

NHS Grampian

Local Report ~ *March 2008*

Blood Transfusion

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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). The full report in electronic or paper form is available on request from the NHS QIS Equality and Diversity Officer.

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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).

About this report

This report presents the findings from the peer review of **NHS Grampian's** 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 Grampian** on **29 November 2007** can be found in Appendix 3.

2 Summary of findings

2.1 Overview of local service provision

Grampian is situated in north-east Scotland and has a population of around 529,889¹. About 40% of the local population live in Aberdeen, which is the largest urban area in the region, although a significant proportion live in rural areas.

Local NHS system and services

Grampian 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 Grampian.

At the time of the review visit, NHS Grampian provided acute services through the Moray Community Health and Social Care Partnership at Dr Gray's Hospital in Elgin and the acute sector in Aberdeen.

Primary and community services are provided by community health partnerships (CHPs). These are partnerships between health and local authorities, working to improve health, reduce inequalities, join up health service planning and deliver primary and community health and care services for their populations. The three CHPs in Grampian are the Moray Community Health and Social Care Partnership, Aberdeen CHP and Aberdeenshire CHP.

Further information about the local NHS system can be accessed via the website of NHS Grampian (www.nhsgrampian.org).

There are two hospital blood banks in NHS Grampian, one is in Dr Gray's Hospital, Elgin, which receives blood and blood components from the other, based at the site of Aberdeen Royal Infirmary. The latter is operated by SNBTS and is called the Aberdeen & North East Scotland Blood Transfusion Centre (NEBTS). The NEBTS supplies blood and blood components to all hospitals across NHS Grampian and to the hospital blood bank at Albyn Hospital, Aberdeen.

In 2006, approximately 19,000 red cell units, 2,000 plasma units and 1,000 platelet units were used in NHS Grampian. The majority of those units were used for surgery at Aberdeen Royal Infirmary, obstetrics at Aberdeen Maternity Hospital and in Aberdeen Royal Infirmary's gastrointestinal bleeding unit.

The NHSScotland Better Blood Transfusion Programme (BBTP) is supported by two full-time transfusion practitioners based at the NEBTS and one part-time practitioner based at Dr Gray's Hospital. These are assisted by a network of local transfusion trainers.

¹ 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 Grampian has an adequately resourced single hospital transfusion committee (HTC) comprising of multidisciplinary representation from Dr Gray's Hospital, NHS Grampian community and teaching hospitals and the NEBTS. The HTC is an integral part of the local arrangements for clinical governance with lines of accountability and reporting to the board chief executive.

There was good evidence of appropriate blood transfusion practice audit activity with wide dissemination of audit findings to relevant staff groups. The HTC promotes and supports the education and training of all clinical and support staff involved in blood transfusion and the committee contributes to the review of local protocols.

There is an established group responsible for promoting safer blood transfusion through the BBTP. The chair of the HTC and the transfusion practitioners are active members of this group.

Adverse and near miss incidents relating to blood transfusion practice are reported and managed in accordance with local protocols across NHS Grampian. There are good procedures in place to provide feedback on lessons learned from incidents reported at local and national level.

NHS Grampian uses a 'bag and tag' system to ensure every unit of blood component received into the hospital transfusion laboratory can be traced to its recipient or to its final fate if not transfused. A computerised system supports traceability of all units and the information is stored for the recommended period.

At the time of the review visit, written procedures for blood and blood component transfusion did not always specify gender recording at every stage of the blood transfusion process. The requirement to include gender on patient name bands has been included in a revised NHS Grampian policy which is in its final stages of review.

NHS Grampian has a policy to support emergency blood management arrangements (EBMA).

Clinical management – pre-transfusion

The review team was informed that discussion between the clinician and the patient regarding the reason for the need for a blood transfusion forms part of the local transfusion procedure, however, an audit of recorded documentation highlighted that the patient's notes did not contain evidence that the discussion was recorded. A blood transfusion care pathway is being developed and staff envisaged that this will encourage recording transfusion discussions. There is a wide range of leaflets and information for patients explaining the risks and benefits of blood transfusion and

the alternatives available. These are offered in various formats and accessible via the NHS Grampian intranet. The review team noted as a challenge for the board the need to record pre-transfusion discussions with patients and post-transfusion discussions with patients who were unconscious when admitted.

Prescriptions for blood and blood components are adequately detailed and signed by a qualified practitioner.

Clinical management – hospital transfusion laboratory

All transfusion laboratories within NHS Grampian comply with current regulatory requirements: Clinical Pathology Accreditation (UK) Ltd (CPA) and the Medicines and Healthcare products Regulatory Agency (MHRA).

NHS Grampian has monitoring arrangements and a service level agreement (SLA) in place with NEBTS. At the time of the review visit, a draft SLA was being developed for services commissioned for NHS patients requiring blood transfusion services from independent sector hospitals on behalf of NHS Grampian. The review team encouraged the board to finalise the SLA.

The review team acknowledged good evidence of competency-based training for hospital transfusion laboratory staff and well-maintained training records. Active staff participation and collaboration with clinical specialties in audit of transfusion services was also observed.

NHS Grampian has procedures in place to optimise blood use and minimise wastage. Blood stock management and emergency protocols for the use of O RhD negative blood are also in place and supported by information technology (IT) systems.

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

There was evidence of regular theoretical-based training being delivered to a wide range of staff involved in the blood transfusion process with good levels of participation observed within specific staff groups. The mandatory BBTP Level 1 training: Safe Transfusion Practice is promoted by the transfusion practitioners and is delivered either face-to-face or electronically via the Better Blood Transfusion Continuing Education Programme elearning materials accessed through the OrasGold™ online recording and assessment system. However, at the time of the visit, it was noted that engaging all staff levels to attend training and provide adequate electronic access was a challenge for the board. In addition, there was no formal system in place to ensure that only staff who have completed the BBTP continuing education programme appropriate to their role could participate in the blood transfusion process.

Patients are monitored for any adverse events or reaction during and after the transfusion process following guidance in the NHS Grampian hospital transfusion policy. However, an audit of compliance with observation recording found that not all patient notes contained fully documented recordings.

An escalation flow chart for the management of adverse reactions is readily available in ward areas.

There are robust Serious Hazards of Transfusion (SHOT) and Serious Adverse Blood Reactions and Events (SABRE) reporting systems in place with mechanisms to provide feedback on lessons learned to staff.

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 Grampian

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

NHS Grampian has a single hospital transfusion committee (HTC) with multidisciplinary representation from Dr Gray's Hospital, Elgin, NHS Grampian community and training hospitals and the Aberdeen & North East Scotland Blood Transfusion Service (NEBTS). The transfusion practitioners are members of the committee which meets quarterly and is chaired by a consultant haematologist. Positive steps are taken to encourage HTC attendance which was noted to be good and there are clear documented terms of reference with a reporting line to the NHS Grampian acute sector clinical risk management committee (CRMC). The chair of the HTC is also a member of the CRMC and the CRMC reports on blood transfusion related matters, by exception, to the NHS Grampian acute sector clinical governance committee.

The NHS Grampian acute sector staff education and training committee receives an annual report on the HTC's progress made with the NHSScotland Better Blood Transfusion Programme (BBTP). Guidelines and protocols developed by the HTC are ratified by the NHS Grampian acute sector clinical practice committee. Both these committees report on blood transfusion related matters, by exception, to the NHS Grampian acute sector clinical governance committee.

Minutes of the HTC are published on the NHS Grampian intranet and on a Scottish National Blood Transfusion Service (SNBTS) directory as well as being copied to the NHS Grampian nurse transfusion trainers. Members of the HTC also report back to their own clinical area.

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

The NHS Grampian HTC is involved in multi-professional audit and the review team commended the quality and quantity of audits related to blood transfusion. These audits are mostly led by the transfusion practitioners and the review team encouraged the HTC to extend the involvement of other clinical HTC members. The review team was informed that audit findings are discussed at the HTC meetings prior to dissemination of the findings with recommendations for improvements to the appropriate individuals or groups. An email alert is also sent to advise staff that the audit data are available on the NHS Grampian intranet. The transfusion practitioners monitor progress against recommendations and report back to the HTC.

Education and training is a standing item on the HTC agenda and the committee actively supports the transfusion practitioners with these activities. The assistance of more senior management is sought in particular areas where progress is not being made.

NHS Grampian acute sector has a policy for the management of policies, protocols, procedures and process documents which includes controlled document release. This policy allows for the involvement of HTC members in the review and modification of guidelines and protocols. All relevant staff are made aware of new or significantly modified blood transfusion guidelines at open launch events which are widely publicised.

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

STATUS: Met

There is an established BBTP lead group which meets every 2–3 months and reports to the HTC. The transfusion practitioners and the chair of the HTC are involved in this group as well as other hospital and laboratory staff. The group aims to progress the objectives of the NHSScotland BBTP, in terms of safe, efficient and effective blood transfusion practice.

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 Grampian has a formal blood transfusion incident reporting system which captures data from the hospital blood banks and clinical areas, and shares reports on adverse events and near miss incidents between laboratory and clinical areas.

Laboratory incidents are discussed at weekly laboratory meetings and those related to the NEBTS follow the SNBTS reporting route with appropriate investigation, quality assurance and sharing of lessons learned at a national level. Locally, the NEBTS has implemented an SNBTS change control procedure which has led to the production of a leaflet to give to each NHS Grampian member of staff who is identified as having labelled a sample tube incorrectly. The leaflet, ratified by the HTC, advises individuals of the impact of the error, the correct procedure for labelling and where to find further advice. The review team commended the use of this leaflet in NHS Grampian.

Incidents related to blood transfusion which occur in Dr Gray's Hospital, including the laboratory, are reviewed by a transfusion practitioner and any specific training needs are identified.

Clinical incidents reported across the board area are recorded in DATIX, a risk management information system which can be accessed via the NHS Grampian intranet. Staff who do not have access to the intranet are encouraged to complete a paper occurrence reporting form (OR1) which is passed to the relevant clinical manager and transfusion practitioner. DATIX data entry is overseen by a transfusion practitioner for all blood transfusion related events and clinical managers are involved in determining lessons learned for relaying to their own clinical areas.

The transfusion practitioner prepares reports on the types of incidents, any trends or training issues and presents these for discussion at the HTC. Minutes from the HTC are copied to the CRMC that decides whether a risk control notice should be prepared by the risk management support unit for the attention of all appropriate staff. Lessons learned from incidents are shared in NHS Grampian via the link nurse newsletter and shared nationally with other transfusion practitioners via a monthly report to the national BBTP office.

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 Grampian

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

A 'bag and tag' system is in use throughout NHS Grampian and every unit of blood component received into the hospital blood banks is identified with a donation number. When a component is required for a patient, a paper tag is printed from the laboratory computerised system which includes patient identifying information and two traceability labels; each label contains the donation number. The tag accompanies the unit of blood component until it is transfused or returned to the laboratory if unused. If transfused, one label from the tag is signed and placed in the patient's notes and the other is completed and returned to the hospital blood bank to confirm the patient received the component. The data from the return labels are entered into the computerised system that records the fate of each component. Any unsigned labels are returned to the appropriate ward with an incomplete label form, requesting that the label be fully completed before returning it to the blood bank. Paper copies of the returned labels are held indefinitely in the laboratory.

The computerised system generates a daily report of unreturned traceability labels and follow-up action is taken by blood bank staff to identify whether the unit has been transfused. Traceability success rates are monitored monthly by the transfusion practitioners and any areas of non-compliance would be identified for further review and staff training.

Dr Gray's Hospital and the NEBTS use the same computerised system.

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 Grampian

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, NHS Grampian's written procedures for blood and blood component transfusion did not always specify gender recording at every stage of the blood transfusion process. Routinely, gender is not recorded on patient identification bands and audit has shown that gender is not always being recorded on other documentation, although there is space available to do so. The requirement to record gender on patient name bands has been included in a revised NHS Grampian policy for the identification of inpatients within the acute sector. Staff reported that this protocol is in the final stages of review.

All staff involved in the blood transfusion process are required to undertake BBTP training which includes reference to the importance of establishing positive patient identification details.

Blood sample acceptance criteria are specified in the standard operating procedures of the hospital blood banks. Samples are rejected when the patient identification details are incomplete on the sample and/or there is a discrepancy with accompanying documentation. Instances of sample errors are logged and reported monthly to all hospital areas and GPs involved. Any trends identified are actioned.

While the board uses the four unique identifiers as described in the British Committee for Standards in Haematology Guidelines (2004), the omission of gender at each stage of the transfusion process means that the board narrowly failed to meet this standard criterion. The review team recognised as a challenge for the board the implementation of its revised identification policy.

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 across NHS Grampian inpatients and day patients are required to wear an identification band at all times. However, audits to assess compliance of the presence of wristbands worn by patients found inconsistency of practice across the board. Positive patient identification is being addressed in the revised identification policy which will be highlighted to all staff when the policy is finalised.

NHS Grampian's written procedures for blood and blood component transfusion recognise that a patient's identification band may become inaccessible when he/she is in theatre and note that staff can attach a further identification band or use an addressograph label attached to an exposed and accessible area of skin. The need for an additional band or a label is assessed while the patient is still conscious and can confirm their identity in the anaesthetic room. The review team encouraged the board to perform a risk assessment on the use of addressograph labels.

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: Not met

The review team was informed that any specific transfusion requirements, including a patient's wish to not be transfused, would be included in the patient's hospital notes although there is no specific procedure for alerting qualified practitioners to seek this information. There is a specific consent form available as a paper document for Jehovah's Witnesses to sign should they wish to decline a blood transfusion and this would be filed in the individual's hospital notes. The review team encouraged the board to develop a general consent form for all patients who may wish to decline blood transfusion.

Staff reported that NHS Grampian is considering using coloured identification bands for various types of alert and this is currently under discussion with the risk management department. The review team encouraged the board to consider introducing an alert system for existing advance directives.

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: Met

The NHS Grampian written procedures for blood and blood component transfusion include guidance for staff on how to manage unidentified patients presenting to the accident and emergency department. The procedures note that the patient would be allocated a yellow identification name band to wear which contains a unique hospital accident and emergency number and the patient's gender. Staff informed the review team that once patient identifying information became available, a new identification band would be attached to the patient, blood sampling repeated and new documentation completed.

Face-to-face and telephone translation services and British Sign Language interpreters are used in NHS Grampian to support communication and establish patient identification details where appropriate. Contact details are included in the blood and blood component transfusion written procedures. Provision is also made for communication support for patients with learning difficulties.

Standard 1d: Core Principles

Standard Statement

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

NHS Grampian

Essential Criterion

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

STATUS: Met

The NHS Grampian policy for contingency planning for reduced blood donations includes emergency blood management arrangements (EBMA). The policy includes protocols developed by the emergency blood management group (EBMG) for use of red cells, albumin 4.5% and immunoglobulin.

The review team was informed that the emergency blood management process would be activated by the clinical laboratory manager when notified by SNBTS of a blood shortage. The clinical laboratory manager notifies the chair of the EBMG, the haematologist responsible for blood transfusion and the transfusion practitioners. A cascade of contacts would then ensure that all relevant areas where blood transfusion takes place are aware of the EBMA.

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 Grampian

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

NHS Grampian's written procedures for transfusion include a staff responsibility to inform the patient of the risks and benefits of, and the alternatives to, transfusion including the option to refuse. Audit of transfusion documentation found that the reason for transfusion was routinely being recorded, however, details of the discussion with the patient were not being documented. Staff reported that the audit findings had been reviewed and that the relevant staff groups were reminded of the need for complete documentation. The review team was informed that a blood transfusion care pathway is being developed which would encourage recording of the discussion concerning transfusion.

It was further noted, that the board has recently trialled assignment of the responsibility for pre-transfusion discussion and documentation to the anaesthetic staff during anaesthesia pre-assessment clinics for patients having elective surgery. A questionnaire audit of anaesthetist practice identified that a discussion with the patient did take place, but was not always being recorded. This issue is being addressed through BBTP training.

Alternatives to transfusion such as cell salvage (where a patient's own blood is collected and given back during an operation) have been actively promoted by a transfusion practitioner to the orthopaedic team in Woodend Hospital, Aberdeen, and this has led to an increased use of the cell salvage machines during elective orthopaedic surgery. Cell salvage is discussed with those patients for whom it is suitable.

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

NHS National Services Scotland produces information leaflets explaining the risks and benefits of, and alternatives to, transfusion. These leaflets are readily available at the nurse's station in all clinical areas where transfusion takes place. The leaflets are also available on the NHS Grampian intranet. These leaflets are available in alternative formats and different languages, and if necessary translation services can be used in their place.

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

The review team found that staff in the accident and emergency department were aware of the NHS Grampian advance directives (living will) policy and would examine and search unconscious patients for medical alerts. If identifying information is found, and time is available, a search would be made for any medical records including an alert to an advance directive. The hospital computerised admission system allows for entry of an alert for any person who contacts the hospital with a request to record their wish to not be transfused.

No instances of adverse events or patient complaints have been recorded as a result of non-compliance with advance decisions.

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 (insufficient evidence)

Staff reported that when a pre-transfusion discussion has not taken place, the medical history leading up to the transfusion would be discussed with the patient and the patient would be offered an information leaflet. This is described in the NHS Grampian transfusion procedure, although staff were unable to provide the review team with sufficient evidence of when retrospective blood transfusion discussions had taken place with patients 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 Grampian

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

NHS Grampian written procedures for blood and blood component transfusion include procedures for obtaining and labelling blood samples. The procedures for adult and paediatrics do include gender in the minimum data set used on the blood request form and the sample tube, however, gender is not included on the blood sample tube for neonates and infants. Gender is not included on patient identification bands which are used to crosscheck the patient's identity. An observation audit found that there was no pre-labelling of the sample tubes and addressograph labels were not being used on the sample tubes. These findings are commendable, however, the audit also found that positive patient identification was not always being performed for pre-transfusion testing.

Ward staff reported that any discrepancies in the patient identification data set would be brought to the attention of the doctor prescribing the blood or blood component and the data set confirmed before the sample is transferred to the laboratory. Data set errors detected at the hospital laboratories are logged and reported back regularly to the areas responsible. The transfusion practitioners follow up on patient identification issues and address training needs as identified.

The review team recognised as a challenge for the board the need to integrate gender into all local procedures for patient identification during blood sample collection.

Standard 2c: Clinical Management – Pre-Transfusion

Standard Statement

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

NHS Grampian

Essential Criteria

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

STATUS: Met

A retrospective documentation audit of Aberdeen Royal Infirmary notes for patients who had received a transfusion found that prescriptions for blood and blood components are routinely being signed by a qualified practitioner.

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: Met

The documentation audit demonstrated that blood and blood component prescriptions specify the type of blood component to be administered, the number of units to be transfused, the duration of transfusion and any special requirements or instructions. The review team commended the completeness of this information.

Standard 3a: Clinical Management – Hospital Transfusion Laboratory

Standard Statement

Laboratory operations comply with current regulatory requirements.

NHS Grampian

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: Met

The NEBTS has conditional approval from Clinical Pathology Accreditation (UK) Ltd (CPA) and is compliant with the Medicines and Healthcare products Regulatory Agency (MHRA) requirements. The blood bank in Dr Gray's Hospital is accredited by CPA and is also compliant with the Medicines and Healthcare products Regulatory Agency (MHRA) requirements.

NHS Grampian has a service level agreement (SLA) with the NEBTS. It also commissions services for NHS patients from Albyn Hospital and is drafting a service level agreement to assure that these services are compliant with all standards of care (and subsequent updates) as set by both the Care Commission and NHS Quality Improvement Scotland (NHS QIS). The review team encouraged the board to finalise this service level agreement. Albyn Hospital laboratory is awaiting CPA assessment and is compliant with the MHRA requirements.

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

STATUS: Met

All biomedical scientific laboratory staff at Dr Gray's Hospital receive competency-based training and assessment in-house which is followed by further competency assessment by NEBTS staff. All biomedical scientific staff in NEBTS also undertake competency-based training and assessment. Training records are held in each laboratory and are reviewed monthly and at the time of annual appraisal. The review team found the records to be comprehensive and well ordered.

The NEBTS and Dr Gray's laboratory participate in the blood transfusion practice National External Quality Assurance Service (NEQAS) and an internal proficiency scheme is run for all NEBTS staff who are involved with pre-transfusion testing.

Completion of the Better Blood Transfusion Continuing Education Programme via the OrasGold™ online recording and assessment system is mandatory for all laboratory staff.

Standard 3b: Clinical Management – Hospital Transfusion Laboratory

Standard Statement

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

NHS Grampian

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 incident; and emergency blood management arrangements.

STATUS: Met

The maximum surgical blood ordering schedule (MSBOS) is included in the blood transfusion manual produced by NHS National Services Scotland on behalf of NEBTS. Staff reported that the 10th edition of the manual had been approved by NHS Grampian's HTC and, at the time of the review visit, the MSBOS was being reviewed, and a revised edition of the manual would be approved by the HTC prior to its issue.

The HTC has endorsed NHS Grampian's protocols for massive bleeding, major incidents and EBMA, and wastage rates are monitored at laboratory level and reported on to the HTC.

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 NEBTS has agreed stock levels with SNBTS which are checked daily and maintained by daily weekday deliveries of blood and blood components. Stock at Dr Gray's laboratory is also checked on a daily basis and replenished from the NEBTS weekly. Emergency deliveries are provided to both hospitals as required. The SNBTS national clinical information technology (IT) system (Progesa) is the IT system in use at NEBTS and Dr Gray's Hospital to support blood stock management.

A supply of O RhD negative red cells is available for emergency use in designated blood fridges throughout Aberdeen Royal Infirmary, Aberdeen Maternity Hospital, the gastrointestinal bleeding unit and Dr Gray's Hospital laboratory. Written procedures are in place to ensure that these units are assigned to specific patients in the stock management system at the earliest opportunity.

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

STATUS: Met

Laboratory staff participate in self-audit schemes as well as in collaboration with clinical areas such as orthopaedics. Traceability audit data and blood sample rejection rates are also shared with the various clinical areas and the review team recognised the good working relationships that exist between NEBTS staff and clinical areas, and Dr Gray's laboratory staff and clinical areas. This was reflected in findings from a blood bank user questionnaire survey. The review team did recognise that a move to 'zero tolerance' of sample errors, which may become SNBTS policy, would be a challenge for the board.

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 Grampian

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 transfusion practitioners lead the BBTP continuing education programme and have training agreements with each staff group in areas where blood transfusion takes place. BBTP training is to be undertaken by NHS Grampian staff every 2 years, either face-to-face or via OrasGold™. A network of over 100 link nurse trainers support the delivery of training and attend an annual link trainer workshop. OrasGold™ is promoted at the face-to-face sessions. Staff reported that there are computer access problems in Aberdeen sites which delay completion of OrasGold™, although this is being addressed by the board.

Medical students receive BBTP training in their 4th year and nursing students in their 2nd year. Newly appointed nurses are trained during induction, and other staff are informed that BBTP Level 1: Safe Transfusion Practice training is mandatory if they are to participate in the blood transfusion process. Foundation year one doctors are aware that the training is mandatory and, at the time of the review visit, almost 100% of this group had completed the training. The training programme now includes foundation year 2 doctors and the transfusion practitioners, with the help of practice development, have identified auxiliary nurses who may be involved with the transfusion process. These groups were not originally included in the BBTP.

The board chief executive has endorsed a letter which was sent to senior medical staff reminding them of the training requirement, however, at the time of the review visit, this staff group had one of the lowest training rates. The review team recognises the challenge for the board to engage with this staff group and ensure that BBTP Level 1 training is completed before allowing active participation in the transfusion process.

A training database is maintained and reports prepared every 6 months for each ward manager to identify those nursing and medical staff who have not yet been trained. These reports are discussed at the senior nursing group. The review team encouraged the board to consider updating the ward managers more frequently. Quarterly reports on training uptake are sent to the director of nursing and chief executive of

NHS Grampian. It was also reported that it is an individual's responsibility to ensure that they do not participate in the transfusion process unless they are trained and there is no formal NHS Grampian process to prohibit their participation if they are not trained.

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

STATUS: Not met

Gender is not routinely being recorded on NHS Grampian transfusion documentation. In addition, a retrospective audit of the completeness of the observation chart for patients who had received a blood transfusion found that the minimum identification data set was not being consistently completed.

BBTP training materials emphasise the importance of recording the minimum identification data set and the review team recognised the challenge for the board in reinforcing this aspect of the standards. It was reported that the introduction of a blood transfusion care pathway should assist with this and document completion had been identified as an area for further audit by the risk management group.

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 Grampian

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

Staff reported that patients are monitored for any adverse events or reactions, during and after the transfusion process, as clinically indicated. Temperature, pulse and blood pressure are undertaken prior to the transfusion episode, and every 15 minutes for the first hour, and hourly thereafter. These observations are repeated for each unit transfused and on completion of the transfusion episode. Frequent general observation is also conducted. A retrospective documentation audit found that patient observations generally complied with the local policy, however, the audit identified that a significant proportion of blood pressure recordings were absent from the patient notes.

A flow chart for management of adverse reactions is readily available in every ward area.

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

STATUS: Met

Monitoring and reporting of serious adverse events and near miss incidents occur in NHS Grampian with the use of Datix, a risk management information system. Trends are identified and discussed at the HTC, and corrective and preventative actions taken. The transfusion practitioners review all adverse event data and formally advise staff of the learning points using a variety of media.

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

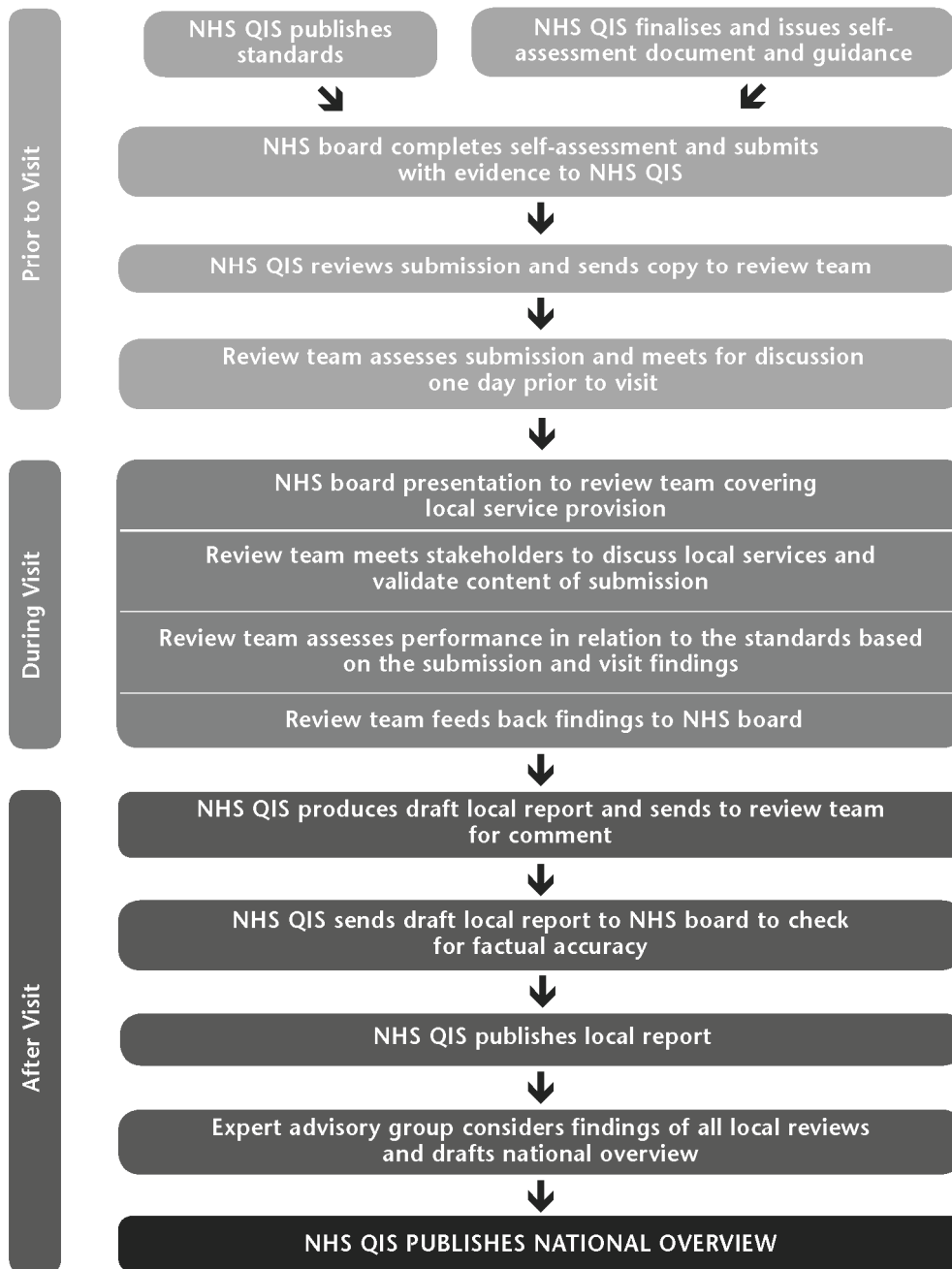
All serious adverse events or reactions and near miss incidents are reviewed by the SNBTS incident management group that decides whether they are reportable to Serious Adverse Blood Reactions and Events (SABRE) and the Serious Hazards of Transfusion (SHOT) initiative. Most members of the BBTP lead group are designated users of SABRE. Some HTC members are included in the SABRE email reporting group and automatically receive notification of such events, as does a representative at SNBTS.

Appendix 1 – Glossary of abbreviations

Abbreviation

BBTP	Better Blood Transfusion Programme
CHP	community health partnership
CPA	Clinical Pathology Accreditation (UK) Ltd
CRMC	clinical risk management committee
EBMA	emergency blood management arrangements
EBMG	emergency blood management group
GP	general practitioner
HTC	hospital transfusion committee
IT	information technology
MHRA	Medicines and Healthcare products Regulatory Agency
MSBOS	maximum surgical blood ordering schedule
NEBTS	Aberdeen & North East Scotland Blood Transfusion Service
NEQAS	United Kingdom National External Quality Assessment Service
NHS QIS	NHS Quality Improvement Scotland
SABRE	Serious Adverse Blood Reactions and Events
SHOT	Serious Hazards of Transfusion
SLA	service level agreement
SNBTS	Scottish National Blood Transfusion Service

Appendix 2 – Review process



Appendix 3 – Details of review visit

The review visit to NHS Grampian was conducted on 29 November 2007.

Review team members

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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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