

NHS Borders

Local Report ~ *February 2008*

# Blood Transfusion



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## **Blood Transfusion**

NHS Quality Improvement Scotland (NHS QIS) is committed to equality and diversity. We have assessed the performance assessment function for likely impact on the six equality groups defined by age, disability, gender, race, religion/belief and sexual orientation. For this equality and diversity impact assessment, please see our website ([www.nhshealthquality.org](http://www.nhshealthquality.org)). The full report in electronic or paper form is available on request from the NHS QIS Equality and Diversity Officer.

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**ISBN 1-84404-457-2**

First published February 2008

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# 1 Setting the scene

NHS Quality Improvement Scotland (NHS QIS) was set up by the Scottish Parliament in 2003 to take the lead in improving the quality of care and treatment delivered by NHSScotland. NHS QIS does this by setting standards and monitoring performance, and by providing NHSScotland with advice, guidance and support on effective clinical practice and service improvements.

The Scottish National Blood Transfusion Service (SNBTS) is responsible for collecting, processing, storing and supplying all blood and blood components in Scotland and NHS boards are responsible for ordering and managing their supplies in a safe and effective manner. The Scottish Executive introduced a programme of work to improve and support transfusion practice in Scotland and, as a consequence, NHS QIS appointed a project group to develop clinical standards for blood transfusion practices. The project group developed four standards, covering: core principles; clinical management – pre-transfusion; clinical management – hospital transfusion laboratory; and clinical management – blood and blood component collection, administration and monitoring. The Clinical Standards for Blood Transfusion were published in September 2006. These include details of the project group which set the standards and are available on request from NHS QIS or can be downloaded from the website ([www.nhshealthquality.org](http://www.nhshealthquality.org)).

## About this report

This report presents the findings from the peer review of **NHS Borders'** performance against the blood transfusion standards.

The review process has three key phases: preparation prior to the visit; the visit; and the report production and publication following the visit. (See flow chart in Appendix 2 for further detail.) During the visit, each multidisciplinary review team assesses performance using the categories 'met', 'not met' and 'not met (insufficient evidence)', as detailed below.

- **'Met'** applies where the evidence demonstrates the standard and/or criterion is being attained.
- **'Not met'** applies where the evidence demonstrates the standard and/or criterion is not being attained.
- **'Not met (insufficient evidence)'** applies where no evidence is available for the review team, or where the evidence available is insufficient to allow an assessment to be made.

A final category **'not applicable'** is used where a standard and/or criterion does not apply to the NHS board under review.

Each review team is led by an experienced reviewer, who is responsible for guiding the team in their work and ensuring that team members are in agreement about the assessment reached. Membership of the review team visiting **NHS Borders** on **4 October 2007** can be found in Appendix 3.

## **2 Summary of findings**

### **2.1 Overview of local service provision**

The Borders is situated in south-east Scotland and has a population of around 110,247<sup>1</sup>. The majority of the population live in rural areas, and the largest towns in the region are Galashiels and Hawick.

#### **Local NHS system and services**

Borders NHS Board is responsible for improving the health of the local population and for the delivery of the healthcare required. It provides strategic leadership and has responsibility for the efficient, effective and accountable performance of the NHS in the Borders.

At the time of the review visit, NHS Borders provided acute, mental health, primary and community services and learning disability services throughout their division which covers a geographical area of Eyemouth to Newcastleton. Transfusion procedures are carried out in six areas throughout NHS Borders comprising of Borders General Hospital, Melrose, Hawick Community Hospital, Haylodge Hospital, Peebles, Knoll Hospital, Duns, Kelso Hospital and Eyemouth Day Hospital.

Further information about the local NHS system can be accessed via the website of NHS Borders ([www.show.scot.nhs.uk/bhb](http://www.show.scot.nhs.uk/bhb)).

NHS Borders supplies blood and blood components to five community hospitals: Hawick Community Hospital, Haylodge Hospital, Knoll Hospital, Kelso Hospital and Eyemouth Day Hospital. NHS Borders blood bank is supplied with blood and blood components by Edinburgh & South East Scotland Blood Transfusion Service, based at Edinburgh Royal Infirmary.

In the 12 months prior to the review visit, approximately 3,500 red cell units were transfused at NHS Borders. The majority of those units were used in haematology and medicine.

The NHSScotland Better Blood Transfusion Programme (BBTP) is supported by a part-time transfusion practitioner who is assisted by the hospital transfusion team.

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<sup>1</sup> General Register Office for Scotland. Mid-2006 Population Estimates Scotland: Population Estimates by Age and Sex and Administrative Area. First published on 26 April 2007. Revised 27 July 2007. Available from: <http://www.gro-scotland.gov.uk/files>

## 2.2 Summary of findings against the standards

A summary of the findings from the review is presented in this section. A detailed description of performance against the standards/criteria is included in Section 3.

### Core principles

NHS Borders has an established hospital transfusion committee (HTC) that was established in 2001 and is accountable to the clinical risk management and the clinical governance steering groups. However, following the integration of services within NHS Borders, the HTC was reformed under the name of the NHS Borders blood transfusion committee (BTC). Responsibilities and accountability structures were maintained and the BTC is supported by the hospital transfusion team (HTT).

There was good evidence of multidisciplinary audit being carried out across the board area. A clinical audit support team (CAST) supports the audit activity. The review team noted that there was a mechanism in place to ensure audit information is shared with relevant staff groups via a well-developed CAST webpage on the NHS Borders intranet. Changes in practice as a result of audit outcome were observed.

The HTC is actively involved in promoting a training and education programme to increase the knowledge of staff working in the hospital blood transfusion service. The transfusion practitioner supported by a nominated lead clinician delivers the BBTP and provides training updates to the HTC. Blood transfusion protocols and policies are updated to include appropriate changes in practice using a multidisciplinary approach.

NHS Borders has a standard operating procedure (SOP) describing the procedure for reporting and recording serious adverse blood reactions and events. Blood transfusion incident forms are forwarded to the blood bank manager or transfusion practitioner for escalation to Serious Adverse Blood Reactions and Events (SABRE) and the Serious Hazards of Transfusion (SHOT) initiative as appropriate.

NHS Borders ensures that every unit of blood or blood component received into the laboratory is traceable using the LabCentre database. The system provides an audit trail of all stock movement and allows daily monitoring of blood stock to be managed. Traceability documentation is maintained by controlled staff access and is securely stored for 30 years.

Staff are trained in patient identification procedures, however, the training practice is not documented. At the time of the review visit, it was noted that a patient identification group had been established to address positive patient identification and a new admission/patient identification policy was being developed for roll-out across the board area.

NHS Borders has adopted a system for patients who have specific transfusion requirements. This system uses an alert sticker on the front cover of the patient's notes and a clinical alert/correspondence sheet which is placed in the front section of the patient's case notes. The local Jehovah's Witness community has been given the opportunity to lodge advance directives into their casenotes.

## **Clinical management – pre-transfusion**

Staff are aware of the need to discuss with patients the potential benefits, risks and alternatives associated with a blood transfusion. However, at the time of the review visit, there was no evidence available to confirm that detailed discussions with patients regarding transfusion are being documented. The introduction of a developed integrated care pathway (ICP) document addresses this issue. The ICP is to be rolled out board-wide and reviewed in 2008 to monitor compliance.

There was evidence of a wide range of leaflets available for patients and relatives on a variety of issues relating to blood transfusion. Leaflets are available in ward and outpatient areas and accessible via the NHS Borders website ([www.bissynhs.scot.nhs.uk](http://www.bissynhs.scot.nhs.uk)). Translation services are also provided when required.

In emergency situations when pre-transfusion discussion is not possible, accident and emergency (A&E) department staff ensure that measures are taken to try and establish the identity of a patient by checking their personal belongings. Hospital notes are also checked for advance directives and the out-of-hours database is searched to seek further information to ensure individual choices of patients regarding blood transfusion options are respected where possible.

## **Clinical management – hospital transfusion laboratory**

All transfusion laboratories within NHS Borders are accredited by the Clinical Pathology Accreditation (UK) Ltd (CPA). At the time of the review visit, the board had submitted a hospital blood bank compliance report and was awaiting Medicines and Healthcare products Regulatory Agency (MHRA) approval.

NHS Borders has a competency-based training and assessment system in place and training records are maintained.

Blood stock management is controlled using the SNBTS laboratory system and there is an SOP in place to support the maintenance of emergency use O RhD negative blood. Units of O RhD negative blood are rotated regularly and expiry dates tracked. Protocols to optimise blood use and minimise wastage were being updated at the time of the review. The review team commended the use of the intranet as a medium for sharing information board-wide.

## **Clinical management – blood and blood component collection, administration and monitoring**

There was evidence of theory and practical training being undertaken across the board area. The BBTP is delivered by the transfusion practitioner who is supported by a group of trainers and a training and development facilitator. The training needs analysis undertaken in 2003 identified staff involved in the transfusion process. An updated training needs analysis is in progress to more accurately assess the current training needs of staff employed within NHS Borders. A new training and education programme is being developed and a revalidated elearning criterion strategy is to be rolled out across the board area by early 2008.

Recording the minimum data set requirements on all transfusion documents is currently a challenge for the board. However, this will be achieved following implementation of the ICP.

Patients receiving a blood transfusion have their pulse, temperature, respirations and blood pressure recorded as identified on the transfusion pathway record. The board recognised the need to update their current blood component administration guidelines (2002) which include details on patient monitoring during a blood transfusion.

The board provided the review team with good evidence of procedures used to record and report near miss incidents and serious adverse blood reactions to SABRE and SHOT.

### 3 Detailed findings against the standards

#### Standard 1a: Core Principles

##### **Standard Statement**

*There are systems in place supporting clinical governance to ensure safe, effective and appropriate blood transfusion.*

##### **NHS Borders**

##### **Essential Criteria**

*1a.1: There is an established, active, multidisciplinary hospital transfusion committee (HTC) that has defined responsibilities and accountability to the chief executive/NHS board via the clinical governance structure.*

##### **STATUS: Met**

At the time of review visit it was reported that a multidisciplinary hospital transfusion committee (HTC) was established in 2001. However, following integration of the health service within NHS Borders, the HTC was reformed under the name of the NHS Borders blood transfusion committee (BTC). The BTC has documented roles and responsibilities which include: governance responsibility for the management of blood transfusion procedures; strategic planning on blood transfusion issues; acting as a steering group for the transfusion team; and serving as the responsible body monitoring NHS Borders' adherence to blood safety and quality regulations. The group meets four times each year and has maintained the same reporting structure as the previous HTC. The BTC is supported by the hospital transfusion team (HTT). The HTT meets on a regular basis and reports to the BTC at its quarterly meetings. The review team encouraged the board to ensure that additional support is provided to enable the HTT to implement its extensive work programme.

Standard BTC meeting agenda items include blood usage and wastage rates and education and training.

*1a.2: The HTC has roles and responsibilities as outlined in MEL(1999)9 and HDL(2003)19. These include involvement in multi-professional audit, education and training, development and modification of guidelines and protocols, and involvement of stakeholders.*

##### **STATUS: Met**

NHS Borders HTC are involved in multidisciplinary audit, and a recent integrated care pathway (ICP) gap analysis review identified and informed the extensive audit programme of previous, current and proposed audits. A clinical audit support team (CAST) has been established and is one of the mechanisms used for communication and control of accountability for the quality and safety of patient care. All audit

activity is identified by a clinical team and the CAST. Considerable audit evidence in areas such as printed wristbands, positive patient identification and use of collection slips were shared with the review team. All data collected are reported to the relevant clinical teams including the HTC and the clinical boards. Completed reports are sent to the CAST and are available on the CAST webpage of the NHS Borders intranet. The review team recognised the benefits of the CAST for the dissemination of audit results and its potential for hosting transfusion guidelines, policies and information on their well-developed intranet.

Audit data are used as evidence to make recommendations for change. The review team was verbally informed that, as a result of the audits on the blood collection procedure and patient identification, potential risk areas in patient identification were highlighted. Following this, a 3-month pilot for non-clinical staff on blood collection was implemented. After the pilot, an audit was carried out that confirmed 100% compliance to the minimum data set, British Committee for Standards in Haematology (BCSH), improving patient safety and reducing risks during the collection procedure. A business case has since been submitted and approved for additional funding to continue to provide this training programme to all staff groups.

NHS Borders are also working towards implementing an ICP for blood transfusion which the review team recognised as an excellent tool for ensuring good transfusion practice. The board proposed to implement the ICP in a phased approach to both primary and acute care hospitals by December 2007, with a review in early 2008.

Training and education is a standing item on the NHS Borders HTC agenda. Progress is discussed on a quarterly basis with the transfusion practitioner. The chair of the HTC is responsible for contacting key personnel to take forward training for individual staff groups. Training agreements are prepared by the transfusion practitioner on identification of staff training needs. These are submitted to committee members for comment/approval prior to sign off by project sponsors and lead clinicians. A member of the training and development team is an active member of the committee.

The review team acknowledged that there is a system in place for the development, ratification and dissemination of blood transfusion policies and guidelines using a multidisciplinary approach.

*1a.3: The HTC, in collaboration with the clinical governance committee, implements the NHSScotland Better Blood Transfusion Programme (BBTP).*

#### **STATUS: Met**

NHS Borders has a highly motivated and committed transfusion practitioner who is supported by a nominated lead clinician to deliver BBTP education and training to staff and to report and disseminate BBTP information via the HTC. There is an established HTT, its role is included in the role and remit of the HTC and there was

evidence of clearly defined objectives for providing feedback on performance against training in all areas. BBTP is a standing item on the agenda of the clinical risk management group.

Staff reported that the Better Blood Transfusion Continuing Education Programme elearning materials are accessed through the OrasGold™ online recording and assessment system which supports flexible learning within NHSScotland. Plans to include OrasGold™ as part of consultant appraisal are being considered by the HTC.

*1a.4: The HTC reviews all reports of adverse events and near miss incidents relating to blood transfusion and, in response, implements changes in practice where necessary.*

**STATUS: Met**

NHS Borders has an incident reporting policy. A clinical adverse recording form is used to report any adverse events or near misses. Events are managed according to the organisational risk matrix. All blood transfusion incidents are reported and investigated, and information is shared with appropriate personnel including the clinical governance committee and the HTC. There is also a system in place to give feedback to staff on actions taken to address outcomes or avoidable events and to identify issues for audit. The agreed action plan identifies individuals responsible to undertake specific actions and includes monitoring arrangements and timescales. All clinical incidents are entered onto an electronic database. Anonymised adverse incident reports are available on the intranet and are used as a valuable resource for education and training staff on transfusion practice.

## Standard 1b: Core Principles

### Standard Statement

*The NHS board has a system in place to ensure that every unit of blood component received into the hospital transfusion laboratory can be unmistakably traced to its recipient, or to its final fate if not transfused.*

### NHS Borders

### Essential Criterion

*1b.1: There is a validated system to ensure that evidence of unmistakable traceability is generated, stored and accessible for 30 years.*

### STATUS: Met

NHS Borders complies with the UK Blood Quality and Safety Regulations 2005. Staff reported that every unit of blood component received into the blood transfusion laboratory is electronically entered onto the LabCentre database which creates an audit trail of all stock movement. Only staff who are trained and are familiar with the local standard operating procedures (SOPs), eg on issue, collection and return of units and stock control, are allowed to receive or transfer blood products. The final fate of a unit of blood component is monitored daily using blood stock status reports generated from LabCentre. Any units with an unconfirmed status after 48 hours are immediately reported to the clinical risk manager using the incident reporting system. All stock levels are checked on a weekly basis and discrepancies investigated and actioned. LabCentre is supported by a backup system and traceability documentation is securely maintained for 30 years.

## Standard 1c: Core Principles

### Standard Statement

*There is a robust system in place to establish patient identification details and maintain this at every stage of the clinical transfusion process.*

### NHS Borders

### Essential Criteria

*1c.1: The minimum identification data set (surname, forename, sex, date of birth and unique identification number, eg. Community Health Index [CHI]) is used at every stage of the clinical transfusion process to positively identify the patient.*

### STATUS: Not met

At the time of the review visit, the minimum data set in use across NHS Borders included four of the recommended five identifiers (surname, forename, date of birth and a unique identification number). However, while the board uses the four unique identifiers as described in the British Committee for Standards in Haematology (BCSH) Guidelines (2004), the omission of gender at each stage of the clinical transfusion process means that the board has narrowly failed to meet this standard criterion.

*1c.2: All patients must be identifiable at all times. Inpatients and day patients must wear an identification wristband. If the wristband becomes inaccessible for any reason, an alternative, risk-assessed form of identification is adopted immediately.*

### STATUS: Not met

Staff reported that current practice is for all inpatients and day patients requiring a transfusion of blood or blood components to wear an identification wristband, however, this is not formally documented. A recent wristband audit undertaken in October 2006 indicated that not all patients had a wristband in place and not all were visible and legible. This issue is being addressed by the patient identification group and an admission/patient identification policy for healthcare professionals will soon be implemented board-wide. At the time of the review visit, there were no formal procedures in place to detail actions taken if a patient's identity band becomes inaccessible.

Phlebotomists are trained in patient identification procedures for pre-transfusion sampling. Identification of unconscious patients is confirmed with another member of staff and/or any accompanying family or friends where possible.

*1c.3: There is a system (eg. distinctive wristbands) to alert qualified practitioners to patients who have specific transfusion requirements, including the wish to not be transfused.*

**STATUS: Met**

Hospital casenotes of patients that have specific transfusion requirements are initially identified to staff by the use of an alert sticker attached to the outside of the casenotes. In addition, a clinical alert/correspondence sheet (yellow in colour) is placed on the front section of the patient's casenotes. The sheet details the alert and includes staff signatures and dates for activation and reasons for removal of alert notifications. The local Jehovah's Witness community has been given the opportunity to lodge advance directives into the casenotes. NHS Borders is also able to access the primary care out-of- hours database for information relating to patients that do not have casenotes.

*1c.4: For patients whose identity cannot be confirmed (eg unconscious patients or patients with communication difficulties), a minimum of gender and one unique identifier (eg accident and emergency number or CHI number) is essential for positive patient identification.*

**STATUS: Not met**

NHS Borders does not have a formal procedure in place for the identification of unconscious patients. However, it was acknowledged that inclusion of positive patient identification of the unconscious patient in the admission/patient identification policy is being addressed.

Staff reported that unconscious patients are identified using an 'unknown patient' number on all correspondence during admission and until true identification is established. Gender is not included, but the principles of the major incident guidelines are applied. The board has a policy in place for accessing interpretation and translation services when required.

## Standard 1d: Core Principles

### Standard Statement

*The NHS board has a strategy for management of blood shortages.*

### NHS Borders

### Essential Criterion

*1d.1: Emergency blood management arrangements (EBMA) are established as defined in HDL(2005)25.*

### STATUS: Met

NHS Borders has an established emergency blood management arrangements group (EBMA). The roles and responsibilities of individual staff groups are clearly defined in the recently approved NHS Borders emergency blood management plan. This plan forms part of the overall emergency planning and major incident arrangements and includes a membership list and contact details. The review team commended the comprehensive EBMA detailed in the document.

## Standard 2a: Clinical Management – Pre-Transfusion

### Standard Statement

*The decision to transfuse is made following consideration of the potential risks and benefits of, and the alternatives to, transfusion. Where possible this is discussed between the clinician and patient (or their legal guardian) in advance of transfusion.*

### NHS Borders

#### Essential Criteria

*2a.1: The patient's records contain evidence that the reason for transfusion of blood or blood components has been explained and discussed with the patient. This includes discussion of valid alternatives to transfusion and the option to refuse.*

#### STATUS: Not met

Staff are aware of the need to discuss with patients the potential benefits and risks associated with a blood transfusion and alternatives to transfusion. However, at the time of the review visit, there was no documented evidence to confirm that discussions regarding transfusion are discussed with patients. It was recognised that the ICP document does, however, positively reinforce the need to offer patients information about the benefits and risks associated with transfusions and outlines best practice in relation to transfusion episodes. The implementation of the ICP document is being welcomed by staff who reported that an audit of the ICP is proposed for 2008 to identify changes in practice as a result of its roll-out.

*2a.2: Leaflets explaining the risks and benefits of, and alternatives to, transfusion are readily available for patients who may require to be, or have been transfused.*

#### STATUS: Met

The board provides a wide range of leaflets for patients and relatives on a variety of issues relating to blood transfusion, eg Children Receiving a Blood Transfusion: A Parent's Guide; Your Blood Transfusion Options; and Preventing Rhesus Disease in Your Baby: Information for Pregnant Women with Rhesus Negative Blood.

The review team was informed that leaflets are currently accessible in ward and outpatient areas. It was noted that all leaflets will be electronically accessible via the NHS Borders Bissy website ([www.bissy.nhs.scot.uk](http://www.bissy.nhs.scot.uk)) once the site has been fully updated.

Staff are aware of the importance of providing patients with information leaflets prior to transfusion. Confirming provision of information is part of the transfusion checklist for nursing staff.

Information leaflets are currently only available in English, however, this issue is being addressed. The translation and interpretation services are easily accessible when required.

*2a.3: Where pre-transfusion discussion is not possible (eg in an emergency) there is a system, compatible with the patient's clinical needs, to investigate and act in accordance with the patient's treatment preferences. This includes compliance with an advance decision document.*

**STATUS: Met**

In emergency situations, for example when a patient is admitted to hospital unconscious, accident and emergency (A&E) department staff ensure that measures are taken to try and establish the identity of the patient by checking their personal belongings and asking any accompanying relatives or friends to confirm their identity. Hospital notes are also checked for advance directives and the out-of-hours database is used to seek further information.

Where appropriate, NHS Borders encourages the Jehovah's Witness community to provide written advanced directives which are filed in the hospital notes. A pink clinical alert sticker is also placed on the front cover of the medical notes.

NHS Borders staff reported that no formal complaints arising from non-compliance with advance decisions are known to have been received since the introduction of the NHS complaints procedure in April 2005.

*2a.4: When pre-transfusion discussion has not taken place, the reasons for transfusion (based on risks and benefits) are discussed with the patient and written information offered retrospectively.*

**STATUS: Not met**

The review team acknowledged that staff recognise the importance of offering patients retrospective discussions regarding blood transfusions and are currently reviewing the ICP guidelines to include the recording of these discussions. However, at the time of the review visit, there was no documented evidence available to confirm compliance with this standard criterion.

## Standard 2b: Clinical Management – Pre-Transfusion

### Standard Statement

*Positive patient identification at the time of sampling and the use of a minimum identification data set on samples and request forms is essential for pre-transfusion testing and blood component requests.*

### NHS Borders

### Essential Criterion

*2b.1: Blood samples for transfusion purposes are obtained and labelled in accordance with local protocols, which are based on national guidelines.*

### STATUS: Not met

Blood samples are labelled in accordance with local protocols which are based on the national BCSH Guidelines (1999). However, these guidelines do not include gender as part of the minimum data set and, therefore, the review team considered the board to have not met this standard criterion. It was acknowledged that positive patient identification will be further addressed in the new patient identification policy.

## Standard 2c: Clinical Management – Pre-Transfusion

### Standard Statement

*Blood and blood component prescribing is the responsibility of a qualified practitioner.*

### NHS Borders

### Essential Criteria

*2c.1: All prescriptions for blood and blood components are signed by a qualified practitioner.*

### STATUS: Met

A documentation audit showed that prescriptions for blood and blood components are routinely signed by a qualified practitioner. Following implementation of the ICP, a prescription audit of blood and blood components is proposed for early 2008.

*2c.2: Blood and blood component prescriptions specify: blood component to be administered; number of units (millilitres in paediatric patients) to be transfused; duration of transfusion; any special requirements; and any special instructions.*

### STATUS: Not met

The review team noted from the audit findings that the currently used blood and blood component prescriptions specify most, but not all, of the essential requirements. NHS Borders' guidelines refer to special instructions being included on the prescription sheet, but there is an area for special requirements to be detailed. However, staff confirmed that the clinical alert sticker and clinical alert/correspondence sheet is used to highlight specific transfusion requirements in the patient's hospital notes. It was recognised that essential blood and blood component prescription recording will be addressed with the implementation of the ICP.

## Standard 3a: Clinical Management – Hospital Transfusion Laboratory

### Standard Statement

*Laboratory operations comply with current regulatory requirements.*

#### NHS Borders

#### Essential Criteria

*3a.1: All transfusion laboratories within the NHS board are accredited by Clinical Pathology Accreditation (UK) Ltd (CPA) or equivalent and are compliant with the Medicines and Healthcare products Regulatory Agency (MHRA) requirements.*

#### STATUS: Not met (insufficient evidence)

The departments of haematology, microbiology and blood transfusion achieved Clinical Pathology Accreditation (UK) (CPA) status in January 2007. At the time of the review visit, the board had submitted a hospital blood bank compliance report and was awaiting the Medicines and Healthcare products Regulatory Agency (MHRA) approval.

A service level agreement (SLA) exists between NHS Borders and the Scottish National Blood Transfusion Service (SNBTS) for the provision of blood transfusion services. At the time of the review visit, the SLA was being updated.

*3a.2: Competency-based training and assessment systems are in place and training records are maintained.*

#### STATUS: Met

NHS Borders has a competency-based training and assessment system in place and training records are maintained. Individual staff members have a personal development plan agreed during joint annual appraisal discussion. The appraisal system used has been developed in line with the NHS Knowledge and Skills Framework (NHS KSF) and the board's development review process (August 2004). Competency-based training is assessed using a combination of theoretical and practical exercises and is provided by the blood transfusion practitioner, laboratory staff and other staff groups to ensure cascading of training is delivered in a timely manner. However, NHS Borders has recently developed a new education and training programme in accordance with guidance from relevant registration bodies and has submitted this for MHRA approval. At the time of the review visit, no response had been received from the MHRA.

## Standard 3b: Clinical Management – Hospital Transfusion Laboratory

### Standard Statement

*Procedures are in place to optimise blood use and minimise wastage.*

### NHS Borders

### Essential Criteria

*3b.1: Protocols endorsed by the HTC are in place, including but not limited to: the maximum surgical blood ordering schedule (MSBOS); massive blood loss; major incidents; and emergency blood management arrangements.*

### STATUS: Not met

Evidence submitted for the review visit detailed that the following protocols were in place: maximum surgical blood ordering schedule (MSBOS); massive blood loss; major incidents and EBMA which are also available on the NHS Borders intranet. However, it was noted that all of the protocols were currently being reviewed and updated. The NHS Borders emergency blood management plan has been developed and is awaiting board approval. It is envisaged that this document will form part of the board's major incident plan. A multidisciplinary EBMA group is established and the HTT are responsible for ensuring that monitoring of blood wastage rates and any reduction in blood or blood component usage identified by SNBTS meets specified targets. Blood usage and wastage rates are discussed at the HTC meetings and all expired units of blood and blood components are returned to SNBTS and monitored via the Blood Express project.

The review team encouraged the board to continue to update transfusion policies and guidelines to reflect new initiatives and commended the use of the intranet as a medium for disseminating information board-wide.

*3b.2: There is a stock management system to eliminate excess inventory and reduce waste, supported by an information technology (IT) system.*

### STATUS: Met

The SNBTS laboratory information management system is used to monitor and control stock levels within NHS Borders. Agreed maximum and minimum levels of stock for all blood groups and blood components are stored in the blood bank to ensure continuity of supply in an emergency situation. There is an SOP in place for the provision of O RhD negative units for emergency use. Units of O RhD negative blood are rotated regularly and expiry dates tracked. Blood stocks are monitored daily via the SNBTS Blood Express project and the hospital transfusion laboratory staff are responsible for replacement of units held at Borders General Hospital, Melrose.

Hospital laboratories are informed of all blood wastage rates. Blood wastage rates are discussed at the HTC meetings. SNBTS use email to inform laboratories of any blood restriction notices. There is a hospital information technology (IT) system in place to support stock management that provides a full audit trail of all blood stock electronically entered onto the system.

*3b.3: In collaboration with clinical specialties, laboratory staff participate in audit of transfusion issues.*

**STATUS: Met**

There was good evidence of NHS Borders' involvement in multidisciplinary local and national audit projects. Feedback on audit findings is provided to all appropriate staff groups and the sharing of this information was noted to be a strength of the service.

## Standard 4a: Clinical Management – Blood and Blood Component Collection, Administration and Monitoring

### Standard Statement

*Positive patient identification is performed against the blood component and any accompanying documentation at every stage of the clinical transfusion process.*

### NHS Borders

### Essential Criteria

*4a.1: Only staff who have completed the BBTP continuing education programme (or equivalent) appropriate to their role can participate in the clinical transfusion process.*

### STATUS: Not met

The review team was informed that the BBTP and the online recording and assessment system OrasGold™ provide the opportunity and support the provision of theoretical competence for NHS Borders staff. The transfusion practitioner also provides individual staff groups in both primary and secondary care settings with face-to-face BBTP Level 1: Safe Transfusion Practice education appropriate to their role. Hospital porters complete a hard copy of the theoretical assessment based on the OrasGold™ criteria. Specific staff groups, eg porters, nurses and midwives involved in the collection of blood receive a practical training session using the blood unit movement system. The transfusion practitioner and a supporting group of trainers maintain training delivery. A training and development facilitator is now supporting the delivery of training and is actively working with the transfusion practitioner to take this forward. However, it was noted that whilst a high number of staff have participated in the BBTP, a training needs analysis undertaken in 2003 identified that not all staff groups had completed competency-based training. Staff reported that a further needs analysis is in progress to more accurately assess the current training needs of staff employed within NHS Borders.

At the time of the review visit, board staff further reported that the blood transfusion education and training programme was to be reviewed, and discussions on how to take this forward were ongoing. As part of the new training programme, NHS Borders is to implement a revalidated elearning strategy which will be approved by the HTC and the clinical board before roll-out. Training will be monitored and discussed as part of an individual's annual appraisal. A representative from the training and development team has been appointed as a member of the HTC.

The review team recognised the board's achievements to date in undertaking a revalidation exercise of transfusion training for all staff and acknowledged the high uptake in training of senior medical staff.

*4a.2: The minimum identification data set is recorded on all transfusion documentation (see standard criterion 1c.1).*

**STATUS: Not met**

Board staff reported that an audit of the blood collection procedure, undertaken in 2004, identified inconsistencies in practice relating to patient identification. The audit subsequently led to the development and pilot of a blood collection slip which includes the minimum data set. However, it was noted that at the time of the visit, collection slips were only being used in three pilot areas, with 100% compliance to the minimum data set for patient identification being achieved during the collection procedure (BCSH as benchmark). Staff reported that compliance with this standard criterion throughout NHS Borders will be possible following implementation of the ICP and collection slip, which includes improved positive patient identification using the recommended minimum data set.

## Standard 4b: Clinical Management – Blood and Blood Component Collection, Administration and Monitoring

### Standard Statement

*Patients are monitored for any adverse events or reactions during and after the transfusion process as clinically indicated.*

### NHS Borders

#### Essential Criteria

*4b.1: Patients are monitored according to hospital transfusion policy and any untoward events (including suspected adverse reactions) are immediately clinically managed and promptly reported to the HTL.*

#### STATUS: Not met (insufficient evidence)

Staff reported that patients receiving a blood transfusion have their pulse, temperature, respirations and blood pressure recorded 15 minutes after the start of each unit of blood component and then hourly thereafter until the end of the transfusion process. Any signs of transfusion reactions are reported immediately and managed in accordance with the local protocol (transfusion pathway record) which is used as a guide for healthcare professionals to follow for all patients undergoing a transfusion of blood or blood components. The record includes a patient transfusion checklist and details observations to be recorded and a management of severe reactions flowchart. The record is filed in the patient's notes in compliance with Blood Safety & Quality Regulations (2005). As an audit had not been undertaken to confirm compliance with this practice, the review team considered this standard criterion to be not met due to insufficient evidence.

At the time of the review visit, NHS Borders recognised the need to prioritise review of its blood and blood component administration guidelines (2002).

*4b.2: Serious adverse events and near miss incidents are reported on the clinical incident reporting system in accordance with local protocols.*

#### STATUS: Met

There was good evidence of incident reporting in line with local protocols. Adverse clinical events and near miss incidents are recorded in detail and shared with the clinical risk manager and the clinical office. Incidents are investigated and analysis of the information for trends is monitored. The clinical risk manager is responsible for liaising with staff to ensure incident actions are addressed and reviewed and provide feedback to the clinical governance committee. Learning points from transfusion incidents are shared with staff across NHS Borders.

*4b.3: Reports of serious adverse events or reactions and near miss incidents are submitted to Serious Adverse Blood Reactions and Events (SABRE) and the Serious Hazards of Transfusion (SHOT) initiative by the relevant staff.*

**STATUS: Met**

NHS Borders has an SOP describing the procedures for reporting and recording to (SABRE). Copies of all clinical incidents are submitted to the clinical governance department. Blood transfusion incident forms are forwarded to the blood bank manager or transfusion practitioner for escalation to SABRE and the Serious Hazards of Transfusion (SHOT) initiative as appropriate.

The board has good communication links for managing and reporting incidents and events via: the quality manager and representatives from relevant groups and boards. Transfusion incidents are also shared as part of the staff education and learning programme.

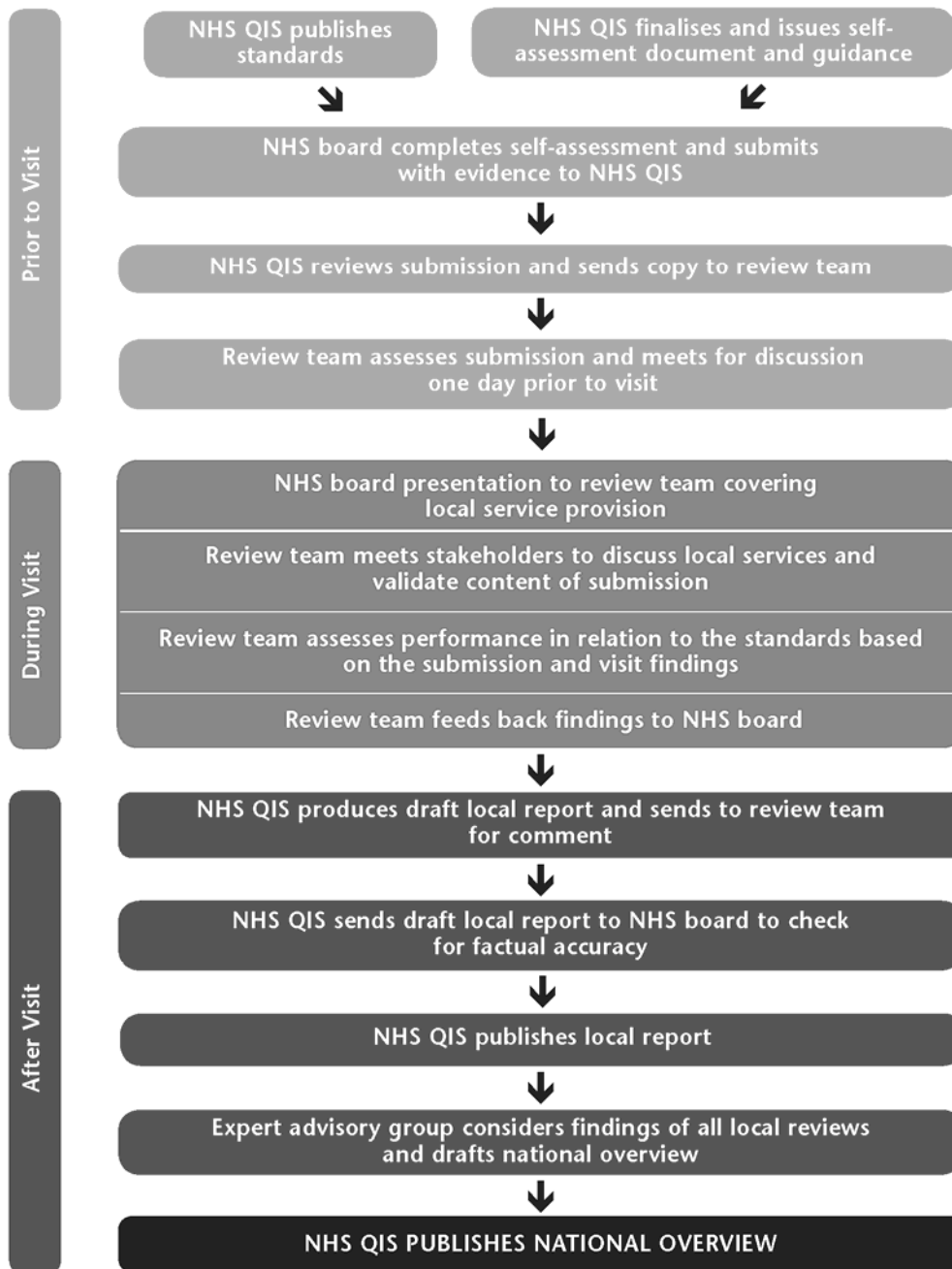
## Appendix 1 – Glossary of abbreviations

### Abbreviation

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<b>A&amp;E</b>	accident and emergency
<b>BBTP</b>	NHSScotland Better Blood Transfusion Programme
<b>BCSH</b>	British Committee for Standards in Haematology
<b>BTC</b>	blood transfusion committee
<b>CAST</b>	clinical audit support team
<b>CPA</b>	Clinical Pathology Accreditation (UK) Ltd
<b>EBMA</b>	emergency blood management arrangements
<b>HTC</b>	hospital transfusion committee
<b>HTL</b>	hospital transfusion laboratory
<b>HTT</b>	hospital transfusion team
<b>ICP</b>	integrated care pathway
<b>IT</b>	information technology
<b>MHRA</b>	Medicines and Healthcare products Regulatory Agency
<b>MSBOS</b>	maximum surgical blood ordering schedule
<b>NHS KSF</b>	NHS Knowledge and Skills Framework
<b>NHS QIS</b>	NHS Quality Improvement Scotland
<b>SABRE</b>	Serious Adverse Blood Reactions and Events
<b>SEBTC</b>	Edinburgh & South East Scotland Blood Transfusion Service
<b>SHOT</b>	Serious Hazards of Transfusion
<b>SLA</b>	service level agreement
<b>SNBTS</b>	Scottish National Blood Transfusion Service
<b>SOP</b>	standard operating procedure

## Appendix 2 – Review process



## Appendix 3 – Details of review visit

The review visit to NHS Borders was conducted on 4 October 2007.

### Review team members

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**Ms Pauline Steward**

Blood Transfusion Practitioner, NHS Lanarkshire

### NHS Quality Improvement Scotland Staff

**Ms Angela Sutherland**

Project Officer

**Mr Steven Wilson**

Team Manager

During the visit, members of the review team met with consultant and nursing staff, transfusion laboratory staff, transfusion practitioners and support staff from across the NHS board area.

The composition of each team varies, and members have no connection with the NHS board they are reviewing. Both of these factors facilitate the sharing of good practice across NHSScotland, and ensure that each review team assesses performance against the standards rather than make comparisons between one NHS board and another. The team remit does not include reviewing the work of individual healthcare professionals, variations in practice (and potential quality) within a service will be encountered and subsequently reported.



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