WM QRS West Midlands Quality Review Service

NHS

Review of Hip Fracture Pathway

Sandwell and West Birmingham Hospitals NHS Trust

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INTRODUCTION

This report presents the findings of the review of the hip fracture pathway that took place at Sandwell and West Birmingham Hospitals NHS Trust on 6th February 2019. The Trust had been identified as a potential outlier, with high mortality in its hip fracture pathway, using data from the National Hip Fracture Database (NHFD) report 2018. The purpose of the formative review visit was to support the Trust's work on understanding and reducing its higher than expected mortality rates.

The aim of the formative review was to help providers and commissioners of services to improve clinical outcomes and service users' and carers' experiences by improving the quality of services. The report also gives external assurance of the care, which can be used as part of organisations' Quality Accounts. For commissioners, the report gives assurance of the quality of services commissioned and identifies areas where developments may be needed.

The report reflects the situation and information available to the reviewers at the time of the visit. The text of this report identifies the main issues raised during the course of the visit. **Appendix 1** lists the visiting team that reviewed the services in the Sandwell and West Birmingham health economy. **Appendix 2** details the information that was made available to the reviewers.

This report describes services provided or commissioned by the following organisations:

- Sandwell and West Birmingham Hospitals NHS Trust
- Sandwell and West Birmingham Clinical Commissioning Group

Most of the issues identified by quality reviews can be resolved by providers' and commissioners' own governance arrangements. Many can be tackled by the use of appropriate service improvement approaches; some require commissioner input. Individual organisations are responsible for taking action and monitoring this through their usual governance mechanisms. The lead commissioner for the service concerned is responsible for ensuring action plans are in place and monitoring their implementation, liaising, as appropriate, with other commissioners, including commissioners of primary care. The lead commissioner in relation to this report is Sandwell and West Birmingham Clinical Commissioning Group.

ABOUT WEST MIDLANDS QUALITY REVIEW SERVICE

WMQRS is a collaborative venture between NHS organisations to help improve the quality of health services by developing evidence-based Quality Standards, carrying out developmental and supportive quality reviews (often through peer review visits), producing comparative information on the quality of services and providing development and learning for all involved.

Expected outcomes are better quality, safety and clinical outcomes, better patient and carer experience, organisations with better information about the quality of clinical services, and organisations with more confidence and competence in reviewing the quality of clinical services. More detail about the work of WMQRS is available on www.wmqrs.nhs.uk

ACKNOWLEDGMENTS

West Midlands Quality Review Service would like to thank the staff of Sandwell and West Birmingham health economy for their hard work in preparing for the review, and for their kindness and helpfulness during the course of the visit. Thanks are also due to the visiting team and their employing organisations for the time and expertise they contributed to this review.

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HIP FRACTURE PATHWAY

BACKGROUND

Sandwell and West Birmingham NHS Trust covered a population of 530,000 from across North West Birmingham and all of the towns within Sandwell. Trauma and orthopaedic services were based at Sandwell Hospital. The dedicated trauma ward (Newton 3) had 29 beds, with an additional six beds that could be opened at times of increased activity. Lyndon 3 had 27 beds, with 14 beds for elective surgery and 13 beds for step down from the trauma ward and ongoing post-operative rehabilitation. A dedicated trauma theatre was available seven days a week, with additional trauma capacity in a second theatre twice a week or more often if required. In 2018 the Sandwell trauma theatres treated 330 patients with a primary diagnosis of hip fracture, which equated to 18.5% of the overall number of trauma patients treated.

In August 2018 the Trust received notification from the National Hip Fracture Database (NHFD) programme of a mortality outlier alert for the hip fracture diagnosis group. The NHFD report indicated that analysis of mortality data for the calendar year 2017 had shown Sandwell District Hospital to have a higher than expected, case mix adjusted, 30-day mortality. In September 2018, the NHFD programme published its annual report, showing all organisations represented in a statistical graph highlighting Sandwell District Hospital as a potential outlier. The NHFD indicated that an alert was triggered in the period 1 January to 31 December 2017, when there was a higher than expected, case mix adjusted, 30-day mortality of 10.9% compared to an expected rate of 6.9%.[1] This figure was more than two standard deviations higher than the national average.

A working group was established to investigate and respond to the alert. The group undertook a retrospective health records review, and agreed to commission a peer review of the Trust's hip fracture pathway.

In the time period 1 January to 31 December 2017 there had been 301 cases of people aged 60 years and over with a hip fracture who were admitted to the Trust and whose details were submitted to the NHFD. In this time period, 31 deaths within 30 days of admission were recorded on the database.

Further analysis had been undertaken to identify the deceased patients recorded on the Summary Hospital-level Mortality Indicator (SHMI). This highlighted 37 patients with an episode coding for hip fracture who had died within 30 days after discharge.[2] This analysis identified increases above the national average during the periods April 2015 to December 2016 and August to December 2017.

The Trust asked West Midlands Quality Review Service (WMQRS) to undertake a formative review of their hip fracture pathway, with particular focuses on the first 72 hours for patients admitted for surgery and on patients admitted who were not suitable for surgery. In addition, reviewers were asked to consider the provision of designated 'level 1' care beds specifically for orthopaedic patients, to be based on the trauma ward.[3]

Excluded from the review was the pathway from City Hospital Emergency Department, as a clear pathway with the West Midlands Ambulance Service to divert patients to the Sandwell Hospital Emergency Department was in place, and data showed that the number of patients attending the City Hospital department was very low. Rehabilitation after 72 hours and the discharge process were also excluded from this review.

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[1] *Information taken from Sandwell and West Birmingham NHS Trust Mortality Outlier Alert Report: Fracture Neck of Femur response to NHFD 01.08.2018.*

[2] *The NHFD advised the Trust of the following findings: The Trust's Fracture Neck of Femur 30-day mortality rate had been higher than expected between April 2015 and December 2016 and between August and December 2017. There was a rise in the rate of 30-day mortality compared to the national average in the periods January to February 2017, April to May 2017 and July to December 2017.*

[3] *Level 1 care: For patients at risk of their condition deteriorating, or those recently relocated from higher levels of care, whose needs can be met on an acute ward with additional advice and support from the critical care team (NHS Data Dictionary).*

General Comments and Achievements

A considerable amount of effort had been invested by the Trust and the trauma and orthopaedic team in reviewing the Trust hip fracture pathway. A comprehensive internal investigation and report into the increased mortality had already been undertaken. Reviewers identified, in all areas of the team, a positive drive to change and learn.

Good multidisciplinary team working within the service was evident throughout the review. Many positive steps had been taken to address some of the issues identified in the NHFD report.

The reviewers noted that the service had made good networking links with other Trusts in the Black Country. This provided a strong opportunity for development and improvement through sharing and learning. Reviewers identified that there was significant good practice in the service, and that the wider Black Country would benefit from this too.

This report makes its comments under the three pathway headings of the review: Urgent Care, Acute Surgical and Non-surgical Pathways. Question prompts were devised to provide markers within the care pathway, and these are included in **Appendix 3**.

URGENT CARE PATHWAY

Good practice

1. There had been a significant increase in the use of fascia iliaca compartment block (FiB) for pain relief in the Emergency Department (ED), with this being given to 70% of all patients presenting with hip fracture through the ED. Reviewers commended the service for its improvement in this area. Reviewers noted that, whilst the figure is unlikely to hit 100% (some patients are not suitable), the service should be encouraged to explore whether all patients admitted via the ED route were benefiting from timely access to FiB.
2. The use of designated hip fracture beds had ensured that patients were quickly moved to the ward from other areas. Reviewers were informed that patients were not spending long periods of time in the ED.
3. SBAR handover (situation, background, assessment, recommendation) between nurses in the ED and the ward had been implemented, which had permitted more structured and appropriate communication to take place when patients were transferred.

Immediate risks: None

Concerns: None

Further consideration

1. The process for communication between the ED and the trauma and orthopaedic medical staff would benefit from review. Reviewers were told that the effective transfer of patients to the ward resulted in some cases where trauma and orthopaedic medical staff were not informed that a hip fracture diagnosis had been confirmed, or of all the investigations undertaken before the patient was transferred from the department.
2. Reviewers noted that there was a lack of engagement with the ED team in some steps of the pathway. For example, representatives from the ED were not part of the weekly trauma and orthopaedic MDT meetings or MDT reviews. Reviewers were told that there was a named person in the ED for liaison with the trauma and orthopaedic team, but it became clear from discussion with staff members that this had not been fully communicated to all members of the MDT. The ED service was not well represented during the review visit, despite being invited, although reviewers did visit the ED and talk to staff. Reviewers also identified that one orthopaedic consultant did not attend the ED. The reasons for this were unclear. Reviewers felt that the service should consider ways to strengthen working relationships with the ED team in this critical early phase of the pathway.

3. When the review team examined the data with Trust representatives, both ED and ward staff were unclear about the number of breaches of the ED target relating to patients on the hip fracture pathway and, therefore, about other actions that were required. Reviewers were told that an operational dashboard was available and monitored at senior Trust level, but reviewers were unable to identify whether the dashboard data were being communicated to staff in the clinical areas. There were no data from this part of the pathway available to members of the MDT, and reviewers considered that this would limit the ability for the clinicians to review and influence any actions required.

ACUTE SURGICAL PATHWAY (FIRST 72 HOURS)

Good practice

1. A trauma consultant anaesthetist of the week was in operation on a seven-day rota, from Saturday to Friday. In addition, a senior anaesthetist was available to attend the wards on weekday mornings to review both pre- and post-operative patients. The ward-based anaesthetists would ensure that patients were appropriately prepared for surgery, liaising with the consultant anaesthetist for trauma as required.
2. On weekdays, two consultant orthopaedic surgeons were in place, increasing the availability of senior decision making across the pathway. One consultant was available to cover any on-call emergencies, the wards and the fracture clinic, with the second consultant being allocated to theatres and to reviewing patients on the emergency theatre list.
3. All staff who met with the review team spoke highly of the support and input from the consultant orthogeriatrician for the care of patients admitted to the trauma and orthopaedic wards. Reviewers were also impressed with the comprehensive orthogeriatric assessments and treatment plans documented in patient records.
4. Two beds (one male and one female) were 'ring fenced' for patients with a hip fracture who required admission. Reviewers were impressed by the support from the Trust executive team to ensure that the beds were always available.
5. The Trust-wide initiative of quality improvement half days (QIHD) was seen as a positive opportunity to improve care. These occasions were held regularly and were attended by everyone from the trauma and orthopaedic MDT. Staff who met with the reviewers were extremely appreciative of the time this allowed for review and learning and for discussion of other team issues.
6. The team had implemented a multidisciplinary 'WhatsApp' group to improve communication about patients who were waiting to be admitted or seen, and bed capacity. Reviewers were told that no patient information was shared on this group, but that it was helpful in alerting the whole team to important actions and ensuring wider communication.
7. Good team-working was clearly evident on the ward, with support from a strong senior nursing leadership team. The staff who met with the reviewers had a clear vision about future developments across all areas. Nurse-led discharge was in place, and some staff were also nurse prescribers.
8. The lead nurse for the surgical level 1 area on Priory 2 ward was very clear about the level of service that could be provided, plans to improve capacity, staff management and training. Reviewers were impressed by the service provided.
9. Data from the NHFD showed that the number of patients who were given a spinal anaesthetic had increased, while there was a corresponding decrease in the number of patients given a general anaesthetic. The data suggested that, at the time of the review, around 85-90% of patients received a spinal anaesthetic, compared with 75% in 2012.
10. Work had been undertaken to standardise anaesthetic practice. The documentation seen by the reviewers was very clear, detailing advice on medication and dosages and the rationale for their use.

11. The draft multidisciplinary hip fracture integrated care pathway document was very comprehensive about the pathway and responsibilities expected.

12. The Trust had employed a junior doctor at weekends to cover the trauma practitioner role, to enable additional support for trauma and elective activities.

Immediate risks: None

Concerns

1. **Senior decision making**

   Surgical practitioners commenced duty at 7am on weekdays, to check and ensure patients were appropriately prepared for surgery. Reviewers were told that between 7am and 9am, when the theatre list was due to commence, there were often several changes to the operating list order.

   Staff who met with the reviewers commented that it was not unusual for both the ward and the theatre-based consultant surgeons and anaesthetists to be discussing the list order on the ward, rather than the ward-based clinicians making the decisions and the theatre-based clinicians commencing the list. Reviewers considered that this negated some of the benefit of the revised rota. Further work on formalising roles and responsibilities in terms of decision making, and undertaking a meaningful audit and, if necessary, monitoring a performance indicator, may help the team to be confident that utilisation of clinical time and theatre capacity is optimised.

   Supervision from consultant surgeons was reported as being in the upper quartile (99.7%), but it was not clear from discussions with staff whether there was always immediate support available in the theatre environment for training and non-training grade medical staff. A trauma surgeon was always within the trauma hub and could attend, if not present in theatre. Reviewers suggested that the Trust should benchmark against Trusts with a lower mortality rate to see whether in those Trusts the level of surgeon undertaking the procedure and the supervision arrangements were any different.

   Reviewers also heard that the overnight anaesthetics cover may not have the appropriate seniority with an appropriate decision- making matrix to make an initial decision confirming patients for the next day's list. Reviewers considered that there were opportunities to improve the planning of lists by asking the overnight team to put the operating list in place. The first patient could then be identified and only moved when absolutely necessary, which would enable the time spent planning pre-list to be converted to useful operating time, whilst further list tailoring could continue. It may be useful for the team to visit a unit that has better outcomes and see if anything could be learnt about list planning by benchmarking.

2. **Theatre utilisation**

   Theatre capacity and theatre efficiency were identified as a concern at the time of the visit. Whilst reviewers were unable to see a direct link to poor outcomes, the efficient and effective use of resources does have a correlation. Reviewers were told that theatre lists were due to start at 9am. Briefing and preparation were planned for this start time. However, staff who spoke to reviewers identified that the first patient was often delayed, with this list sometimes not beginning until 9.45am, either because of a lack of decision making ahead of the list, or because a further assessment was required. It appeared to reviewers that the service was seeking greater certainty for the whole list before beginning the first patient. Reviewers felt that the concept of the 'Golden Patient' (making sure the first patient on the list is certain for surgery (unlikely to be cancelled), that all investigations have been undertaken and that the patient is fully prepared the night before surgery) should be considered and implemented. In this way, the list can begin while staff are organising the remainder of the list.

3. **Cemented arthroplasties**

   Staff who met the reviewers said that there were often debates with anaesthetic colleagues about the use of cement, which also caused delays in the commencement of theatre sessions. Reviewers considered that

the differing views could be addressed by clarifying and standardising the policy on the use of cement and on cement syndrome. The Trust followed guidance from the Association of Anaesthetists of Great Britain & Ireland for reducing the risk from cemented hemiarthroplasty for hip fracture, but reviewers commented that further actions could be implemented as part of the team brief process, so that all theatre staff had specific tasks and roles allocated for when cement was being inserted. This would strengthen the process, so that when the 'cement curfew'[4] was enforced, all staff in the theatre were focused should problems arise.

4. **Recognising the deteriorating patient**

From observation, reviewing of care records and discussion with staff, reviewers commented on the following aspects of managing the deteriorating patient that the Trust should consider:

a. The reviewers were told of two quality initiatives to help reduce complications: warming jackets to promote normothermia in patients and ensuring that high carbohydrate drinks were given. On discussion with staff during the visit, there were varying views as to whether these initiatives had been fully implemented.

b. Auditing fasting times, other than the 'Think Drink'[5] initiative, for patients awaiting surgery, and managing patient nutrition during the pre-operative stage, should be undertaken. This would help to provide clear information on the quality of care given during this phase of the patient pathway, especially because:

   i. fasting times have adverse effects on older people, particularly diabetic patients and those who require timely medications (for example, Parkinson's disease patients);

   ii. changes to the order of the operating list were reported to reviewers as occurring on a frequent basis; and

   iii. patients' hydration and nutrition should be optimised prior to surgery, including by giving them high carbohydrate drinks.

c. A number of fluid balance charts in the scanned notes and in the care records seen when visiting the trauma and orthopaedic wards were incomplete or poorly documented, especially for the pre-operative period. Fluid balance is crucial in the peri-operative period, as Acute Kidney Injury is a common peri-operative complication in hip fracture patients and is related to mortality. Special attention should be paid to the maintenance of good fluid balance and to accurate documentation in the charts.

d. From the best practice data presented to the reviewers, the percentage of nutritional assessments undertaken in 2018 ranged between 85 and 100%, with downward trends to 85% during the months of April 2018 and August 2018. The causes of the downward trends at these times were not identified, although they were consistent with seasonal holiday periods. Reviewers commented that, as part of the Trust's ongoing work to reduce mortality, further work could be undertaken to consider whether the lack of compliance with nutritional assessments is affecting patients' time to surgery and/or commencement of other therapeutic interventions.

[4] *During cement curfew, the surgeon leads the start of curfew and the choice of cement, but the anaesthetist leads the end of curfew once they are satisfied the patient is stable. Until curfew ends, all staff must remain in theatre and focused on the patient.*

[5] *The 'Think Drink' initiative implemented in the Trust allows patients to have sips of water prior to surgery. Auditing was undertaken to ensure that this initiative was in place.*

e. The Trust had implemented the VitalPAC[6] electronic system for recording patient observations. From discussions with staff on the trauma and orthopaedic wards, not all staff were clear about the early warning system and the difference between NEWS1 and NEWS2.[7] Nursing staff also demonstrated a reliance on the handheld electronic device to identify patient deterioration. Reviewers were concerned that the data collected via the handheld electronic device would only show the last two recordings and not trends, which may delay staff in the early recognition of the deteriorating patient. In addition, some of the patient records reviewed did not clearly document the escalation process when patients had deteriorated.

5. **Services at weekends and out of hours**

The Trust pathway for patients with a hip fracture was achievable Monday to Friday during normal working hours, but many aspects of the service were limited at weekends and out of hours. The Trust had reviewed the availability of a consultant orthopaedic surgeon and consultant anaesthetist to ensure that there was consultant availability seven days a week to provide a trauma service.

Staff who met with the reviewing team all recognised that there was a significant difference between weekend and weekday cover for the service, but collectively were unsure of the impact on the increased mortality of patients.

The Trust work in reviewing case notes to identify any themes of an increased mortality had not identified statistically significant differences for patients who were admitted at weekends, but the reviewers were concerned that the lack of support services outside normal working hours would be having some impact on the care of patient; for example:

a. The trauma coordinator only worked Monday to Friday, though a junior doctor was employed at weekends to provide some trauma coordination.

b. A consultant orthogeriatrician was only available Monday to Friday and one weekend in six as part of the general medical rota for the hospital. Outside normal working hours and at weekends, advice was available from the other on-call medical teams.

c. Access to weekend rehabilitation: see concern 6.

d. Delays were noted for access to MRI at weekends. On the Sandwell site the MRI provision was contracted with an independent provider, and staff who spoke to the reviewers commented on the limited number of MRI spaces available out of hours (especially at weekends). Provision of MRI was not deemed to be such an issue on the City Hospital site. Reviewers were unable to see a protocol that identified how hip fracture patients were prioritised for the limited MRI availability on the Sandwell site out of hours. Reviewers noted that this delay in being able to confirm a definitive diagnosis, including for those patients with pathological fractures, could have an impact on patient outcomes.

e. Reviewers heard that there was only one designated musculoskeletal radiologist based on the Sandwell site. Although 'hot reporting' was not identified as a significant issue, there were delays in reporting urgent and routine investigations.

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[6] ***VitalPAC®*** *is a mobile observation and decision support system that monitors and analyses patients' vital signs to identify deteriorating conditions and to provide risk scores to trigger the need for further necessary care. VitalPAC is now known as CareFlow Vitals.*

[7] ***NEWS*** *– National Early Warning Score, endorsed by NHS England and NHS Improvement, is an early warning system for identifying acutely ill patients, including those with sepsis. NEWS2 is an aggregate scoring system in which a score is allocated to physiological measurements, already recorded in routine practice, when patients present to, or are being monitored in, hospital. Six simple physiological parameters form the basis of the scoring system: respiration rate, oxygen saturation, systolic blood pressure, pulse rate, level of consciousness or new confusion, temperature.*

6. **Access to specialist rehabilitation**

   Reviewers were told about the limited access to a full rehabilitation service for hip fracture patients out of hours and at weekends. On Mondays to Fridays during normal working hours, access to specialist rehabilitation was in place.

   Data from 2017 showed that 79% of patients were mobilised out of bed the day after surgery. Data for 2018 were not available at the time of the visit. However, specialist physiotherapy input at the weekends for mobilising post-operative patients was only available for those patients who had surgery over the weekend. Patients who had an operation on a Thursday would receive specialist physiotherapy on the first post-operative day but then not again until the Monday. Reviewers were told by staff that physiotherapists were rostered to provide cover over the weekends and were then not available during the week, which affected continuity of care.

   In addition, the NHFD 2017 data report indicated that the Trust was an outlier for length of stay (LoS), with the national average as 15.8 days for the acute pathway, and the Trust at 17.4 days. The NHFD report showed that overall LoS was 20.6 days nationally and 23.8 days for the Trust. While reviewers noted that therapy input to this group was not the only reason for the difference, reviewers were clear that failure to mobilise over the weekend and maintain progress will drive a greater length of stay. Reviewers were told that the therapies team had started (from January 2019) to monitor 'time to mobilise' against the limited weekend therapy provision, though the reviewing team did not have time to review these data at the time of the visit. Reviewers considered that monitoring time to mobilise against length of stay would help the service to target its resources appropriately, and may support a case for change.

Further consideration

1. Ward nurse vacancies and sickness absences created shortfalls of over 12% in the nursing establishment, although reviewers were told that there was good support from bank staff. However, the level of vacancies and high sickness rates did have the potential to affect consistency of care and dilute the level of orthopaedic expertise available, especially at weekends and out of hours when there was an expectation that ward staff (in the absence of specialist physiotherapy support) would not have sufficient time to ensure that post-operative hip fracture patients were mobilised.

   Reviewers were also made aware that, during weekends, nursing staff were escorting patients to MRI and other investigations, further impacting on the time available for clinical care.

2. Theatre staff were invited to, but appeared not to attend, review and learning meetings with other members of the trauma and orthopaedic MDT. Given the issues with theatre list management and mortality, representation from the theatre team would provide a useful contribution to improve liaison and learning.

3. From the case note review and discussion with staff, planning for patient discharge did not commence until after surgery. Reviewers considered that commencing discharge planning earlier may reduce the length of time that the patient was in hospital. See also the rehabilitation section of the report.

NON-SURGICAL PATHWAY

The majority of patients on the hip fracture pathway were admitted to the trauma and orthopaedic ward. Patients with complex oncology-related pathological fractures were referred to The Royal Orthopaedic Hospital NHS Foundation Trust for specialist management. Patients who were not suitable for surgery had an agreed care and treatment plan.

From the mortality data seen at the time of the visit, ten out of the 31 patients identified had been deemed unfit for surgery.

Good practice: See Acute Surgical Pathway section of the report.

Immediate risks: None

Concerns:

1. Access to MRI: See Acute Surgical Pathway.
2. See also other sections of the report.

Further consideration

1. **Non-surgical pathway**

   On weekdays, treatment decisions not to undertake any suitable surgical intervention for patients with a hip fracture were collectively made between the ward anaesthetist, the surgeon and the orthogeriatrician. At weekends, treatment decisions were made by the on-call surgeon, the anaesthetist and a member of the orthogeriatric team (if rostered to cover the weekend) or the on-call medical team if requested. The decisions taken were reviewed by the team on the Monday**.**

   Whilst acknowledging the team's multidisciplinary process for clinical decision making, reviewers queried whether the benefits to some patients may outweigh the risk of surgery, especially if the surgery to stabilise the fracture would reduce the need for analgesia for pain control and improve mobility and quality of life, however limited. Reviewers suggested that the team should consider reviewing the threshold for surgical interventions in these cases. Formalising the decision making, possibly with the development of a decision-making matrix, would also provide more assurance and clarity about the pathway for patients who were not suitable for surgery.

   Data from 2017 on the proportion of arthroplasties that were cemented showed that the Trust was in the lowest quartile nationally. From the review of mortality, there had been two deaths attributed to the use of cement, although it was not clear from the review if other factors could have contributed to the deaths. Reviewers acknowledged that nationally there was confusion with the change of advice from NICE about the use of cement for some patients, but were unclear if this was resulting in a more conservative approach to making the decision not to operate on patients.

2. **Data for patients who were deemed unfit for surgery**

   From the data available, the number of patients who were deemed unfit for surgery had increased overall since April 2017. The data also showed that the trend of higher mortality rates was consistent with the higher number of patients who did not have surgery. It was also not clear from the data whether delays in decision making and associated cancellations of theatres were having an impact on the care of patients who were not suitable for surgery. These trends are not statistically significant; however, reviewers would encourage the Trust to explore whether there is a correlation.

OTHER ISSUES

1. **Root cause analysis and mortality reviews**

   Reviewers reviewed four root cause analysis (RCA) reports and the report following the review of all 31 deaths that was submitted to the NHFD. Reviewers were concerned about the quality of the investigations seen, the scope and terms of reference for the RCA reports, the detail recorded, and the quality of the proformas used for both methodologies, for the following reasons:

   a. **Root cause analysis**

      i. In none of the investigation reports seen could the review team identify any documented evidence that the full range of factors (human, patient, communication, team, equipment and environmental factors) was part of the methodology used or that the analysis of all these factors was included within the scope of the investigations. Reviewers considered that this presented a possible missed opportunity for learning as, in a couple of cases, it took the action plan in a

different direction. For example, in a couple of cases where there were clear signs of a deteriorating patient, these factors were not identified as a training need.

ii. It was not clear that the reviews seen by the reviewers were completely independent, as a consultant anaesthetist was one of two reviewers looking at two intra-operative deaths and the reports did not include the possibility of the death being related to the anaesthetic process or type of anaesthetic used.

iii. One report commented that a 'sepsis sticker' was in the notes, but there was no documentation in the report of any analysis as to whether the sepsis pathway had been followed, particularly around the escalation process and actions taken.

iv. The root cause analysis concerning one of the intra-operative deaths appeared to concentrate on incorrect patient identification. The fact that the patient's cardiac medications had been omitted was not fully explored. Incorrect patient identification, whilst clearly an important issue itself, will have had less impact on mortality than poor pre-operative preparation.

b. **Mortality reviews**

i. The emergency department pathway was not included in any of the reviews of mortality.

ii. The mortality review proforma section for the intra-operative phase did not include prompts other than 'complications: yes/no' and a comments section. Specific prompts on whether there were any problems during the operation, the type of anaesthetic used and the seniority of staff in the operating theatre were not included. For example, one review focussed on the coroner's findings around the use of bone cement rather than re-examining the incident as part of the mortality review process.

iii. The mortality report did not document details about intra-operative events and post-operative complications that could have led to the deterioration. The cause of death, as mentioned in the death certificate, is not usually sufficient to explain the primary causes of deterioration and subsequent death. Some complications that can start the cascade of deterioration include peri-operative massive blood loss, Acute Kidney injury and post-operative infection.

iv. The methodology did not follow true causative/contributing factors e.g. human, social and environmental factors.

v. The data did not include how many patients were delayed and how many times this happened, especially the number at weekends.

vi. Post-operative infection rates and hospital-acquired urinary tract infections were not included as part of the mortality review.

vii. Data documented in 'appendix 5' of the mortality report in the columns headed 'Nottingham Hip Fracture Score' and 'Predicted 30-day Mortality based on NHFD' appeared outside the possible ranges. The Trust commented that they had used two different methods to calculate the scores, but the data presented were not clear about the relationship between the NHFD score and the mortality scores. Reviewers considered that these should have a consistent positive correlation.

For the two processes the methodology appeared to be interchangeable, although reviewers were told that a 'structured judgement review' process was in the process of being implemented. Evidence seen by the reviewers suggested that the new system would not improve the quality of either process unless a more structured approach was implemented, with ongoing staff training. Reviewers suggested that it may be helpful to ensure that learning is shared and considered for those cases where an RCA or a mortality review are undertaken separately so that the learning from either process is considered at the time of the subsequent review.

See also comment at section 5 about the quality of scanned records.

2. **Level 1 provision – trauma and orthopaedic wards**

As part of the review, reviewers were asked to consider the viability of the development of a level 1 area within the trauma and orthopaedic wards.

At the time of the review, level 1 care took place on Priory 2 ward on the second floor of the hospital, and consisted of four beds for mixed sex use. There were no designated level 1 isolation rooms for patients, and reviewers were told by staff that patients were isolated from other patients by drawing curtains around the bed area. The Trust was in the process of increasing the bed base with appropriate staffing to comply with national guidance on mixed sex areas, so that male and female patients could be cared for in separately designated areas. The beds were predominately used for patients who had undergone colorectal surgery, although some patients with a hip fracture were admitted to these level 1 beds.

Reviewers were impressed with the nursing leadership for the level 1 area on Priory 2. The lead nurse had clear plans for the development of the level 1 provision on the ward, and the staffing and staff competences that would be required. Staff from the trauma and orthopaedic service were, however, concerned that the existing set-up of the unit, whilst providing appropriate critical care management, did not provide easy oversight of orthopaedic patients because of the distance from the main orthopaedic services. In particular, it was not easy for consultant orthopaedic surgeons to have access to review patients, and access to sufficient staff with specialist orthopaedic competences, including rehabilitation, was also difficult.

Reviewers considered that implementing a designated area within the trauma and orthopaedic wards was feasible, but would require a process of consultation with the relevant staff groups across the Trust. A clear process of risk assessment and risk management would be essential to ensure that any extension of level 1 care was appropriately commissioned.

Reviewers had the following comments about the designation of level 1 beds on the trauma and orthopaedic wards:-

a. Consideration of the support and capacity required from critical care services that would be required to provide some clinical oversight to patients admitted to additional level 1 beds in the Trust.

b. The problems of managing mixed sex accommodation in providing designated male and female beds would be the same as those being experienced for the surgical level 1 beds and, therefore, any planning would need to ensure that there were sufficient orthopaedic patients who would require level 1 care.

c. Review by the trauma and orthopaedic teams would be improved but would need to be balanced against the risks of caring for level 1 patients on an additional facility versus utilising the existing provision on the surgical ward, especially if the bed base had been increased with appropriate staffing.

d. A facility on the trauma and orthopaedic wards would enable patients to be cared for by staff with orthopaedic competences, but a clear plan would be required to ensure that there were sufficient nursing staff with appropriate level 1 competences on duty at all times. Reviewers were concerned that, at the time of the visit, ward nurse staffing levels were often vulnerable and were underpinned by the use of bank staff, and there was also limited access to rehabilitation support at weekends.

3. **Specialist clinical roles**

Very good support was available from the trauma coordinator and the surgical care practitioner, who were pivotal to the coordination of many aspects of the pathway. However, from discussions with staff, these individuals were often the first contact for queries and advice, which was resulting in some confusion around responsibilities and having an impact on the time available for them to focus on their specialist roles. The Trust was in the process of developing the 'advanced practitioner' role, and reviewers considered that as part of this work there were opportunities to ensure that the specialist roles were better utilised in the future. Important to any specialist practitioner development would be to consider the role from the

patient's arrival in the ED department, the facilitation of the whole pathway, seven-day availability of specialist support and possible implementation of the hip practitioner model.

Two community-based osteoporosis specialist nurses were also in post, although their role in the hip fracture pathway was not clear.

4. **Hand hygiene**

Results from hand hygiene audits showed consultant medical staff and ward nurses were compliant, but results for junior medical and therapy staff were consistently low, at 69%. Reviewers did not explore whether any actions had been taken to improve the compliance of these groups of staff.

Reviewers also commented that there was a lack of access to hand gel in clinical areas: dispensers were either empty or were not as common in the areas as reviewers would have expected.

5. **Access to electronic notes**

Notes that were viewed electronically at the time of the visit had been scanned following inpatient episodes, in preparation for implementing 'Unity', an electronic patient notes system. The examples made available to reviewers were not always scanned in a logical manner, which made it very difficult to review the hip fracture pathway information. Staff also commented that accessing notes in this format was very time consuming, and this may have hindered the ability to review cases effectively and comprehensively when undertaking the mortality reviews and other MDT review and learning. Reviewers were told that it was hoped that the issue would be resolved once the Unity system was fully operational and the system 'tabs' visible for each section of the notes.

6. **Data**

Throughout the review, reviewers commented on audits or data that may be helpful as part of the Trust's investigation into its higher than national mortality level. The details are not repeated in this section but are listed for information:

a. Urgent Care Pathway: Access to operational dashboard for MDT.

b. Acute Surgical Pathway, Concern 1: benchmarking with other similar organisations.

c. Acute Surgical Pathway, Concerns 4b, c and d: Audit of fasting times. Completion of fluid balance charts. Audit of compliance with nutritional assessments, and relationship with delays to surgery or commencement of other therapeutic interventions.

d. Acute Surgical Pathway, Concern 6: Time to mobilisation against the patient's length of stay.

e. Non-surgical Pathway, Further consideration 2: Audit to explore any correlation in delays in decision making, theatre cancellations and impact on patients not suitable for surgery.

f. Other Issues, section 1: Mortality report and data.

g. Other Issues, section 4: Hand hygiene.

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APPENDIX 1: MEMBERSHIP OF VISITING TEAM

Visiting Team		
Helen Bayley	Head of Quality, Nursing and IPC	NHS Telford and Wrekin CCG
Claire Hayward	Head of Patient Safety and Mortality	George Eliot Hospital NHS Trust
Dr Tracey Leach	Consultant Anaesthetist	Worcestershire Acute Hospitals NHS Trust
Dr Atef Michael	Consultant Orthogeriatrician	The Dudley Group NHS Foundation Trust
John O'Regan	Physiotherapist	Walsall Healthcare NHS Trust
Dr Gail Parsons	Nurse Consultant, Trauma & Orthopaedics	The Dudley Group NHS Foundation Trust
Mr Mathew Revell	Consultant: Trauma & Orthopaedics and Associate Medical Director	The Royal Orthopaedic Hospital NHS Foundation Trust
Marc Tarrant	Matron, Emergency Department	Worcestershire Acute Hospitals NHS Trust
Richard Tipper	Governance Lead	Walsall Healthcare NHS Trust

Observers		
Rebecca Gibbons	Assessment Manager	United Kingdom Accreditation Service
Gail Partridge	Technical expert	United Kingdom Accreditation Service

WMQRS Team		
Tim Cooper	Director	West Midlands Quality Review Service
Sarah Broomhead	Assistant Director	West Midlands Quality Review Service

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APPENDIX 2: INFORMATION CONSIDERED BY THE VISITING TEAM

Factors for consideration	Evidence	Background report	Evidence to be available at visit	Viewing facilities and meetings	Presentation
INPUT FACTORS					
Demographics including: • Age • Deprivation • Comorbidities	Charlson co-morbidity index / Summary from HES otherwise	✔			
Numbers of patients Nottingham Scale (>4 and above) Numbers admitted to designated level 1 bed		✔			
Staffing and skill mix	WTE for each discipline	✔			
Operational information about the service	Number of beds, wards, when MDT and review meetings are held	✔			
Quality of documentation and clinical assessment pre-operatively	Notes sample review – 10% of annual #NoF approx. 30 sets		✔ Access to EPR & PACS		
PROCESS FACTORS					
Pathway design safe and gives priority to these patients	Pathway review			✔	
Progress, achievements and areas for development or potential challenges over the next few years	Short presentation to reviewers				✔
Pathway is workable and meeting national guidance	Markers should include admission to ward and admission to surgery time		✔ Case note review &agreed pathway		

Factors for consideration	Evidence	Background report	Evidence to be available at visit	Viewing facilities and meetings	Presentation
	Time of day and nature of operating list (i.e. trauma list or emergency)		Trust database NHFD		
Surgery	Seniority of surgeon		✔ Trust database		
	Implant selection and variation		✔ Trust database		
	Radiographic result (review consecutive series 50)		✔ Case reviews		
	Complication rates and returns to theatre		✔ Trust database		
Anaesthetics	Delays to theatre and preparation for patients with co-morbid factors contributing to delays		✔ Trust database		
Quality of medical care & rehabilitation	Time to mobilisation		✔ Care records Trust database NHFD		
	Early mortality (1 month) reasons		✔ Trust database NHFD		
OUTPUT / OUTCOME FACTORS					
Evidence of effective governance, review and monitoring	Directorate QI reports and Board reports M&M meeting minutes Learning from deaths reviews (see all) RCAs (see all)		✔ Reports and minutes of meetings		

APPENDIX 3: FORMATIVE REVIEW QUESTIONS

Urgent Care Pathway
1. Are patients seen by senior decision makers in Emergency Department (ED) in a timely way?
2. Does the process for urgent radiological examination impact at any point on the #NoF pathway?
3. Is a diagnosis made promptly? If not, what are the barriers?
4. Are patients identified for admission placed in dedicated orthopaedic beds?
5. Is appropriate analgesia given at an early stage in the pathway?
6. Are there sufficient staff with competences to deliver fascia iliaca compartment block (FiB) to ensure patients' pain is adequately controlled and to avoid unnecessary delays in time to trauma unit handover?
7. Does the current ED hip fracture pathway follow national best practice standards?
8. Does the ED service follow the agreed Trust hip fracture pathway?
9. Except in exceptional circumstances, are all hip fracture patients admitted to the trauma and orthopaedic wards at Sandwell Hospital?
10. What is working well?
Acute Surgical Pathway (First 72 hours)
1. Are patients admitted to an appropriate designated bed? NB: At Sandwell and West Birmingham Trust (both sites), hip fracture beds are ring fenced. Are these beds protected?
2. When patients require a higher-level care (e.g. level 1), is this available in reasonable proximity to the orthopaedic unit, and do staff have the relevant competences to care for patients with #NoF?
3. If not, could closer access realistically improve patients' outcomes?
4. Is there an effective MDT decision making process throughout the pathway?
5. Is there an appropriate audit/review mechanism to allow learning and improvement?
6. Are there good working relationships between members of the MDT?
7. What is working well?
8. How could the pathway be improved?
9. Is the Trust management team appropriately sighted on the key risks in the hip fracture pathway?
Non-surgical Pathway
1. Are patients admitted to an appropriate ward?
2. Does each patient have an agreed care and treatment plan?
3. Is there an effective MDT decision making process throughout the pathway, including liaison with other medical specialties?
4. Is there an appropriate audit/review mechanism to allow learning and improvement?
5. What is working well?
6. How could the pathway be improved?