NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

HEALTH AND SOCIAL CARE DIRECTORATE

QUALITY STANDARD CONSULTATION

SUMMARY REPORT

1 Quality standard title

Trauma

Date of quality standards advisory committee post-consultation meeting:
4 January 2018

2 Introduction

The draft quality standard for trauma was made available on the NICE website for a 4-week public consultation period between 7 November and 5 December 2017. Registered stakeholders were notified by email and invited to submit consultation comments on the draft quality standard. General feedback on the quality standard and comments on individual quality statements were accepted.

Comments were received from 24 organisations, which included service providers, national organisations, professional bodies and others.

This report provides the quality standards advisory committee with a high-level summary of the consultation comments, prepared by the NICE quality standards team. It provides a basis for discussion by the committee as part of the final meeting where the committee will consider consultation comments. Where appropriate the quality standard will be refined with input from the committee.

Consultation comments that may result in changes to the quality standard have been highlighted within this report. Comments suggesting changes that are outside of the process have not been included in this summary. The types of comments typically not included are those relating to source guidance recommendations and suggestions for non-accredited source guidance, requests to broaden statements out of scope, requests to include thresholds, targets, large volumes of supporting information, general comments on the role and purpose of quality standards and requests to change NICE templates. However, the committee should read this summary alongside the full set of consultation comments, which are provided in appendix 1.

3 Questions for consultation

Stakeholders were invited to respond to the following general questions:

1. Does this draft quality standard accurately reflect the key areas for quality improvement?

2. Are local systems and structures in place to collect data for the proposed quality measures? If not, how feasible would it be to be for these to be put in place?

3. Do you think each of the statements in this draft quality standard would be achievable by local services given the net resources needed to deliver them? Please describe any resource requirements that you think would be necessary for any statement. Please describe any potential cost savings or opportunities for disinvestment.

Stakeholders were also invited to respond to the following statement specific questions:

1. For draft quality statement 2: The timeframe for interpreting urgent images for people with major trauma within 60 minutes of the scan is derived from the NHS England service specification for major trauma. Is this an aspirational timeframe for interpreting images?

2. For draft quality statement 4: Assessment using the Canadian C-spine rule should be done in the pre-hospital setting and again when the person arrives at hospital. Which of these settings has more variation in the use of the assessment and the greater need for quality improvement?

4 General comments

The following is a summary of general (non-statement-specific) comments on the quality standard.

- Most stakeholders supported the quality standard and felt that it includes the key areas for quality improvement. However some stakeholders felt the statements are too focused on acute medical care.
- It needs to be clearer that the statements cover children, and paediatric and adolescent transition care should be mentioned.
- Stakeholders highlighted existing quality standards for trauma produced by other organisations.

Consultation comments on data collection

- Patient satisfaction surveys should be standardised to ensure consistent data collection.
- Stakeholders felt that data should be available through local data collection, in the Trauma Audit and Research Network (TARN) dataset, or with some modification of the TARN dataset.

Consultation comments on resource impact

- Stakeholders felt that statement 1 will be the most challenging to deliver within current resources and there were concerns about the availability of staff to deliver it.
- Stakeholders felt the other statements are achievable within current resources.

5 Summary of consultation feedback by draft statement

5.1 Draft statement 1

People with major trauma who cannot maintain their airway and/or ventilation have drug-assisted rapid sequence induction (RSI) of anaesthesia and intubation within 45 minutes of the initial call to the emergency services.

Consultation comments

Stakeholders made the following comments in relation to draft statement 1:

- Conflicting opinions on whether the timeframe is achievable, particularly in remote areas and areas where third sector support is relied on.
- It may be appropriate that the timeframe is missed, for example if a person does not require intubation initially, but then deteriorates. Additionally children need drug doses to be calculated, which can cause a delay.
- Various safety concerns were raised:
  - awaiting trained professionals might delay intubation
  - clarify that the airway should be secured immediately for people with airway compromise
  - harm could result from inappropriate use of RSI, such as on deeply unconscious people. Stakeholders suggested emphasising that an airway can be secured and the statement achieved without drug assistance
  - stakeholders were concerned that providers might use untrained professionals to perform RSI to achieve the statement, and emphasised that it needs to be done by trained personnel
  - the timeframe could create pressure to perform RSI quickly and without time for assessment and preparation, such as when patients arrive at A&E and time has lapsed
  - patients might be taken to a trauma unit when they should have been taken directly to a major trauma centre.

- This could be difficult for Operational Delivery Networks to leverage as it is a pre-hospital statement.
- More detail on other techniques that should be used if RSI cannot be performed at the scene is needed.
- Definition of “cannot maintain their airway” is needed so it is clearer who needs RSI.
- Add advanced critical care practitioners to the list of healthcare professionals in the audience descriptor.

5.2 Draft statement 2

People who have had urgent imaging for major trauma have their images interpreted within 60 minutes of the scan.

Consultation comments

Stakeholders made the following comments in relation to draft statement 2:

- Change the wording to “within 60 minutes of imaging” instead of “scan” to reflect the different types of imaging used.
- Queried whether there are specific considerations for paediatric patients, such as specific training.
- As there is no mention of transfer of images when patients transfer between trauma units and major trauma centres, there is a risk of repeat imaging.
- The statement should be clearer on what imaging is included, for example individual images or body parts, and CT, MRI or plain film.
- A stakeholder suggested that the statement should only apply to CT scans, whereas another stated that it should include imaging for complex and non-complex fractures.
- Clarify what “interpreted” means, for example verbal, written or digital report.
- The level of clinician interpreting images should be specified to ensure accuracy. Some stakeholders felt this should be a consultant radiologist, or should include discussion with senior staff.
- Some stakeholders felt that the statement can be measured from Radiology Information System data and hospital dashboard data. Others stated that reports

are scanned into emergency department records and it will be difficult to collect accurate data.

Consultation question 4

Stakeholders made the following comments in relation to consultation question 4:

- Some felt that the 60 minute timeframe for reporting is appropriate.
- Some felt that providing a definitive report that has been verified by specialist radiologists within 60 minutes will be challenging due to staff shortages and outsourcing of reporting. Review by a specialist can take 24 hours or longer.
- Stakeholders suggested that the 60 minutes should start from when the first image is acquired.

5.3 Draft statement 3

People with open fractures of the long bone, hindfoot or midfoot have fixation and definitive soft tissue cover within 72 hours of injury if this cannot be performed at the same time as debridement.

Consultation comments

Stakeholders made the following comments in relation to draft statement 3:

- Alternative priority areas that the statement should focus on instead of the timeframe were suggested:
  - the combined orthoplastic approach
  - simultaneous internal fixation and coverage.
- Concern that the timeframe may result in inappropriate surgery, for example when patients are not physiologically fit enough for it.
- Bone infection and delayed union were suggested as outcome measures instead of amputation rates.
- The definition should specify whether long bones of the lower limb, or lower and upper limb are included.

5.4 Draft statement 4

People who have had full in-line spinal immobilisation have their risk of cervical spine injury assessed using the Canadian C-spine rule.

Consultation comments

Stakeholders made the following comments in relation to draft statement 4:

- A large proportion of major trauma patients automatically trigger spinal immobilisation.
- The statement will not show when patients have not been immobilised when they should have been.
- Suggestion to add a timeframe: the rule should be applied within 30 minutes of arrival at the emergency department.
- The Canadian C-spine rule is not validated for children, and children should be able to flex and extend as well as rotate their neck 45 degrees.
- A smart phone app, digital reference, questionnaire or decision support tool would help with using the rule and to assess compliance.
- Suggestion on how to audit appropriate use of the C-spine rule.
- Emphasise who the rule can be used on and who should be excluded, for example it can be used on people who are intoxicated.

Consultation question 5

Stakeholders made the following comments in relation to consultation question 5:

- There is more variation in the use of the rule to assess the cervical spine in pre-hospital settings.
- A stakeholder stated that the use of the rule will need improvement in smaller trauma units and by non-emergency ambulances.

5.5 Draft statement 5

Major trauma centres have a dedicated trauma ward and designated consultant available to contact 24 hours a day, 7 days a week.

Consultation comments

Stakeholders made the following comments in relation to draft statement 5:

- Concerns were raised about having a dedicated trauma ward and consultant:
  - it needs to be clearer that this statement applies to patients with multisystem major trauma as it might not always be in the best interest of all patients to be on a generic trauma ward, for example if they have trauma on one system
  - it is safer and patients can have better outcomes if they are managed by healthcare professionals from specific specialities.
- Other areas to focus the statement on were suggested:
  - how different specialties involved in trauma care work together, for example, a daily multidisciplinary team could plan care for trauma patients with support from the ward team
  - a more holistic approach like key working, which could achieve better outcomes for all patients
  - access to the right rehabilitation service for the specific needs of a trauma patient
  - the use of a trauma critical care unit or high dependency unit with experience in dealing with victims of trauma.
- Elderly patients need access to a geriatrician and specialist trauma care.
- This statement would require changes to how trauma sits as a surgical speciality.
- Hospitals will need an adequate bed base and this will need to be separate for paediatrics.

6 Suggestions for additional statements

The following is a summary of stakeholder suggestions for additional statements.

- Stakeholders suggested that a statement on safeguarding adults and children is important due to correlation between safeguarding and major trauma, such as non-accidental injury.
- A statement on information and patient and carer communication.
- A statement on workforce.
- A statement on education.

Appendix 1: Quality standard consultation comments table – registered stakeholders

ID	Stakeholder	Statement number	Comments[1]
1	Association of Paediatric Emergency Medicine	General	We would welcome more an explicit statement regarding these guidelines being relevant to children
2	Bristol Royal Hospital for Children	General	We want to clarify that people is inclusive of children 0-16?
3	British Association of Oral & Maxillofacial Surgeons	General	The obvious question is why is this quality standard document necessary? Major trauma care already has several generic and quite specific quality standards, and it is not clear that this further document adds much to these. Best practice tariffs measured against standards data collected by TARN ensures that standards of care are already validated and improving. Refinement of the existing standards and guidance documents used by TARN and the existing peer review process for Trauma networks would seem more productive than more separate documents.
4	Department of Health	General	Thank you for the opportunity to comment on the draft for the above quality standard. I wish to confirm that the Department of Health has no substantive comments to make, regarding this consultation.
5	East Midlands Major Trauma Network	General	Although the standards may be challenging to deliver it is difficult to argue against the rationale behind any of them and they are not out of line with current standards in the existing guidance and national quality indicators.

[1]PLEASE NOTE: Comments received in the course of consultations carried out by NICE are published in the interests of openness and transparency, and to promote understanding of how quality standards are developed. The comments are published as a record of the submissions that NICE has received, and are not endorsed by NICE, its staff or its advisory committees.

ID	Stakeholder	Statement number	Comments[1]
6	East Midlands Major Trauma Network	General - Comments on briefing paper	2.2 Definition: I think this is the wrong way round and should be “Major trauma is defined as an injury or a combination of injuries that are life changing because it may result in long-term disability, and could be life-threatening.” 4.4.2 FAST Definitely a push away from focussed US. However I fear that might leave us exposed in a mass casualty situation without the skills to perform advanced triage for abdo injuries. Whilst I would agree that all the recommendations are valid, there should still be a caveat that training in bedside delivery of FAST should continue to act as a diagnostic adjunct where CT is not immediately available due to extenuating circumstance. 4.5.2 Analgesia: I think they have done well in directing that delivered analgesia should be at the top of the pain ladder i.e. opiate, but need to reinforce giving the analgesia from the lower steps in addition to improve efficacy.
7	Royal College of Nursing	General	There is no mention in these statements about paediatric and adolescent transition care. These should also be considered rather than specifically focusing on the adult population only.
8	Royal College of Paediatrics and Child Health	General	Thank you for inviting the Royal College of Paediatrics and Child Health to comment on the trauma consultation. We have not received any responses for this consultation.
9	Society of Research in Rehabilitation	General	There are examples of more meaningful Quality standards such as Delirium or Stroke in Adults which have more meaningful quality standards that will make a real difference to patient outcomes beyond mortality. https://www.nice.org.uk/guidance/QS63 The quality standards are very focused on acute medical care. We would like to know if there were any committee members that represented either rehabilitation, patients, therapies or ward nursing, rather than ED representation.
10	College of Paramedics	Question 1	I agree this this standard accurately reflects the key areas
11	Royal College of Emergency Medicine	Question 1	RCEM is broadly supportive of the 5 statements within the Quality standards and agree that they reflect key areas for quality improvement across the patient pathway with the important exception of rehabilitation.
12	Royal College of Nursing	Question 1	The draft quality standards seem to reflect important areas which may impact on clinical effectiveness, patient safety and patient experience in trauma care.
13	Royal College of Emergency Medicine	Question 2	Data for measures 1, 2, 3 should be obtainable within the TARN dataset. Measure 4 (cervical spine assessment) will require the development of an audit tool / decision support tool. Measure 5 should be obtainable with minor modification of the TARN dataset.

ID	Stakeholder	Statement number	Comments[1]
14	Royal College of Nursing	Question 2	Some of the standards may need local data collection to facilitate accurate evaluation and monitoring of the standards. Where patient satisfaction surveys are implemented to gather data, these ideally should be standardised to ensure consistency.
15	Salford Royal NHS Foundation Trust	Question 2	Local data collection: It is not foreseen that there would be difficulties collecting the data.
16	Royal College of Emergency Medicine	Question 3	Measures 2-4 should be deliverable within current resources. Measure 1 (RSI within 45 minutes of initial call to emergency services) is the most challenging to current systems
17	Association of Anaesthetists of Great Britain & Ireland	Statement 1	AAGBI is broadly supportive of the aim to secure the airway within 45 min. However, we are unclear about how the 45 min threshold was determined. In some patient this will be too long (for example those with severe chest or head injuries). We suggest that a caveat is added, that in patients with airway or respiratory compromise the airway should be secured immediately. We note the Quality Statement suggests that only those trained to use anaesthetic drugs should do so. We agree and applaud this aim, but are concerned that in an effort to meet the QS, local factors may drive providers to using those not trained. We have stated, in a national guideline (co-signed by RCoA, RCEM, RCGP, RCS Edinburgh, BASICS, and others; AAGBI: Safer pre-hospital anaesthesia 2017 https://www.aagbi.org/sites/default/files/Safer%20pre_hospital%20anaesthesia2017.pdf that only physicians specifically trained to do so should administer these agents to patients outside hospitals.
18	Bristol Royal Hospital for Children	Statement 1	We are in support. Please add or consider that children need an additional consideration due to the drug doses need to be calculated and drawn up due to their weight. This can cause a delay in this group and should be subject to a sub analysis.
19	British Association of Oral & Maxillofacial Surgeons	Statement 1	There is no clear definition of “cannot maintain their own airway”. The problem with this standard is that it mandates an RSI, which based on the wording used may not be necessary, but also requires a level of training an experience which is unlikely to be available in most cases within 45 minutes of first call to emergency services – and hence it is being set up to fail. That breathing and ventilation should be appropriately supported is certainly a reasonable aspiration – and 45 minutes is too long for this! There are guidelines available (e.g. from difficult airway society) which provide algorithms for supporting ventilation, none of which start off with and RSI and intubation, and then supraglottic devices if that fails – it is the other way round! That there is a recognised process for providing trained personnel at the scene, or a triage tool that triages patients to immediate transfer to a site where someone can undertake and RSI, should be a requirements for MTC / TNs, as detailed in “Structure”. The TARN standard on intubation on arrival at MTC is already one of the more poorly performing standards by most MTC because of the difficulties in correctly triaging such patients and the number of variables which mean that intubation is not actually appropriate in some cases.

ID	Stakeholder	Statement number	Comments[1]
20	British Orthopaedic Association	Statement 1	People with major trauma who cannot maintain their airway and/or ventilation have drug-assisted rapid sequence induction (RSI) of anaesthesia and intubation within 45 minutes of the initial call to the emergency services. Target is reasonable but should only be performed by personnel with the appropriate training and skill mix, in most cases an anaesthetist or ED specialist.
21	College of Paramedics	Statement 1	Service providers may find achieving the 45-minute time frame challenging in remote and rural areas,
22	College of Paramedics	Statement 1	Mention should be made that in the future it should be any suitably trained and experienced health care professional who can and should deliver RSI.
23	Imperial College Healthcare NHS Trust	Statement 1	This is very much a pre-hospital standard and may be difficult for the ODN to leverage
24	NHS England Adult Critical Care CRG	Statement 1	Does there need to be an extension of surgical skill set supporting cricothyroid puncture
25	Peninsula Trauma Network	Statement 1	Whilst this is a commendable aspiration I am concerned that the current TARN data collection system may be insufficient to demonstrate evidence of harm or inappropriate application of this standard. The introduction of this standard is likely to cause an increase of pre-hospital RSIs and that inevitably this will be done on patients who do not actually need the procedure. I am concerned that this may become a self-fulfilling standard – consideration should be given to expert panel review of whether the patients actually needed the procedure and whether any resulting harm is due to the procedure itself or the underlying pathology of the patient's injuries.
26	Peninsula Trauma Network	Statement 1	Achievability. As Clinical Director for the Peninsula Trauma Network I am concerned that this standard will be unlikely to be achieved under existing commissioning arrangements. SWASFT are not capable of delivering this standard without support from the third sector (charity funded Air Ambulances) and volunteer work from RSI trained individual clinicians, particularly in Cornwall. I do not think that this standard can be introduced without substantial changes in the current commissioning of pre-hospital care.

ID	Stakeholder	Statement number	Comments[1]
27	Royal College of Anaesthetists	Statement 1	The RCoA broadly supports the Draft NICE Quality Standards and will limit its comments to Quality Statement 1 (Airway management). The RCoA welcomes the 45-minute standard and hopes that it will correct inequity in the availability of advanced airway management in different Emergency Medical Services systems. However, it has some concerns relating to definitions and unintended consequences of this standard: · Not all situations in which trauma patients undergo tracheal intubation and lung ventilation require the administration of drugs: patients who are deeply unconscious can safely undergo tracheal intubation without drug assistance and, indeed, the administration of unnecessary doses of hypnotic drug in these patients can lead to hypotension and result in harm. It should be emphasised that the standard relates to the securing of an airway and effective lung ventilation, and does not require drug assistance to have been used in order to achieve the standard. · The RCoA endorsed and supports a recent publication by the Association of Anaesthetists of Great Britain & Ireland (AAGBI) that states that pre-hospital emergency anaesthesia and tracheal intubation should only be performed by appropriately trained doctors, and therefore welcomes the Quality Statement's support for this view. However, the RCoA is concerned that some emergency services that find it difficult to meet the 45-minute standard will be tempted to condone the performance of drug-assisted RSI by paramedics or other healthcare professionals who do not have the necessary knowledge, skills and experience to provide this service safely. The RCoA would hope that the published version of the standard would provide an emphasis on safety as well as speed. · The RCoA is concerned that the 45-minute standard might not be relevant to situations in which a patient's condition deteriorates or in which there are multiple casualties. In the former situation, a patient might not initially require a secure airway or lung ventilation until more than 45 minutes after the initial call but then deteriorate and require tracheal intubation. With the standard's current definition, this would comprise a breach of the "target". In the latter situation, a single doctor at a multiple casualty scene may prioritise some patients over others, who may as a consequence not undergo RSI within the 45-miniute period, but for situationally appropriate reasons. The RCoA would support a more precise definition of the 45-minute standard. · The RCoA is concerned that the 45-minute standard may distort care in some circumstances. For instance, if paramedics went out to a call and brought a trauma patient to the A&E Department 44 minutes after the initial call, the doctors in the A&E might feel under undue pressure to perform a drug-assisted RSI within one minute in order to meet the standard. This might not allow appropriate time for assessment and preparation. Emphasis should be placed on assessment and preparation as taking priority over speed for these circumstances. · The RCoA would support routine audit of drug-assisted RSI in trauma patients in order to confirm that the patients undergoing RSI needed the procedure, that it was performed by the appropriate people with an appropriate technique, and that the 45-minute standard did not distort care priorities.

ID	Stakeholder	Statement number	Comments[1]
28	Royal College of Emergency Medicine	Statement 1	Measure 1 also has the potential for unintended consequences unless carefully applied. The definition of who needs drug assisted RSI of anaesthesia and intubation must be carefully considered (eg for agitation? For airway obstruction? For reduced GCS alone?). Furthermore it must be recognised that a patient who did not require intubation at the time of the initial call to emergency services may deteriorate or require RSI for other reasons (eg to facilitate CT scanning or other interventions). If a simple blanket measure of 'all patients who have RSI pre-hospital or within the ED' is utilised then a false perspective will be gained. A potential consequence would be patients either being delayed at scene to await the arrival of an RSI competent practitioner or taken to a TU for RSI when bypass to an MTC would have been more appropriate. Finally (again in relation to measure 1) the impact on charitably funded (ie non NHS commissioned) services must be considered. Have these organisations (primarily air ambulance providers) been recognised as stakeholders?
29	Royal College of General Practitioners	Statement 1	Whilst the majority of Trauma patients have their accidents in places where emergency services can get to them fairly quickly, and either perform RSI on scene, or transfer them to a facility where this can be done, for a proportion this is not possible. General Practitioners, generally with additional training such as provided by the British Association of Immediate Care, are often the most highly trained and skilful practitioners at the scene of remote or rural accidents. These doctors, on a voluntary basis, have offered this service to their local populations for many years. These doctors do not generally have the opportunity to acquire and maintain RSI skills, yet their input can hardly be called a "failure to meet the standard". The standard is correct to make RSI the "gold standard". Where it is not achievable, simply to say that other forms of airway care should be employed is too weak for a "silver standard". Proficiency in both PALM and surgical cricothyroidotomy should be included in the standard for when RSI is impracticable.
30	Royal College of Nursing	Statement 1	Consideration should be given for addressing Rapid Sequence Induction (RSI) and the amount of time it may delay intubation if a further member of the team is to be called. Therefore, the old rule between scope and run, stay and play process?
31	Royal College of Nursing	Statement 1	"…Drug-assisted RSI of anaesthesia and intubation is performed by anaesthetists or doctors in emergency departments within 45 minutes of the initial call to the emergency services, if it cannot be performed at the scene." Healthcare professionals (paramedics, advanced pre-hospital doctors and anaesthetists) RSI of anaesthesia and intimations are also performed by Advanced Critical Care Practitioners at Emergency Departments in some hospitals, therefore, they should be included in the list of professionals involved in this care pathway.
32	Salford Royal NHS Foundation Trust	Statement 1	Consensus that this was a good standard, which supports enhanced pre-hospital services.
33	Salford Royal NHS Foundation Trust	Statement 1	Concern that presently in GM there is limited access to advanced pre-hospital doctors. The North West Air Ambulance launched on 1st August 2017 which has provided the ability to perform drug –assisted RSI of

ID	Stakeholder	Statement number	Comments[1]
			anaesthesia and intubation at the scene. Not able to comment on resources that would be required to ensure compliance.
34	Bristol Royal Hospital for Children	Statement 2	We are in support. More clarification is required to what 'interpreted' means. Is this verbal, written or digital? Also 'interpreted' by whom – what grade and what is training is required for 'other trained reporters'? Are there specific paediatric considerations (i.e. specific training) and this should be subject to sub analysis.
35	British Association of Oral & Maxillofacial Surgeons	Statement 2	This is really an extension of the TARN data on timing of CT to include timing of report, and is to be supported
36	British Orthopaedic Association	Statement 2	People who have had urgent imaging for major trauma have their images interpreted within 60 minutes of the scan. The immediate availability of a consultant radiologist should be considered in major trauma cases.
37	Imperial College Healthcare NHS Trust	Statement 2	Imaging interpretation has no statement about the level of clinician interpreting; no KPI around quality/accuracy of reporting
38	Orthopaedic Trauma Society	Statement 2	This should be by a CONSULTANT radiologist
39	Royal College of Emergency Medicine	Statement 2	The denominator also needs clarification as the term 'urgent images for major trauma' is too vague. We would recommend that the denominator used is all CT scans performed for patients who are included within the TARN dataset. We believe that if applied to CT imaging then this is an appropriate and entirely achievable standard. We consider that the standard is probably not achievable nor particularly valuable if applied to plain film imaging.
40	Royal College of Radiologists	Statement 2	It reflects the key area for improvement
41	Royal College of Radiologists	Statement 2	Provisional reports are scanned into the ED record rather than the RIS system & therefore will be more difficult to collect accurate data. Provisional Proforma reporting into RIS systems would enable data capture
42	Royal College of Radiologists	Statement 2	Provisional reports within 60 minutes of the scan are achieved. This relates to CT/MR scans. However the Quality statement is confusing - the process – proportion of urgent images for major trauma that are reported within 60 minutes of the scan. Does this relate to individual images (there may be 1000s), body parts (as 2nd review/definitive report may be undertaken by consultants with special interest in neuro/chest/abdo/MSK imaging. Are plain x-ray images included in this standard?
43	Salford Royal NHS Foundation Trust	Statement 2	Support Quality statement 2: that urgent imaging for major trauma patients is interpreted within 60 minutes of the scan.

ID	Stakeholder	Statement number	Comments[1]
44	Society and College of Radiographers	Statement 2	The Society and College of Radiographers (SCoR) welcomes the quality statement for image reporting within 60 minutes but the statement as it stands refers to “images reported within 60 minutes of the scan”. Whilst we recognise the common use of CT for imaging major trauma, the definition of urgent imaging as stated also includes chest x-ray and ultrasound. Therefore quality statement 2 should reflect this perhaps by reading “images reported within 60 minutes of (urgent) imaging” The quality statement does not refer to the transfer of images with a patient transferred from MTU to MTC and we are therefore concerned that the risk of unnecessary repeat imaging remains. The SCoR believes this statement is measurable from existing Radiology Information System (RIS) data.
45	Society and College of Radiographers	Statement 2	The quality standards outlines the use of imaging for major trauma but does not refer to the imaging required for complex and non-complex fracture. The importance of imaging especially in the case of open fracture is recognised in the standards (indeed this leads on to standard three, open fracture). For this reason, the SCoR recommend that at page 10, definition of terms used in this quality statement: Urgent Imaging for Major Trauma, reference to imaging for complex and non-complex fracture (secondary survey imaging of appendicular and axial skeleton) should be included. This will enable the standard to encompass all areas of imaging for 60 minute report time. Audit information is available via clinical imaging radiology information system and also hospital dashboard data.
46	British Orthopaedic Association	Question 4	A target less than 60 minutes should be considered.
47	NHS England Adult Critical Care CRG	Question 4	60 min timeframe for reporting appropriate
48	Royal College of Emergency Medicine	Question 4	Further clarification of this standard is required. The numerator is described as “the number in the denominator that are interpreted within 60 minutes of scan”. We would recommend: 1/ That a written report is required 2/ That the precise time at which the 60 minutes starts is specified. We would recommend from the time of first image acquisition as this will take into account the efficiency of the CT process.
49	Royal College of Radiologists	Question 4	People who have had urgent imaging for major trauma have their images interpreted within 60 minutes of the scan. Provisional reports are provided but verified, second review of all imaging cannot be provided within 60 minutes
50	Royal College of Radiologists	Question 4	It is currently aspirational to deliver a verified definitive report. Provisional reports are delivered but 2nd review by trauma/emergency radiologist or by radiologists with special interest in neuroradiology/chest radiology/abdominal imaging & MSK makes delivery of a definitive report within that timeframe more challenging. Additional infrastructure in terms of radiologists (national shortage specialty) networked reporting on call, home reporting would support this aspiration

ID	Stakeholder	Statement number	Comments[1]
51	Royal College of Radiologists	Question 4	It is often not possible to deliver a definitive report within 60 minutes. Outsourced reporting with delays in transfer of images, time to report & for report to be received may exceed 60 minutes. All trauma scans should undergo 2nd specialist review & this may take 24 hours+ Issues of staffing shortages both within normal working hours result in reporting delays Out of hours, definitive reporting may be delayed if outsourced to teleradiology companies as above or if consultants have to come in on call. Additional emergency radiology cover required together with IT infrastructure to support out of hours home reporting to enable reporting within 60 minutes.
52	Salford Royal NHS Foundation Trust	Question 4	Though we support the statement, a definitive report within 60 minutes will be challenging for us to consistently achieve without additional resourcing.
53	Society and College of Radiographers	Question 4	The SCoR agree that 60 minutes is a reasonable time, recognising urgency and complexity and facilitating the potential need for discussion with more senior/specialist colleagues to ensure accuracy and reduce the likelihood of forced reporting error. The SCoR welcomes the inclusion of reporting radiographers in the quality statement.
54	Bristol Royal Hospital for Children	Statement 3	We are in support.
55	British Association of Oral & Maxillofacial Surgeons	Statement 3	This just replicates “Fractures (complex): assessment and management (2016 updated 2017) NICE guideline NG37”, and is already measured by TARN and part of best practice tariff, so it is not clear why a further quality statement is required
56	British Orthopaedic Association	Statement 3	People with open fractures of the long bone, hindfoot or midfoot have fixation and definitive soft tissue cover within 72 hours of injury if this cannot be performed at the same time as debridement The rationale behind this statement is “Delays in the fixation and cover of open fractures can lead to infections and further complications, such as amputations. Ensuring that fixation and soft tissue cover are completed within 72 hours of injury should result in fewer complications, reductions in unplanned surgery and length of hospital stays, and faster return to normal activities.” The rationale is good practice but not evidence based, even in the most resourced major trauma centres (MTCs) in the country only 75-80% of these patients are physiological fit to undergo major reconstruction surgery by 72 hours with many being on inotropic support on ITUs. Having a Quality Statement suggesting that 100% of patients need this may lead to some early inappropriate surgery which would not be in the patient’s best interest. We would favour the statement is reviewed to reflect the importance of a combined “orthoplastic” approach in decision making and surgical intervention. People presenting with open fractures of a long bone, hindfoot or midfoot should have an initial debridement undertaken concurrently by consultants in orthopaedic and plastic surgery (a combined orthoplastic approach). This should be followed by either by immediate definitive treatment or a documented plan for fixation and soft tissue cover.

ID	Stakeholder	Statement number	Comments[1]
57	Imperial College Healthcare NHS Trust	Statement 3	There is limited evidence of the 72 hr rule; the KPIs should include bone infection/delayed union; amputation is unlikely to be a sensitive outcome measure as not a common event;
58	NHS England Adult Critical Care CRG	Statement 3	Does fixing the timeframe for closure (72hrs) limit decision making where closure may not be appropriate. Is it not the combined orthoplastic input which is important.
59	Northern Trauma Network	Statement 3	This statement needs a clearer definition. It is currently unclear whether it is relating entirely to the log bones of the lower limb, or lower and upper limb long bones.
60	Northern Trauma Network	Statement 3	The denominator needs to be reviewed. We believe that it should be 'The number of patients who have an open long bone fracture', rather than just those who have not had their open fracture fixed in the required timeframe
61	Orthopaedic Trauma Society	Statement 3	The rationale behind this statement is "Delays in the fixation and cover of open fractures can lead to infections and further complications, such as amputations. Ensuring that fixation and soft tissue cover are completed within 72 hours of injury should result in fewer complications, reductions in unplanned surgery and length of hospital stays, and faster return to normal activities." The rationale is good practice but not evidence based, Even in the most resourced MTCs in the country only 75-80% of these patients are physiological fit to undergo major reconstruction surgery by 72 hours with many being on inotropic support on ITUs. Having a QS suggesting that 100% of patients need this may lead to some early inappropriate surgery which would not be in the patients' best interest. Perhaps more important is to emphasise the role of simultaneous internal fixation and coverage. The wording of their statement would imply that it is still acceptable to consider these separately
62	Association of Paediatric Emergency Medicine	Statement 4	We have some comment re the cervical spine guidance. We understand that the Canadian c spine rules are not validated in the under 16 years. We would use the Royal College of Radiology guidelines for imaging in paediatric trauma. In addition would like to draw attention to the PECARN publication: Leonard et al (2010) Factors Associated With Cervical Spine Injury in Children After Blunt Trauma. Annals of Emergency medicine.
63	Bristol Royal Hospital for Children	Statement 4	Is this applicable for paediatrics as Canadian C – Spine tool is not validated for Children ? to add that child should be able to flex and extend in addition to rotation of 45 degrees.
64	British Association of Oral & Maxillofacial Surgeons	Statement 4	The implication of the quality statement is that this is about assessing patients who have had spinal immobilisation, but the question for consultation (Q5) talks about using the Canadian c-spine rule in pre-hospital setting – this needs clarification. Pre-hospital care services have triage tools to determine whether a patient requires spinal immobilisation or not, and standardising this seems and reasonable principle.
65	College of Paramedics	Statement 4	The comment under the influence of drugs or alcohol may require qualification, a small amount of alcohol may have little significance and little impact on a person's ability to interpret how they feel.
66	Imperial College Healthcare NHS Trust	Statement 4	Agree

67	Royal College of Emergency Medicine	Statement 4	We have a number of points in relation to measure 5. Firstly it seems unnecessary to apply the Canadian C-spine Rule (CCSR) twice for patients who have 'failed' as a result of age or mechanism of injury. Secondly the measure as designed will not provide information on patients who have not been immobilised and who should have been. Thirdly we would recommend a time factor - the CCSR should be applied within 30 minutes of arrival in the ED (for example). Fourthly - we agree that a questionnaire / decision support tool will be required to assess compliance with this measure. We would be keen to assist in the development of such a tool.
68	Royal College of General Practitioners	Statement 4	Most common criticism is that The Canadian C-spine Rule (CCR) is difficult to memorise due to its multiple criteria; use of a smartphone app or digital reference (like MDCalc) is recommended. It is important to emphasise the inclusion and exclusion criteria. The rule can be used in patients who are intoxicated; if the patients are alert and cooperative, the rule should can used regardless of blood alcohol content. Exclusion Criteria include Non-trauma Patients, GCS <15, Unstable Vital Signs, Age <16 Years, Acute Paralysis, Known Vertebral Disease, Previous Cervical Spine Surgery
69	Salford Royal NHS Foundation Trust	Statement 4	Support the Canadian C Spine rule but note a large proportion of the major trauma patients would trigger automatic spinal immobilisation.
70	Society and College of Radiographers	Statement 4	The SCoR welcome the use of Canadian C-spine rules with respect to spinal injury and encourage the application of the rules when considering requirements for clinical imaging. Audit of the appropriate use of the C-spine rules should extend to include correlation between clinical history provided on requests for clinical imaging (available on radiology information system) and patient record i.e. do the same number of patients identified as being at risk and requiring imaging actually have an examination performed and a report provided within 60 minutes of examination.
71	College of Paramedics	Question 5	I think the greatest variation will exist pre-hospital due to the very nature of the environment, variation in incident management and risk factors present. C Spine assessment will require a high level of quality improvement to achieve consistency in the pre-hospital environment.
72	Royal College of Emergency Medicine	Question 5	To answer the specific question - we feel that there is likely to be more variation in the assessment of the cervical spine in the pre-hospital environment. Better use of the CCSR may well reduce the number of patients immobilised prior to arrival in the ED.
73	Salford Royal NHS Foundation Trust	Question 5	Most variation likely in the pre-hospital setting. Current pre-hospital records will make the suggested audit criteria very difficult.

<table>
<tr><td>74</td><td>Spinal Injuries Association</td><td>Question 5</td><td>It is SIA's view that assessment using the Canadian C-spine (Question 5) is likely to be good when conducted by paramedics and at Multi-Trauma Centres.
It is likely that the use of the C-spine will need improvement in smaller trauma units and by non-emergency ambulances where, rather than dealing with large incidents such as car crashes, the team will be dealing with issues such as falls by elderly people. There has been a substantial growth in the number of Spinal Cord Injured (SCI) people who sustain their injury in this way. According to the NHSE Spinal Cord Injury Database, the average age of SCI has risen by 8 years since 2007/8, with the largest age group of newly injured people now 65-69 year olds. The most frequent cause of traumatic injury in 2007/08 was road traffic accidents (27%) but in 2016/17 the most frequent cause was following a fall (56%).

<table><tr><th></th><th>Average Age</th><th>Range</th><th>Largest Age Group</th></tr><tr><td>2007/08</td><td>44 years</td><td>3 – 102 years</td><td>21 – 30 years</td></tr><tr><td>2016/17</td><td>52 years</td><td>1 – 97 years</td><td>65 – 69 years</td></tr></table>
Please note that I have compared the 2016/17 report from the NHSE SCI Database with SIA research conducted in by Dr Fiona Barr, who is now the National SCI Care Pathways Project Manager. Please follow this link for full report: https://www.spinal.co.uk/wp-content/uploads/2015/07/234-590487.pdf</td></tr>
<tr><td>75</td><td>Bristol Royal Hospital for Children</td><td>Statement 5</td><td>We are in support (but wouldn't be currently able to comply). With automatic acceptance it is important that a hospital has an adequate bed base. This needs to be separate for paediatrics.</td></tr>
<tr><td>76</td><td>British Association of Oral & Maxillofacial Surgeons</td><td>Statement 5</td><td>Whilst an admirable goal, in reality this statement has to be considered aspirational. The current configuration of most hospitals that form MTC or TU is such that wards tend to be specialty specific, junior doctors work across limited groups of specialties, and consultants are more and more subspecialised. To expect a single consultant to take overall responsibility for a patients care, who may then not have injuries within their surgical specialty, never mind their personal subspecialty area of interest, would therefore be very much against current practice and potentially dangerous. This would require a major rethink as to how trauma sits as a surgical specialty within UK surgical practice.
Improved ways of the different specialties involved in a trauma patients care are probably a reasonable area to target for quality improvement, and lessons could almost certainly be learnt from the MTC which have well established systems, probably based on military receiving units for example Birmingham, but there should be caution in simply trying to replicate such systems however as the funding available with military involvement is unrealistic for other NHS services.</td></tr>
<tr><td>77</td><td>British Orthopaedic Association</td><td>Statement 5</td><td>Major trauma centres have a dedicated trauma ward and designated consultant available to contact 24 hours a day, 7 days a week</td></tr>
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			Whilst this is the practice in some MTCs, others have developed different practices as they felt patients with particular injuries are better managed in areas with specific nursing skills (this include head injury assessment, respiratory wards, plastic wards after free flaps and burns wards). These MTCs have equivalent or better mortality and other metrics. There should also be consideration of the elderly trauma cohort – these patients need specialist nursing and input much like the other groups and may not be appropriate for a generic trauma ward. This Quality Statement could instead recommend the use of a trauma critical care unit with experience in dealing with victims of trauma. Designated 24/7 consultant availability is essential but the speciality may vary depending on the individual unit. As it stands, the Quality Statement is unlikely to have a significant impact.
78	British Society of Rehabilitation Medicine Executive and Trauma Special Interest Group	Statement 5	These comments are in relation to Quality Statement 5: Major Trauma Service, which advocates a specialist trauma ward for patients who have sustained multiple injuries, with 24/7 availability 7 days per week of a designated Major Trauma consultant. The British Society of Rehabilitation Medicine fully support having a specialist trauma ward and designated Major Trauma consultant. However the quality statement needs to include more specific guidance for Major Trauma Services in relation to early rehabilitation and involvement of rehabilitation specialists; as well as allied health professionals and a key worker - this must include Consultants in Rehabilitation Medicine who have dedicated time in their job plans for Major Trauma rehabilitation. Within the quality statement it is stated that there should be managed transition to rehabilitation and to the community. The multi-disciplinary rehabilitation team, including a Consultant in Rehabilitation Medicine, is an essential component of a Major Trauma Service to ensure that patients access the right rehabilitation service for their specific needs. The role of the Consultant in Rehabilitation Medicine is in recognition and assessment of complex rehabilitation need, with triage of patients into the most appropriate rehabilitation service to meet those needs. Because Consultants in Rehabilitation Medicine manage patients starting with involvement in acute care, inpatient rehabilitation and long term follow-up, they are best placed to anticipate which patients are likely to develop difficulties after discharge from the Major Trauma Centre and so will require specialist rehabilitation inputs in the future. The service specification for Major Trauma Centres incudes assessment by a Consultant in Rehabilitation Medicine within three calendar days of admission, or by a consultant with appropriate skills and competencies (examples being elderly care physicians for frail elderly patients or paediatricians for children). The rehabilitation needs of patients with multiple injuries, without head or spinal cord injury, can be overlooked by non-expert clinicians. Their rehabilitation needs tend to emerge after discharge from the Major Trauma Centre when fractures and wounds have healed, and after full weight bearing can commence. The Rehabilitation Medicine Consultant would be able to facilitate rehabilitation follow-up for these patients.
79	Imperial College Healthcare NHS Trust	Statement 5	Agree

80	Orthopaedic Trauma Society	Statement 5	Major trauma centres have a dedicated trauma ward and designated consultant available to contact 24 hours a day, 7 days a week Whilst this is the practice in some MTCs, others have developed different practices as they felt patients with particular injuries are better managed in areas with specific nursing skills (this include head injury assessment, respiratory wards, plastic wards after free flaps, burns wards etc. These MTCs have equivalent of better mortality and other metrics As such placing these patients on a generic trauma ward would not be in their best interest. This QS can be easily ticked by the use of either ITU or HDU and saying there is a lead consultant, whether that be the neurosurgeon / orthopaedic surgeon etc. Perhaps a better wording would be 'suitable HDU facility with experience in dealing with victims of trauma' This QS will not change anything, and very unlikely to have impact the OTS feel it would be a wasted QS Would it not be better to have a QS on the rehab side or even patient and carer communication
81	Royal College of Emergency Medicine	Statement 5	In relation to Measure 5: We believe it is important to clarify that this measure applies primarily to patients with multi-system major trauma as opposed to major trauma concentrated on one system. For example: a patient with a significant head injury and isolated simple wrist fracture would probably be better off on a neurosurgical ward rather than a 'major trauma' ward. We would also ask that this measure is designed in such a way as to ensure better access to trauma care for older patients whose admission destination will often default to a medical ward if they do not require direct surgical intervention.
82	Salford Royal NHS Foundation Trust	Statement 5	Support a dedicated trauma ward with a holistic approach to trauma management.
83	Salford Royal NHS Foundation Trust	Statement 5	Disagree that national guidance should go beyond specifying that each patient should have an appropriate designated consultant. Robust daily MDT should appropriately plan/ manage care for trauma patients with support from the ward team and trauma co-ordinators.
84	Salford Royal NHS Foundation Trust	Statement 5	To ensure the elderly patient receives the appropriate medical input, considering the proportion of elderly trauma patients, suggest that trauma ward has geriatrician inreach.
85	Society of Research in Rehabilitation	Statement 5	This statement is taken from Major Trauma Service delivery: '1.6.2 Organisation of hospital major trauma services: a designated consultant available to contact 24 hours a day, 7 days a week who has responsibility and authority for the hospital trauma service and leads the multidisciplinary team care.' We would like to know how it was decided to use this as a quality standard. There are several other measures in the Major Trauma: Service Delivery Section which are a lot more measurable and specific which will point at quality such as information, rehabilitation and Key working. Why were these not selected as a quality standard? It is well known that only a very SMALL proportion of trauma patients will end up on a trauma ward with 24 hour consultant cover. This standard and the other 4 only captures the needs or risks of a SMALL proportion of major trauma patients and not the wider patient group that may end up on outlier wards.

			We feel that is does not reflect the key areas for quality improvement and a more holistic quality statement related to key working would achieve better outcomes for all patients rather than just a few on a major trauma ward. We have not seen evidence that a dedicated trauma ward with consultant presence can 'mean that management is spread across multiple settings and specialities, which can lead to delays in treatment and a lack of coordinated care, resulting in a suboptimal outcome for the person. Having a dedicated trauma ward and consultant available can improve continuity of care, prevent delays in treatment and result in reduced length of hospital stay, lower mortality and improved patient experience.' as suggested in the rationale. It may be that medical care is more coordinated and that there is a reduction in mortality, but the overall length of stay and patient outcome is often impacted by Key working, rehabilitation and information as outlined in the rest of the Major Trauma Service delivery guidelines. The NICE Critical Care Rehab statement only captures about 10 % of patients and is thus infrequently applied to trauma patients. We feel that the lack of quality statement related to morbidity rather than mortality is disappointing and we would like to receive feedback on the reasoning for theses decision. We would have expected at least one quality statement that related to quality of outcome of care. Our understanding is that quality standards are supposed to: · identify gaps and areas for improvement · measure the quality of care · understand how to improve care · demonstrate you provide quality care · commission high-quality services How will statement 5 achieve the above as merely measuring 24 hour consultant cover on a designated ward may not necessarily improve quality or care.
86	Bristol Royal Hospital for Children	Additional statements	We would recommend that a standard in relation to safeguarding (both adults and children) is included considering the high correlation between safeguarding and major trauma in particular non accidental injury. We can provide specific figures to support this – through the Paediatric Major Trauma National Network. We would also recommend that a standard in particular relation to rehabilitation is included.
87	British Orthopaedic Association	Additional statements	In addition, a Quality Statement on rehabilitation and patient and carer communication should be considered.
88	East Midlands Major Trauma Network	Additional statements	There is no standard in respect of workforce or education.
89	Orthopaedic Trauma Society	Additional statements	Would it not be better to have a QS on the rehab side or even patient and carer communication

Registered stakeholders who submitted comments at consultation

- Association of Anaesthetists of Great Britain & Ireland
- Association of Paediatric Emergency Medicine
- Bristol Royal Hospital for Children
- British Association of Oral & Maxillofacial Surgeons
- British Orthopaedic Association
- British Society of Rehabilitation
- College of Paramedics
- Department of Health
- East Midlands Major Trauma Network
- Imperial College Healthcare NHS Trust
- NHS England Adult Critical Care Clinical Reference Group
- Northern Trauma Network
- Orthopaedic Trauma Society
- Peninsula Trauma Network
- Royal College of Anaesthetists
- Royal College of Emergency Medicine
- Royal College of General Practitioners
- Royal College of Nursing

- Royal College of Paediatrics and Child Health
- Royal College of Radiologists
- Salford Royal NHS Foundation Trust
- Society and College of Radiographers
- Society of Research in Rehabilitation
- Spinal Injuries Association