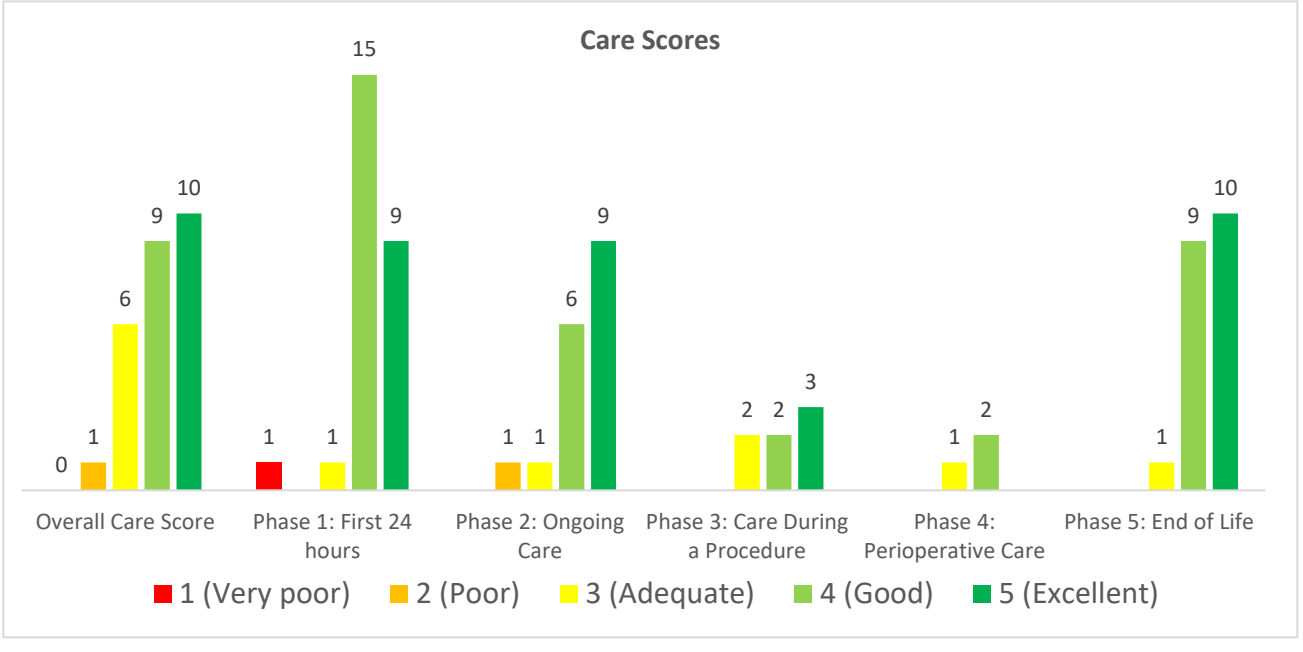
5% (31/676) hospital deaths were referred for SJR	**1** case was rejected as issues raised did not relate to the final admission	**87% (26/30)** of these cases are complete

Figure 8



55% cases were referred because of learning disabilities or severe mental illness

Figure 9



73% cases completed scored good or excellent

5.3. Two SJRs from July 2023 to June 24 still require a first review, both from Q1. Three require a second review and one requires arbitration following two reviews. These cases are being prioritised.

5.4. The SJR backlog continues to reduce. In the 12-month period from 1st July 2023 to 30th June 2024, first reviews exceeded new SJRs added for deaths in that period, to the extent that we are nearing a position where we have no cases that have been waiting for a review for longer than six months. Reviewers have continued to complete additional reviews where they have capacity. In addition, four senior nurses are booked onto SJR training events in 2025.

6. Learning from SJR

6.1. The Mortality Governance Group reviews all SJRs with an overall care score of one or two (and occasionally three) and four such cases were reviewed by the Group in Quarter 1. Learning included:

- lack of senior review over a Christmas weekend when patient deteriorated - plan to introduce a weekend handover sheet.
- sub-optimal pre-operative fluid balance management led to a delay in surgery - training video, a patient bedside sign to indicate where the patient is on fluid balance chart, and spot checks of fluid charts instigated.
- Delay in assessing and investigating patient with hip sepsis (subject to a PSII) - the deteriorating patient screening tool has been strengthened, training updated to include new confusion as a sign of deterioration and a new SOP developed to ensure review of patients with significant pathogen identified.

6.2. In keeping with the overall care scores reported for Q1, most of the comments within the SJRs have relate to good care. Examples of excellent care include:

- Senior decision making
- Communication with relatives
- Detailed documentation
- Early referral to Palliative Care

6.3. Because of the small number of deaths reviewed in each quarter, it is difficult to determine clear themes, but some issues were noted in some cases:

Figure 10

Record Keeping (7 cases) 	loose paper records; missing signatures, dates and times; documentation of frequency of required observations; incomplete checklists.
Delays (4 cases) 	Delays in initial assessment and time to first antibiotics.
Deteriorating Patient (3 cases) 	Lack of medical review with worsening observations; inaccurate recording of NEWS score; observations not done when patient deteriorating.

6.4. Shared learning from SJR is reported to the Safety and Risk Forum and case studies/learning are included in the Learning Matters newsletter.

The criteria for case selection for SJR are detailed in Figure 11.

Figure 11 **Case Selection for SJR**

SJRs are currently completed at STHFT for hospital deaths referred for one of the following: -

1. Deaths where bereaved families and carers, or staff, have raised a significant concern about quality-of-care provision
2. Deaths of patients with learning disabilities or with severe mental illness
3. Deaths in a service specialty, particular diagnosis, or treatment group where an 'alarm' has been raised with the provider through whatever means (for example via a Summary Hospital-level Mortality Indicator or other elevated mortality alert, concerns raised by audit work, concerns raised by the CQC or another regulator).
4. Deaths in areas where people are not expected to die, for example deaths following elective procedures.
5. Deaths where learning will inform the provider's existing or planned improvement work. These deaths may be identified by the Medical Examiners on a case-by-case basis or be a group of pre-selected cases (for example, until recently, STH has been reviewing all PE deaths).
6. Maternal deaths.

Most cases are identified by the Medical Examiners and this requirement is entered onto the Ulysses database, from which regular searches can be run. Cases are also identified by running searches for deceased patients with Learning Disabilities and/or Autism. A few additional cases are requested directly by staff, for example a member of the Patient Safety Team.

6.5. There is a robust process at Sheffield Teaching Hospitals for ensuring that all inpatient deaths of people with Learning Disabilities and Autistic People are reported to LeDeR and referred for SJR. All LeDeR action plans are fed back to the appropriate teams and any issues are summarised in an annual report to TEG via the Mental Health Committee.

6.6. Figure 12 shows the overall SJR care scores for patients in Q1 with Learning Disabilities (seven) and without Learning Disabilities (19) and these are expressed as percentages in Figure 13. Of the seven SJRs completed for patients Learning Disabilities, none scored 'poor' or 'adequate'.

Figure 12

Of the SJRs completed as of the 12th December 2024, in seven cases the reviewer indicated that there was evidence from the case records of a learning disability.

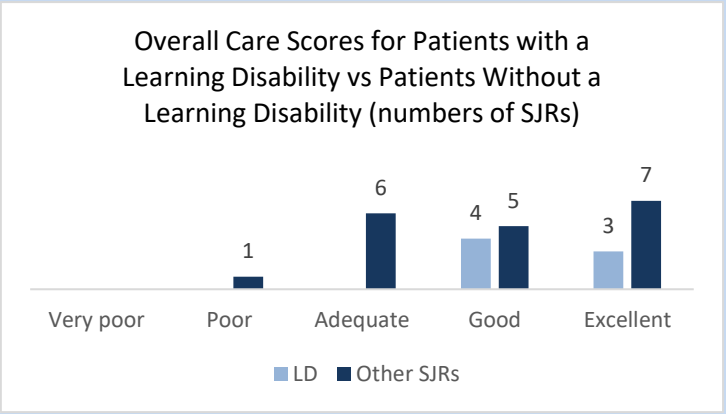
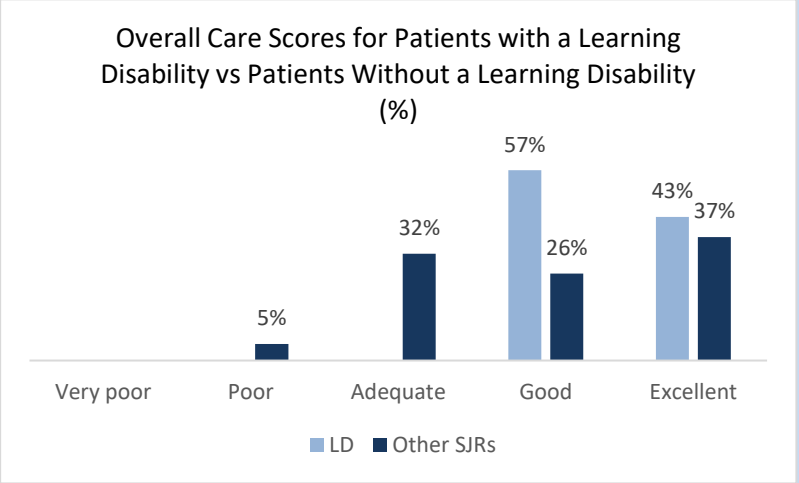


Figure 13

All cases that were completed for patients with Learning Disabilities who died between 1st April 2024 and 30th June 2024 were scored as having had good or excellent care in their last admission.



7. Perinatal Mortality Reviews

Neonatal deaths are reviewed using the Perinatal Mortality Review Tool (PMRT). This grades care from A to D.

- A: No issues
- B: Care issues which would have made no difference to the outcome for the baby/mother
- C: Care issues which may have made a difference to the outcome for the baby/mother
- D: Care issues which were likely to have made a difference to the outcome for the baby/mother

Between 1st April 2024 and 30th June 2024 there were 11 neonatal deaths. All of these have had a PMRT review.

Grade of neonatal care of the baby at the Jessop Wing	Number of cases
A	3
B	8
C	0
D	0
Grade of care of the mother after the death of her baby	**Number of cases**
A	9
B	1
C	0
D	0
Not known	1 (This is being graded by another Trust as bereavement care was coordinated there)

Issues arising from reviews

Care Issue	Number of reviews	Action
Unplanned extubation	2	QI project around unplanned extubations has been restarted.
Frequent adjustment of endotracheal tube (ETT) length	1	QI project to determine the optimal radiological position of the ETT in extremely low birthweight infants.
Incorrect sized umbilical catheter	1	Education at huddle. Signposting on equipment boxes.
Lack of detail of resuscitation at birth documentation	2	Checklist being designed for resident doctors.
No delayed cord clamping	1	Education via message of the week.

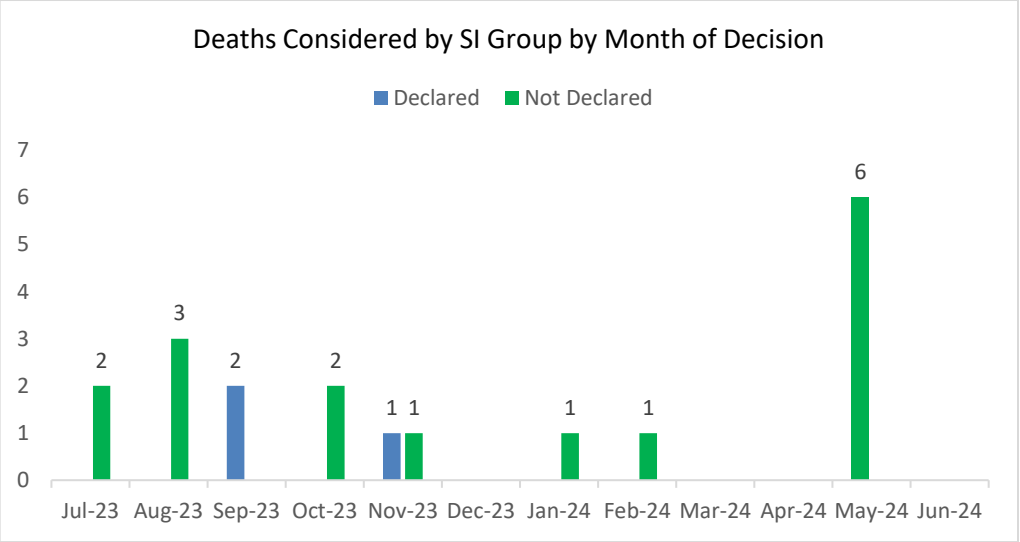
Resuscitaire air/O2 cylinders empty	1	Maternity improvement work ongoing.
Bereavement pathway not fully complete	2	New neonatal bereavement nurses in post who will lead on training.
Lack of detail in admission documentation	1	Education about admission checklist via huddle and email.

Information provided by Trust Neonatal Mortality Lead.

8. Deaths Declared by the Safety Panel to be More Likely than Not due to Problems in Care

8.1. No deaths were identified by the Serious Incident (SI) process in Q1 (April to June 2024) as being due to problems in care (Figure 14). No Patient Safety Incident Investigations (PSIIs) were completed during that period that had been undertaken under the 'Deaths more likely than not due to problems in care' criterion.

Figure 14



9. Regulation 28 Prevention of Future Deaths

9.1. No Regulation 28 Prevention of Future Deaths reports were issued to the Trust in Q1.

9.2. There is an inquest feedback slot at Safety and Risk Forum and learning from Regulation 28 reports is also shared as part of the Integrated Quality and Safety Report.

10. Conclusion

- The overall crude mortality remains lower than the national average, though when split by admission method, the non-elective mortality is slightly higher than the national average and mortality following elective admission is in line with the national average.
- SHMI remains stable and in the 'as expected' range.
- Eight SHMI diagnosis Groups are 'as expected', one group is 'lower than expected', cancer of bronchus; lung and one group is 'higher than expected', acute myocardial infarction for STHFT. The HSMR remains in the 'higher than expected' range and has remained fairly stable over the past 12 months. When palliative care adjustment is removed the HSMR reduces to 101.36 (as expected) which suggests variability in coding practices across the country.
- Sheffield has one of the lowest rates of the proportion of spells with recorded palliative care of all trusts and the Sheffield profile of some of the key variables used by HSMR compared to national averages, needs to be factored in. Local care provision arrangements (e.g. nearby hospices, a local paediatric hospital) can also make the patient population different to that used at a national level to calculate scores.
- The mortality outlier status (value above 99% or 3SD above mean) from the National Hip Fracture

audit has resolved but remains high (above the 95% control limit or 2 SD) as of June 2024. A formal BOA review was carried out in November 2024 and the Trust is awaiting the outcome. Fracture of neck of femur remains in the 'as expected' range for both SHMI and HSMR.

- Approximately 5% of deaths in Q1 of 2024/25 were referred for SJR of which 87% have been completed (26/30). One outcome scored less than 3.
- 73% of SJR outcomes from the 26 cases completed for Q1 showed 'excellent' or 'good' care overall.
- Between 1st April 2024 and 30th June 2024 there were 11 neonatal deaths. All of these have had a PMRT review. Three cases of neonatal care of the baby scored A grade (no issues) and eight scored B grade (care issues which would have made no difference to the outcome for the baby/mother).

APPENDIX - definitions

HSMR is a metric published by Dr Foster that includes in-hospital deaths. The ratio examines approximately 80% of deaths based on 56 diagnosis groups. The ratio adjusts for factors such as age, sex, co-morbidities, palliative care, deprivation index, admission history and the source/method of admission. HSMR is a ratio of observed to expected deaths (multiplied conventionally by 100) where 100 is the national average. Trusts are banded as either 'lower than expected', 'within expected range' or 'higher than expected'.

SHMI is a metric published monthly by NHS Digital that covers patients admitted to hospitals in England who died either while in hospital or within 30 days of discharge. The indicator examines all deaths based on 142 diagnosis groups and adjusts for co-morbidities, age, sex, method of admission and year of discharge. The SHMI is the ratio between observed and expected deaths where 1.00 is the national average. Trusts are banded as either 'lower than expected', 'as expected' or 'higher than expected'.