

Trust Board Report

Meeting Date:	29 January 2018
Title:	Mortality Update Report
Executive Summary:	The paper presents the recent Trust's mortality statistics analysis together with an update on the learning from deaths guidance implementation. A summary of the work undertaken to investigate mortality data and to provide assurance in relation to clinical care is included. The report is presented to the Board in order to provide assurance that action is taken to address raised standardised mortality rates and to reassure that no systemic failures in care provided to deceased patients have been identified during internal and external audits at the Trust.
Action Requested:	Receive and note
For the attention of the Board	The cause of the raised standardised mortality rates is the decrease in expected mortality, calculated statistically and not an increase in actual mortality.
Assure	The Board is reassured that the data driven increased SHMI is not an indicator of higher mortality or quality of care. The work undertaken internally and externally identified no systemic failures in care. The actions put in place are meant to provide learning and improvement opportunities for clinicians whilst at the same time addressing improvements in administrative data.
Advise	The raised SMRs can impact on the Trust's reputation where these indicators are poorly understood and mistakenly associated with excess mortality. Whilst steps are taken to record and code as accurately as possible our internal data, the reduced denominator for certain categories of admissions means that the improvements in SHMI might not show immediately.
Alert	
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Links to Trust Strategic Objectives	<ol style="list-style-type: none"> 1. Create a culture of compassion, safety and quality 2. Proactively seek opportunities to develop our services 3. To have an effective and well integrated local health and care system that operates efficiently 6. Be in the top 25% of all key performance indicators
Resource Implications:	Revenue: Capital: Workforce: Funding Source:

CQC Domains	<p>Safe: patients, staff and the public are protected from abuse and avoidable harm.</p> <p>Effective: care, treatment and support achieves good outcomes, helping people maintain quality of life and is based on the best available evidence.</p> <p>Caring: staff involve and treat everyone with compassion, kindness, dignity and respect.</p> <p>Responsive: services are organised so that they meet people's needs.</p> <p>Well-led: the leadership, management and governance of the organisation make sure it's providing high-quality care that's based around individual needs, that it encourages learning and innovation, and that it promotes an open and fair culture.</p>
Equality and Diversity Impact	N/A
Risks: BAF/ TRR	4734
Risk: Appetite	No change
Public or Private:	Public
Other formal bodies involved:	Mortality Review Assurance Group, Quality Governance Assurance Committee, Trust Management Committee
References	
NHS Constitution:	<p>In determining this matter, the Board should have regard to the Core principles contained in the Constitution of:</p> <ul style="list-style-type: none"> • Equality of treatment and access to services • High standards of excellence and professionalism • Service user preferences • Cross community working • Best Value • Accountability through local influence and scrutiny

1. Standardised Mortality Rates

The standardised mortality rates (SMRs) for the Royal Wolverhampton NHS Trust (RWT) have increased and published as higher than expected from April 2016-March 2017. Whilst the latest quarter in 2017 showed some improvement, overall the Summary Hospital-level Mortality Indicator (SHMI) indicator reported in England continues to be classed as higher than expected for the Trust. We are showing in the brief analysis below that the higher than expected SHMI is data driven, more specifically due to variation in data and practice across England and not a result of higher actual mortality at this Trust.

Figure 1 shows the regional distribution of SHMI by the classification of the indicator. To note that all Trusts that have a lower than expected SHMI are grouped in the South of England, most in or around London. There is an apparent paradox related to this aspect of the data, whereby Trusts around London seem to have a higher expected mortality than their observed mortality.

Figure 1: SHMI regional distribution



The comparison by financial year shows that whilst the number of admissions included in the SHMI calculations have increased for RWT the number of expected deaths has continued to decrease year on year, which led to the higher than expected SHMI for this Trust. The actual mortality rate for the admissions included in SHMI has been relatively stable, the number of deaths increasing slightly in line with the increase in admissions. To note that due to the admission avoidance model adopted by the Trust, cases of less seriously ill patients are treated ambulatory which means that the denominator would be higher had this model not been applied. Figures 2 and 3 show the different trends for expected mortality for RWT and England. The data show that the model implies that whilst expected mortality is going up in England for the population treated at RWT the expected mortality is lower than nationally. This is an anomaly considering that the data are at odds with the actual patient profile emerging from qualitative pieces of work, which shows more elderly, frail and comorbid patients admitted.

Table 1: RWT and England SHMI data by financial year, including the latest publication

Discharge Period	SHMI	RWT crude death %	RWT crude expected death %	England crude death/ expected death %	RWT No. discharges included in SHMI	RWT No. deaths SHMI	RWT No. expected deaths SHMI	England No. discharges included in SHMI	England No. observed/ expected deaths
Apr14-Mar15	99	3.55%	3.58%	3.3%	66813	2372	2394	8,732,830	286,629
Apr15-Mar16	106	3.64%	3.43%	3.2%	69540	2528	2384	8,825,694	282,723
Apr16-Mar17	115	3.70%	3.21%	3.3%	69524	2572	2235	8,908,215	293,623
Jul16-Jun17	116	3.73%	3.20%	3.3%	68784	2566	2204	8,915,877	292,307

Note: Red SHMI figure is higher than expected

Figure 2: Actual and expected mortality rates comparison

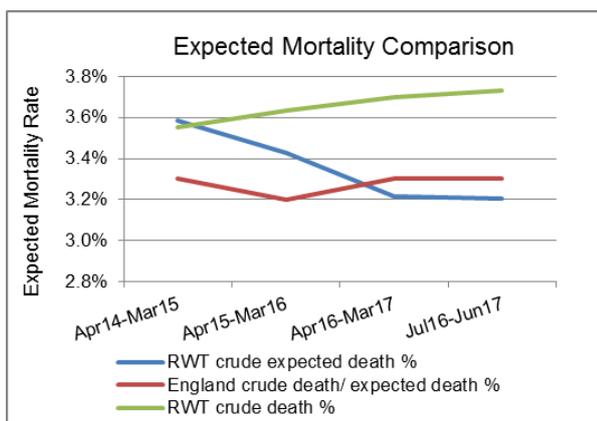
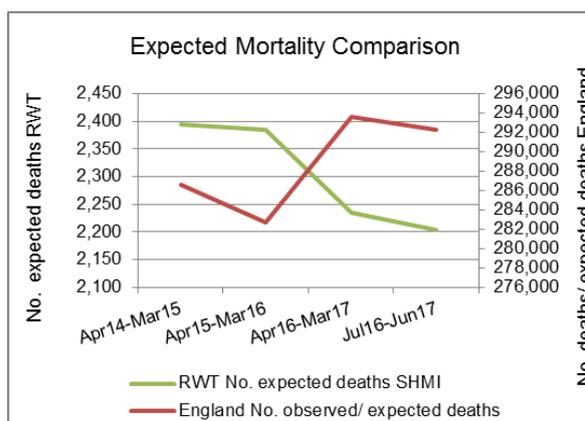


Figure 3: Number of expected deaths comparison



The SHMI includes deaths in hospital or within 30 days of discharge. It is well known that there is wide variation across England in the provision of end of life community care and the prevention of unnecessary admissions for patients at the end of their life.

If we look at our internal data, excluding the deaths occurring within 30 days of discharge, it can be seen that the number of deaths in hospital has actually decreased in 2016-17 (table 2).

Table 2: RWT inpatient data

	All discharges		Ordinary discharges	
	2015/16	2016/17	2015/16	2016/17
Deaths	1907	1899	1900	1897
Discharges	161582	161418	71917	69504
Crude death %	1.18%	1.18%	2.64%	2.73%

(all discharges include all elective and non-elective activity; SHMI data include only the ordinary discharges; these are the unplanned discharges, excluding day cases and regular attenders).

These data, whilst not explaining fully the increase in the SHMI for RWT, show that actual mortality at the Trust has been stable and there has not been a significant increase from 2016-17. The decreased number of admissions in certain categories and variation in data across England are the likely reasons behind the expected mortality issue.

We are in process of clarifying some data quality issues within the benchmarking tools; until we have clarity from the data providers we cannot ascertain whether or to what extent the SMRs analysis might be skewed by issues with the national dataset. For this reason, the more recent estimated SHMI is not included in this report.

2. Update on the National Guidance on Learning from deaths

The Trust has adopted a revised Learning from Death policy aligned with the national guidance released in 2017. The new policy sets out the following principles for adult deaths:

- a) All deaths will continue to have an initial consultant led mortality review (peer review within directorate) called stage 1 review
- b) The evidence-based methodology developed by the Royal College of Physicians for reviewing deaths, the Structured Judgement Review (SJR), was adopted by the Trust and implemented since June 2017 as a pilot in 9 specialties, and across the Trust since August 2017.
- c) A stage 2 review will be implemented for the cohorts of deceased patients listed below. This will be a review undertaken by two consultants (peer review across the division) with involvement from multidisciplinary professionals as appropriate.

Criteria for Stage 2 reviews:

- a. Where problems in care were highlighted during the stage 1 review; an overall care score of 1 and 2
- b. Where patients had a learning disability or severe mental illness
- c. Where concerns were raised about the quality of care provision by staff, family or carers
- d. Where a serious incident was identified and/ or an investigation was instigated

Clinicians from the Trust have attended the RCP training in conducting SJRs in October 2017 and have since organised regular internal training sessions to disseminate the training across the organisation. Further training sessions are scheduled for January and February 2018.

For the period April – December 2017 there were 1391 adult inpatient deaths at the Trust. Of these 65% had an initial mortality review by the end of December and 40% had a review using the SJR methodology, which was introduced from August 2017.

The Mortality Review Group (MRG) is monitoring the compliance with the new process across specialties. A working group was set up to move forward the work on establishing a robust process for undertaking the Stage 2 reviews. Work is in progress to establish a process of escalation from MRG to directorates in order to facilitate learning opportunities.

A proposal has been discussed for the Trust to adopt a Medical Examiner role. The details of the proposal are in process of being confirmed through MRG. It is likely that if this model is adopted the process for undertaking stage one reviews will change. It is envisaged that this model will allow specialties to undertake more in depth reviews therefore facilitating better learning opportunities.

The presentation of avoidable mortality is currently being queried. The SJR process is designed to facilitate learning from care provided to patients at each stage of hospitalisation rather than identify avoidable deaths. The research undertaken previously, which informed the development of the methodology, acknowledged that a judgement about avoidability of death is rarely clear-cut and even senior experienced clinicians often disagree about individual cases. The following is an extract from the RCP statement in relation to the publication of avoidable deaths:

“The National Mortality Case Record Review (NMCRR) Programme is supporting the implementation of the Structured Judgement Review (SJR), a standardised methodology for reviewing the case records of adults who have died in acute hospitals across England and Scotland. The programme aims to improve understanding and learning about problems and processes in healthcare that are associated with mortality, and to share best practice... Over the life of the programme the RCP has continually advised NHS Improvement, the Healthcare Quality Improvement Partnership and the Department of Health of the lack of a validated methodology to

calculate avoidable deaths. The Hogan et al paper (BMJ2015;351:h3239) on avoidable deaths in hospitals demonstrated the great difficulty in ascertaining if deaths were avoidable in many cases of frail elderly patients with multiple conditions... The NMCRR programme, supported by the RCP, does not endorse the comparison of data from the SJR between trusts. There are a variety of selection techniques in use to identify cases for mortality review by Trusts that have implemented the NMCRR programme SJR methodology.

The development of a "league table" of avoidable deaths using statistics generated from a range of approaches would not be appropriate. This was acknowledged during a speech by Jeremy Hunt, Secretary of State for Health and Social Care on December 14 2017. For example, Trusts choosing to review large numbers of deaths could appear to have higher numbers of deaths where there were potential problems in care than those reviewing fewer cases."

3. Update on the action plan to address the raised SMRs

The MRG, chaired by the Medical Director and reporting to the Mortality Review Assurance Group (MoRAG), has been coordinating an action plan to support the work related to hospital mortality. The actions were focused on the two main areas of work:

3.1 Mortality statistics – investigating the changes in our Trust's data, the impact on SMRs and what can be done to improve data driven outcomes

3.2 Quality of care provided to patients who subsequently died – in order to provide assurance that there are no systemic failures in care, which could lead to preventable deaths occurring in this hospital.

The Trust recognises the importance of safe, good quality care provided to patients and this is a priority within the mortality work stream. At the same time the mortality statistics are also important as they impact on the Trust's reputation and the relationship with regulators. It is important to differentiate between the 2 areas of work and to recognise that the mortality statistics do not indicate avoidable mortality and the outcomes calculated using the established models are not able to provide information related to the quality of care. For this reason the two topics are addressed separately.

3.1. Mortality statistics

An action plan has been developed to investigate the potential causes for the raised SMRs and to identify any opportunities for improving data quality. It is well known that the mortality statistics are very sensitive to data quality and variation in data across England. Some of the actions agreed were completed in early 2017 and the outcomes were reported at previous Trust Board meetings therefore the details will not be included here again.

Having conducted extensive internal investigations we commissioned external pieces of work as well to provide additional assurance.

The external data investigation and the external clinical coding audit were completed in 2017 and the results were reported previously. The conclusions of these audits concurred with those derived from internal work and informed further actions.

In brief it was concluded that this Trust has not seen a significant increase in actual mortality and that the statistically calculated expected mortality was lower from the second half of 2015-16,

which was driving the elevated SHMI. Some of the changes in data are explained by the introduction of the new admissions model following the opening of the new Emergency Department (ED). Whilst the number of deaths hasn't changed significantly, the "Physician A" (admission avoidance) assessment model in ED has meant that significantly fewer admissions of certain categories has been observed. At the same time in England, admissions for the same diagnoses had increased leading to a lower expected death rate.

Whilst we cannot influence the variation in data across England, we have identified areas where we can potentially improve our data which could lead to a correction in our expected mortality.

One of the most important aspects of the risk model underpinning the SHMI is the recording and coding of primary and secondary diagnoses on the admission to hospital with a high degree of accuracy. Two main actions have been agreed following this work:

- 3.1.1 Reducing the number of very short, multiple episodes of care on admission within AMU. Admissions to AMU should translate into one episode of care with subsequent episodes generated if the patient is moved to a base ward. This is anticipated to reduce the number of episodes where the primary diagnosis is from the signs and symptoms category, which have an impact on the expected mortality. A longer episode on admission is also more likely to have the comorbidities coded more accurately (The SHMI model does not take into account diagnoses recorded later in the admission; the model is based on the admission episode). The new recording procedure was signed off by MoRAG to be implemented on the 1st December 2017. The roll out has incurred some delays due to pressures on the emergency services. The standard operating procedure was developed and training sessions for admission clerks are to be arranged shortly. The MRG and MoRAG will monitor the completion of this action and subsequent data to assess the impact of the changes.
- 3.1.2 As explained above the recording and coding of the primary and secondary diagnoses on the admission hospital are very important for the accuracy of the SMRs. It was identified that collaboration between clinicians and coders is key in order to enable the educational process related to how clinical records translate into codes/ data based on which outcomes are calculated. The Head of Coding and Data Quality has been liaising with the Divisional Medical Directors in order to develop a coherent action plan to enable the working together between the two professional groups.
- 3.1.3 Actions have been undertaken to ensure better capture of palliative care activity in 2017. Data will be monitored in the next period to assess the impact. Palliative care rates have been identified as the main contributor to the raised HSMR; RWT's rates being lower than the national rates.

The MRG will develop a periodical report monitoring the success of the actions undertaken as detailed above.

3.2. Quality of care provided to deceased patients

In addition to internal mortality reviews we wanted to seek further assurance in relation to the quality of care provided to deceased patients and identify aspects of care which could be improved. Two external audits were undertaken, one reviewing the care of a random selection of deceased patients and the second assessing compliance with the clinical guidelines for the pneumonia pathway. Pneumonia was chosen because mortality for patients admitted with pneumonia was higher than expected according to the statistical model and represented the largest proportion of all deaths occurring in hospital.

The conclusions of the two audits share common themes, therefore the summary of each audit is presented separately and the conclusions and plan of actions address both audits.

3.2.1. External mortality audit

- A review of 100 cases representing patients admitted to RWT who subsequently died was undertaken by APY Consulting. These were adult cases where the discharge date was between 1/11/2016 and 31/01/2017. The cases were selected randomly, after the following criteria were applied: diagnosis groups covering a wide range of emergency medical admissions, including alerting groups and some that were not alerting; 30% of the sample represented pneumonia and acute bronchitis admissions.

- The audit was conducted by a retired physician trained to undertake SJR reviews. The auditor used the SJR methodology to rate phases of care and overall care as well as the quality of the medical records. It was beyond the scope of this audit to identify whether death may have been avoided had care provided been different. The assessment of avoidability of death cannot be made accurately by one reviewer according to research informing the development of the national case record review program and it is beyond the scope of the SJR review.

The main findings were as follows:

- A large proportion of patients died within 5 days suggesting critical illness on admission. Majority of these were frail elderly with comorbidities. It was queried whether the admission to hospital was in the patients' best interest and whether more could be done for these patients to be cared for in the community.
- The reviewer's impression was that standards of care at the Trust were very high and in some cases outstanding, praising teams for the dedication for giving patients the best chance of survival even in circumstances where survival expectation was low.
- There was no evidence of a systematic failure of appropriate care; the review has identified examples where lessons could be learnt to improve aspects of care.

3.2.2. Pneumonia pathway external audit

An external audit was undertaken on a sample of 40 cases of patients diagnosed with pneumonia on admission who subsequently died. The cases were selected in order of admission to hospital using the most recent data available at the time of undertaking the audit. It is important to acknowledge that the audit covered a period before and after changes were made in processes around the sepsis pathway in ED, which led to some cases showing some gaps in compliance whilst treatment was appropriate. The audit's scope was to assess compliance against established clinical guidelines.

The main findings were as follows:

- Median age of patients was 80.3 years (range 51-97) with 95% of patients aged over 65.
- 60% of the patients died within 5 days of admission; 18% died within 24 hours suggesting critical illness on admission
- 48% of patients had a DNACPR order in place prior to admission indicating the degree of frailty within this elderly population.

- 48% of the patients in this cohort had chronic lung disease, 20% had dementia and 12 % had congestive cardiac failure.
- The cases were assessed against 23 criteria. Two of these criteria were not in accordance with the practice in place and a third could have been defined better in order to provide a better compliance picture.
- In a large proportion of the assessed criteria the compliance was high. For a small proportion of criteria where gaps were identified, these were unrelated to quality of care but rather due to documentation issues. Some of the cases should have been excluded as the condition treated on admission was not pneumonia (cases were selected based on coding).

Themes identified in the conclusions of both audits:

- Overall care in hospital was of high standard.
- Moderate issues related to the assessment and documentation of the management plan of the patient were identified in individual patients.
- The explicit documentation of clinical decision making and management in some cases could be improved, particularly within the Emergency Department (ED).
- The methodical process of assessment in ED and its documentation could be improved in some cases.
- It was found that although in some cases the documentation was not explicit or didn't follow the appropriate guidelines treatment was appropriate for the condition.
- A number of cases were recommended to undergo a stage 2 review so clinicians can revisit the cases considering the feedback from the auditors and identify further learning opportunities.
- Where patients were admitted for palliative care some of the aspects of the pneumonia pathway would not apply. More clarity of the clinical notes would enable a better assessment of compliance.

The audits results have been shared widely with clinicians. The ED has considered the feedback and an action plan will be presented at MRG in February 2018 to address and monitor areas of improvement. Some of the changes had already been implemented; most of the cases audited refer to a time period before changes were made.

The action plan is to be signed off by the end of February 2018 by MRG and an internal re-audit is proposed for April 2018 to monitor improvements in the areas identified.

Consultants at the trust have reviewed in detail the cases where gaps in compliance with guidelines were identified through the pathway review.

Overall having analysed and reviewed the results from audits and the clinical documentation the conclusions are positive and there were no systemic failures in care provided to deceased patients. This correlates well with the outcomes of internal reviews. Opportunities for improvement were identified and actions are taken in order to drive change and support learning.