**TRANSFUSION GUIDELINE:**
**STAKEHOLDER'S SCOPING WORKSHOP**
**Summary of Group discussions**
**Royal College of General Practitioners**
**22nd January, 2013**

| Scope Item | Details | Content | Notes |
|---|---|---|---|
| ***4.1*** | ***Population*** | a) Adults<br>b) Children and young people<br>c) Infants<br>d) Obstetrics (pregnancy and childbirth), neonates<br>e) Transfusions (RBC, platelet, FFP) in the following clinical conditions<br>• Malignancy/haematology<br>• Liver disease patients<br>• Minor coagulopathy<br>• Sickle cell disease<br>• Upper GI bleeding<br>• Trauma/ massive haemorrhage<br>• Critical care<br>• Anaemia in CKD | One group agreed that the title and the population to be covered by the guideline would be determined by the final agreement on the scope and all 3 groups thought that the guideline should cover the whole range of ages except neonates as they have special considerations and separate guidance exists.<br><br>It was agreed that guideline should cover the general principles of transfusion across medical and surgical patients but that it should not cover the specific issues surrounding the clinical conditions listed in (e) as each of these would require special consideration and this was too much for this guideline to cover.<br><br>One group mentioned the current development of BCSG paediatrics and neonatal, sickle cell and thalassemia guidelines as well as RCOG guidelines. |
| 4.2 | ***Healthcare setting*** | All healthcare settings | One group agreed that it was important to note no exclusions for health care settings and discussed the important role primary care plays in the appropriate use of blood. |
| 4.3 | ***Clinical management*** | a) Pre-operative assessment of anaemia & blood optimisation. This includes :<br>• When(time) to test<br>• the Haemoglobin(Hb) level for further investigation of cause of anaemia and<br>• Haemoglobin(Hb) level for anaemia correction<br>• tests for assessing cause of anaemia (e.g. serum ferritin)<br>• interventions to correct anaemia (e.g. iron supplements, erythropoietin stimulating agents<br>• decisions to consider discontinuations of anticoagulants or antiplatelets | One group agreed that this was a very important area for inclusion in the scope, and discussed variance in current practice related to anaemia; they felt that a guideline could have a positive impact on this area and also identified this as a key issue for health economic consideration.<br><br>Two groups suggested that the topics listed in the scope be looked at thematically: some suggested themes included:<br>1. Surgery<br>o Preoperative assessment, Hb, FFP, Cell Salvage, tranexamic acid.<br>2. Medicine<br>o Chronic versus Acute<br>o Possibly to exclude clinical specialties<br>o Triggers |

| | | | |
|---|---|---|---|
| | | | 3. Safety<br>o Sample labelling<br>o Administration<br>o Monitoring, reactions<br>o Patient information and consent<br>o Near patient testing<br>The two groups agreed it would be better to select key areas and go into detail than be broad and non-specific and identified three key clinical areas of the highest priority<br>o Assessment<br>o Appropriateness - inappropriate use is a very high priority (much discussion focused on this – it was suggested that even if the whole guideline was focused on this it would still be vast).<br>o Alternatives – ways to reduce inappropriate use<br>The two groups agreed that most problems are focused around the decision of whether or not to transfuse – The group agreed that this is the case across all age groups and wide range of conditions.<br><br>One group thought that guidance was needed regarding who has ownership for pre-operative testing. They discussed the need for better guidance on alternatives to transfusion. They added that pre-operative assessment should include whether a patient is likely to need transfusion. This group thought that practice is very variable, and general medical patients are often overlooked. It was suggested that patients who decline blood products need to be considered as a special group. This group thought that the final point (anticoagulants) did not fit here and should not be included on this list. |
| | | b) Haemoglobin (Hb) levels for red blood cell (RBC) transfusions (thresholds for initiating transfusion and target threshold to aim for) for | One group thought that this area could (thematically) be grouped with items pre-operative assessment (item a), and red blood cell transfusion in the elderly (item d)<br><br>One group pointed out the huge variation in practice in this area and the need to move away from transfusion driven by triggers, and to challenge the existing transfusion culture.<br>They also thought that the impact of length of stay would be a key consideration for health economics/cost effectiveness analysis. They stressed the important of this area being patient focused, not target focused, and for clinicians to consider other factors such as age and comorbidities. They identified this as an area with safety considerations, particularly over transfusion. |
| | | c) Red blood cell (RBC) transfusion during and after surgery (This | One group's discussions on this area focussed on the licensing of tranexamic |

| | | | |
|---|---|---|---|
| | | excludes the management of massive haemorrhage)<br>• Use of tranexamic acid as an adjunct to minimise transfusion | acid for either clinical intervention. As this impacts transfusion avoidance, this was considered to be important for health economic/cost effectiveness analysis.<br><br>One group thought that massive haemorrhage is a key issue for obstetrics. They agreed that although a small area, it is an important one.<br><br>One group thought that cell salvage would fit in to this area as a means to avoid transfusion. |
| | | d) RBC transfusion in elderly patients with anaemia including<br>• Alternative treatments<br>• Haemoglobin(Hb) levels to transfuse<br>• Haemoglobin(Hb) targets to aim for | One group thought this area could be classed with preoperative testing (item a).<br><br>Three groups thought it would fit closely with red blood cell transfusion (item b).<br>Alternative treatments are an issue that needs to be addressed.<br><br>One group thought that general older patients are not covered by any other guidance, so this is a key issue. They went on to add that transfusion may be masking the cause of the problem in some patients. They also felt that anaemia in the elderly is a key issue as the use of blood here is increasing, and demand is predicted to outstrip supply by 2016 at current levels. |
| | | e) Prophylactic or pre-procedure platelet/fresh frozen plasma transfusion for surgery patient | One group discussed the variance in current practice in this area, but agreed that this could be linked to pre-optimisation and grouped with surgery related transfusion.<br><br>One group thought this this is an area with little evidence, and mentioned the lack of guidance on platelets. They pointed out that audits show this as the biggest misuse of blood components and they discussed the high level of uncertainty in this area, they predicted the GDG would only be able to make research recommendations on this topic. It was felt that it was less of a priority to cover this in comparison to issues relating to red blood cells. |
| | | f) Identification and management of acute transfusion reactions<br>• Recognition of signs and symptoms of acute transfusion reactions<br>- Identification of reactions and standard observations<br>- Identifying biochemical abnormalities | One group agreed that other areas would require more attention as current guidance exists in this area. They discussed the difficulty of doing trials in this area and noted that, existing guidelines in this area are largely consensus based.<br><br>One group thought it best to remove transfusion reactions from the scope of the guideline or include an overview of assessment. They thought assessment and management has been covered recently and |

| | | | |
|---|---|---|---|
| | | • Immediate management of acute transfusion reaction, including<br>- severe reactions and moderate reactions such as<br>◊ anaphylaxis, shock without anaphylaxis or fluid overload (e.g. transfusion related acute lung injury (TRALI))<br>◊ severe dyspnoea without shock (e.g. transfusion associated fluid overload (TACO) and transfusion associated dyspnoea (TAD)<br>◊ reactions due to ABO incompatibility (immediate and delayed haemolytic reaction)<br>◊ reactions due to bacterial contamination<br>- mild reactions such as mild febrile reactions<br>- Other reactions such as biochemical abnormalities, such as clotting abnormalities, hypothermia, circulatory overload and air embolism<br>• Laboratory investigations of acute transfusion reaction<br>- Standard investigations<br>- Investigations (e.g. IgA tests, culture, compatibility) based on symptom complex (e.g. moderate or severe febrile reactions, severe allergic reaction)<br>- Testing for human leucocyte antibodies (HLA) human platelet antibodies (HPA) or human neutrophil specific antibodies (HNA)<br>• Subsequent management of acute transfusion reaction<br>• Management in patients with repeated transfusion reactions<br>- Febrile non haemolytic transfusion reaction (FNHTR)<br>- Allergic reactions (mild, moderate or severe reactions) | comprehensively in the BCSH guideline.<br><br>Two groups agreed that there was no need to cover management and that reactions are ultimately uncommon so this would be of limited use<br><br>One group thought the guideline would need to look at general monitoring. They thought regular observations may need some cost modelling in order to get buy-in from hospitals, and went on to add that blood use would be a better focus for NICE than adverse reactions. |

| | | | |
|---|---|---|---|
| | | - Patients with IgA deficiency<br>- Patients with human leucocyte antibodies (HLA) human platelet antibodies (HPA) or human neutrophil specific antibodies (HNA)<br>- Hypotensive reactions<br>• Pharmacological interventions for the prevention transfusion reactions<br>• Reporting of acute transfusion reactions, including reporting to national schemes, blood transfusion service and within hospital. | |
| | | g) Transfusion safety: Identification and management of late transfusion reactions<br>• Recognition of signs and symptoms of late transfusion reactions<br>- Identification of reactions and standard observations<br>- Initial clinical assessment<br>• Management of late transfusion reactions, for example<br>- Transmission of infections ( for example viral, bacterial, prions, parasites)<br>- Graft vs host disease reactions<br>- Iron overload (after chronic transfusions)<br>- Immune sensitisation (rhesus D antigen)<br>• Laboratory investigations<br>Reporting of late transfusion reactions | One group agreed that this was a large area, amenable to quality standards. Discussions focused on safety and delivery. One group suggested that this area, could be covered in the patient information section.<br>As for acute reactions, it was felt that this section should not be in the scope of the guideline. |
| | | h) Safety: Administration of blood components | 'Documentations, including indication' was noted as a key area for health economic/cost effectiveness analysis. Discussions focused on cost impact of errors, and the capital costs involved in establishing new systems. |

| | | | |
|---|---|---|---|
| | | • Pre-transfusion procedures<br>  - Patient identification; e.g. use of patient identification band, use of barcode or radiofrequency identification (RFID), patient identification in emergency situations<br>  - Documentations, including indication<br>  - Patient information and consent<br>  - Prescription and handling of requests for transfusions<br>  - Blood sampling for pre-transfusion testing - handling of samples, competency of staff and delivery to the laboratory<br>• Collection and delivery of blood components to the clinical area<br>• Transfusion procedures at bedside<br>  - Pre administration patient checks, such as patient identification<br>  - Pre-administration blood component checks<br>  - Completion of the transfusion episode and post transfusion documentation | All groups agreed that patient identification would be a high priority for the guideline and thought that NICE guidance could add value in current practice.<br><br>Other safety issues however are currently heavily regulated and well managed. |
| | | i) Laboratory procedures (Quality and safety of blood products; content, characteristics, storage and residual risks of infection)<br><br>• Handling of samples<br>• Documentation<br>• ABO and D grouping<br>• Antibody screening and identification | Two groups agreed that laboratory related topics should not be covered in the scope as other (BCSH) guidelines cover these areas. |

| | | | |
|---|---|---|---|
| | | • Selection and issue of red cells<br>• Testing and red cell issues in non-routine situations<br>• Post issue of blood components documentation and procedures | |
| | | j) Near patient testing of haemoglobin and haemostasis | This was identified as a key area for health economic/cost effectiveness analysis by one group.<br><br>One group clarified that this referred to testing within ward settings. Discussions focused on the usefulness of improving standards in this area as this is done quite often– and is increasingly used in current practice (as it offers clinicians reliable results when urgent results are needed). Concerns surrounded the many quality controls missing when near patient testing is not done in a laboratory setting. Errors result in adverse events for patients.<br><br>It was felt that this could be covered by the surgical theme.<br><br>Two groups did not consider this to be a priority area for the guideline. One group went on to add that It would be more appropriate as medical technology guidance than in a guideline. |
| | | k) Blood salvage techniques | This was identified as a key area for health economic/cost effectiveness analysis.<br><br>One group discussed the high level of expertise required for this technique and the fact that this service is not offered by all hospitals. Safety was discussed.<br><br>One group thought that the transfusion guideline would not be the best place to address issue related to this topic.<br><br>One group thought that this area is often not perceived to fall under the umbrella of blood transfusion, and should. The group saw it as an opportunity to improve documentation on how cell salvage fits into the pathway as an alternative to transfusion. The group suggested that there would be no need to look at the mechanics of it, but it could be included as part of the surgery question. |
| | | l) HLA (Human Leukocyte antigen) sensitisation with | All groups agreed that this area should not be included in the scope. |

| | | | |
|---|---|---|---|
| | | transplantation | |
| | | m) Use and administration of other blood products, including:<br>• Immunoglobulin<br>• Factor VII<br>• albumin<br>• Cryoprecipitate as a source of fibrinogen versus fibrinogen concentrate | All groups agreed that these areas were too large to include as part of a clinical guideline and that separate guidance would be required for these topics.<br><br>One group went on to add that:<br>• The exception is that cryoprecipitate should be included with FFP, if FFP is included on the scope.<br>• They pointed out that Albumin often gets left out of most guidance, so there may be a need for this to be addressed.<br>• Some of these items are more pharmaceutical than transfusion related. |
| 4.4. | Main Outcomes | a) Mortality<br>b) Quality of Life<br>c) Length of stay (hospitalisation)<br>d) Infections (e.g. pneumonia)<br>e) Number patients requiring transfusions<br>f) Number of units transfused<br>g) Bleeding | Two groups agreed that 'adverse events' should be added to this list of main outcomes.<br><br>One group suggested that allo-immunisation should be added to the list of main outcomes. |
| | Other | GDG Constituency | One group thought that the following roles should be represented on the GDG:<br>1. General physician<br>2. Emergency physician<br>3. Ward Blood Nurse<br><br>One group suggested the following additions to the existing list:<br>o Suggest one of the anaesthetists to be an intensivist<br>o Paediatrician<br>o Medic/Physician (transfusions in medicine on the rise)<br>o Two transfusion practitioners from a hospital background (clinical nurse specialist)<br><br>This group also suggested that the following roles be removed:<br>o One surgeon (leave one)<br>o One haematologist (leave one + chair) |