

Emergency Management for Red Cell and Platelet Shortage

Department / Service:	Transfusion Laboratory - Pathology Trust Wide	
Originator:	Gillian Godding	Lead Transfusion Practitioner
Accountable Director:	Mr Mike Hallissey	Chief Medical Officer
Approved by:	Name: Clinical Governance Group	
Date of approval:	7 th July 2020	
First Revision Due:	7 th July 2023	
Target Organisation(s)	Worcestershire Acute Hospitals NHS Trust	
Target Departments	All clinical areas all sites	
Target staff categories	All medical, nursing, midwifery, phlebotomy and portering staff involved in the platelet transfusion pathway	

Key amendments to this document

Date	Amendment	Approved by:
June 2018	Changes to the trust blood management group table	Gill Godding
March 2020	Updated in line with National guidance and change of accountable director	Gill Godding

Contents Page

1. [Introduction](#)
2. [Definitions, responsibilities and duties](#)
3. [Action Plan](#)
4. [Plan for red cell shortages](#)
5. [Patient categories – Indications for red cell transfusion](#)
6. [Plan for platelet shortages](#)
7. [Patient categories – Indication for platelet transfusion](#)
8. [Implementation](#)

Appendix 1 – Schematic of red cell shortage plan

Appendix 2 –Schematic of Platelet shortage plan

Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information

1. Introduction and scope of pathway

The Department of Health require that a policy is in place within our trust to ensure that should a red cell or platelet shortage occur then there is a strategy in place to manage blood stocks nationally. NBTC National Blood Transfusion Committee Plan for NHS Blood and transplant and hospitals to address Red cell shortages March 2020 and NBTC National Blood Transfusion Committee Plan for NHS Blood and transplant and hospitals to address Platelets shortages January 2019.

A framework to manage blood and platelet shortages in a variety of situations has been designed by the National Blood service (NBS).

These contingency plans have been formulated to manage blood stocks during situations which have caused a shortage in blood supplies.

The plan consists of three phases dependent on the National Blood Service stock levels at that time and works on a 'traffic light' system:

Green: "Normal" circumstances where supply meets demand

Amber: Reduced availability of blood for a short or prolonged period

Red: Severe prolonged shortage

The aim of the blood shortage plan is to ensure hospitals and the NBS work together within a consistent integrated framework providing equal access for patients on a basis of need.

2. Scope of this document

This policy covers the three phases which represent the levels of stocks available i.e. Red, Amber and Green and gives recommendations for action to be taken to ensure best use of resources

2.1 Definitions, Responsibilities and Duties

The Traffic Light system refers to the three phases used to define stock levels available and gives recommendations for appropriate and fair use.

2.2 Responsibility and Duties

This document will be implemented during any local or national shortages by the Trust Blood Management Group who will be responsible and accountable for its compliance. Decisions will be made during any shortages, based on this document, by a nominated Consultant Haematologist. The Blood Transfusion Committee and Hospital Transfusion Team will be responsible for ensuring the above Group and all clinical areas are aware of any imminent/pending shortages. Clinical areas will be responsible for ensuring that red cells or platelets are transfused to those within the plan both safely and efficiently and that they liaise with the Blood Bank Laboratory/Consultant Haematologist for any needs they may have

3. Action plan

Following the National Blood Transfusion Committee recommendations the Worcestershire Acute Hospitals Management group needs to consist of the personnel in the table below. They will be known as the Trust Blood Management Group. These members will be contacted as necessary during the Amber or Red phase.

**Blood Transfusion Pathway
WAHT-KD-001**

The Transfusion Team will notify the Trust Blood Management Group and give advice on the situation and the actions that need to be implemented to maintain patient safety. The Trust blood management group will cascade the actions to be taken to their clinical areas.

In the event of red cell or platelet shortage the Trust Blood Management Group will produce an action plan in the form of an Emergency Blood Management Arrangement (EBMA)

Trust Blood Management Group

Chief Executive or representative
Chief Medical Director
Divisional Director of Specialist Medicine
Divisional Director of urgent care
Divisional Director of Surgery
Divisional Director of Specialised clinical services
Divisional Director of Women’s and Children’s
Chief Nursing Officer
Director of Operations
Chair of the Trust Transfusion Committee
Blood Transfusion Laboratory Manager
Transfusion Practitioner

4. Plan for red cell shortages

Green Phase

Normal transfusion practice guidelines, policies and procedures are adhered to. (This constitutes normal practice time)

During the Green phase arrangements are in place that should an alert be received from the Blood Transfusion Service this plan can be acted upon.

NHS BT may during the green phase issue a precautionary notification to hospitals informing them of potential supply chain issues and ask hospitals to take appropriate action to protect the supply chain. This is intended to prevent the requirement to move to the amber phase.

Amber Phase

If national stocks fall to less than 2 days of an imminent threat to the blood supply is identified NHS BT will communicate and move to Amber phase. This may apply to either a single blood group or to all blood groups.

Hospitals will be expected to reduce their stockholding to pre-set levels. In this phase this will equate to roughly 67% of normal stock holding.

Red Phase

If there is a an imminent severe threat to supply of red cells hospitals will be expected to reduce their stockholding to pre-set levels. In this phase this will equate to roughly 40% of normal stock holding

The National Emergency Planning Manager may instruct the National Blood Service to communicate a move directly to the Red Phase.

The Blood Bank Manager or transfusion practitioner will contact the members of the Trust Blood management group (see table above) to notify them of the altered phase for Emergency Blood Stock Management.

Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information

Each new phase will continue until notified otherwise by the National Blood Service.

The reduction in hospital stockholding may be sufficient to allow recovery from shortage but this may need to be accompanied by a reduction in use by hospitals.

The trust may have to consider cessation of procedures. The procedures and patient categories that would be involved are outlined in the table below.

In a prolonged shortage this will have an impact on elective surgery and waiting lists.

In more severe shortages reductions in usage will need to be achieved by cessation of some or all procedures in category 2.

In a more severe shortage where for example 50% or more of the red cell supply becomes unavailable it is likely that only patients in category 1 would be treated.

5. Patient categories – Indication for Red Cell Transfusion

During the Amber and Red phase it may be necessary to restrict transfusion to those groups of patients in most need. In order to simplify this it is suggested that patients are divided into three broad categories

Category 1	Category 2	Category 3
These patients will remain highest priority of transfusion	These patients will be transfused in the Amber but not the Red phase	These patients will not be transfused in the Amber phase
Resuscitation Resuscitation of life-Threatening/on-going blood loss including trauma		
Surgical Support Emergency Surgery* Including cardiac and vascular surgery** and organ transplantation. Cancer surgery (probably curative)	Surgery/Obstetrics Cancer surgery (palliative) Symptomatic but not life threatening post-operative or post partum anaemia Urgent*** surgery	Surgery Elective surgery which is likely to require donor blood support.
Non-Surgical Anaemias Life-threatening anaemia including patients requiring in-utero support and high dependency care/SCBU. Stem cell transplantation or chemotherapy**** Severe bone marrow failure. Thalassaemias and myelodysplasia Sickle cell disease patients on regular	Non-Surgical Anaemias Symptomatic but not life-threatening anaemia	

transfusion programmes for prevention of complications. Organ transplants		
--	--	--

- * Emergency – patient likely to die within 24 hours without surgery.
- ** With the exception of poor risk aortic aneurysm patients who rarely survive but who may require large volumes of blood.
- *** Urgent – patient likely to have major morbidity if surgery not carried out.
- **** Planned stem cell transplant or chemotherapy may be deferred if possible.

6. Plan for Platelet Shortages

The two key aims of the plan for platelets are as follows:

1. The national “pool” of platelets is available for all essential transfusions equally across the country (logistical actions)
2. Overall usage is reduced to ensure the most urgent cases receive the supply that is available (clinical actions)

GREEN PHASE: ‘Normal’ circumstances where supply meets demand

During this phase arrangements are in place should an alert be received from the NBS

Recommended Action during Green Phase:

- The hospital will work towards ensuring safe and appropriate use of platelets
- Aspirin or other drugs affecting platelet function are stopped prior to surgery in time for platelet function to recover
- Ensuring clinical audit is undertaken against agreed guidelines so that the fate of all units of platelets is understood. This should include feedback to reduce any inappropriate use, implementation of best practice to ensure the appropriate use of platelets and to minimise wastage and re-audit to ensure effectiveness of actions taken.
- Implementation of the Hospital Codes for Transfusion to ensure that every request clearly states the indication for transfusion
- Implementation of agreed transfusion protocols/thresholds for all transfusions
- Education and Training for all levels of staff to include induction
- Transfusion guidelines formulated and included in the Junior Medical Staff induction
- Hospital wide education of the existence of the EBMA
- Participation in the blood stocks management scheme
- Movement of stock between sites

During the green phase NHSBT may issue a precautionary notification to hospitals informing them of potential supply chain issues this may be a particular ABO group and hospitals will be asked to take appropriate action to protect the supply chain. This action is intended to prevent the requirement to move to amber phase.

Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information

AMBER PHASE: Reduced availability of units of platelets

If National stocks fall to a pre-determined level where stocks are not sufficient to ensure one day supply (either a single blood group or all blood groups) hospitals will be expected to immediately stop routine stockholding of platelets

Recommended Action during Amber Phase:

- All routine stock holding in hospitals will stop immediately – hospitals will only order where there is a specific identified requirement or the need for platelets on stand-by for a particular procedure
- During amber phase any platelets issued will have a maximum expiry of 24 hours.
- Prohibit use of platelets for prophylaxis
- Not request long dated platelet units
- Accept platelets of a different ABO group (in line with BSH adult and paediatric guidelines).
- Accept leucodepleted platelets instead of CMV negative platelets
- Accept D positive platelet units where D negative platelet units are not available, administering anti-D where applicable (250 IU anti-D will cover 5 adult units of platelets).
- Optimise pre-op preparation of patients e.g. stop anti-platelet agents 7 days prior to surgery whenever possible.
- Consider alternatives or additions to platelet transfusion e.g. Tranexamic acid - trauma, surgical bleeding and short-term for patients with chronic thrombocytopenia and bleeding. Desmopressin for patients with uraemia or inherited platelet disorders at risk of bleeding or bleeding. Fibrinogen to maintain fibrinogen concentration at 1.5-2g/l if trauma or surgical bleeding

RED PHASE: Severe shortage

A severe shortage or if an imminent shortage is identified

All requests must be made through a named consultant haematologist

Recommended Action during Red Phase:

- Usage will be restricted to category one patients only
- All requests for platelets must be made through a consultant e.g. Consultant Haematologist
- Requests will be reviewed by an NBS Consultant
- Requests must be accompanied by the following data set over and above the usual details provided to the NBS:
 1. Patient identifier (NHS number or name)
 2. Indication for transfusion
 3. Requesting Consultants name
 4. Patient category
 5. Patient blood group
- Hospitals will be expected to track closely the fate of each unit delivered to them and the NBS will request information on each unit of platelets at regular intervals – if not used then it will be retrieved by NBS to use elsewhere
- NBS will monitor the activity and report to a Department of Health led Blood Supply Management Group

The National Blood Service will be responsible for informing all Hospitals should stock levels fall and necessitate a move to Amber or Red phase.

**Blood Transfusion Pathway
WAHT-KD-001**

The Blood Bank Manager or Transfusion practitioner will notify members of the Trust Blood Management Group

Each phase will continue until notified otherwise by the National Blood Service

7. Patient Categories – Indication for Platelet transfusion

The following chart provides general guidance for the use of platelet transfusions in the context of reduced availability.

- Category one patients are those with the greatest clinical need for platelet support and should be given priority when considering allocation of platelets
- Category two and three should be given lower priority

Use of platelets should be guided by clinical condition and near lab/near patient testing.

Category one (Red phase)	Category two (Red and Amber phases)	Category three
<p>Massive haemorrhage and critical care Massive transfusions for any condition including obstetrics, emergency surgery and trauma, with on-going bleeding, maintain $>50 \times 10^9/l$. Aim for $>100 \times 10^9/l$ if multiple trauma or CNS trauma</p> <p>Sepsis/acute DIC, maintain $>50 \times 10^9/l$</p>	<p>Critical Care Patients resuscitated following massive transfusion with no on-going active bleeding, maintain $>50 \times 10^9/l$</p> <p>Surgery Urgent but not emergency surgery for a patient requiring platelet support</p> <p>Transfusion triggers for invasive procedures According to BSH guidelines</p>	<p>Surgery Elective, non-urgent surgery likely to require platelet support for thrombocytopenia or congenital/acquired platelet defects</p>
<p>Bone Marrow failure and immune thrombocytopenia Active bleeding associated with severe thrombocytopenia or functional platelet defects. <i>Immune thrombocytopaenia</i> if serious/life threatening bleeding</p>	<p>Bone marrow failure All other indications except those in categories 1 and 3</p>	<p><i>*Bone marrow failure</i> Prophylactic transfusion of stable patients following autologous stem cell transplant</p>
<p>Neonates For preterm neonates with very severe thrombocytopenia (platelet count below $25 \times 10^9/l$) platelet transfusions should be administered in addition to treating the underlying cause of the thrombocytopenia.</p>		

Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information

Blood Transfusion Pathway
WAHT-KD-001

Suggested threshold counts for platelet transfusions in other situations are given in the BSH guidelines.		
---	--	--

*prophylactic transfusion category should include WHO grade 1 bleeding (as in TOPPS trial). Exclusions – previous WHO > grade 3 bleed, inherited haemostatic or thrombotic disorder, requirement for therapeutic doses of anticoagulation, acute promyelocytic leukaemia, prior to surgery/invasive procedure

8. Implementation

This policy will be available on the Trust Intranet. Notification to clinical areas will be via the intranet Notice Board and by Global emails.

Dissemination

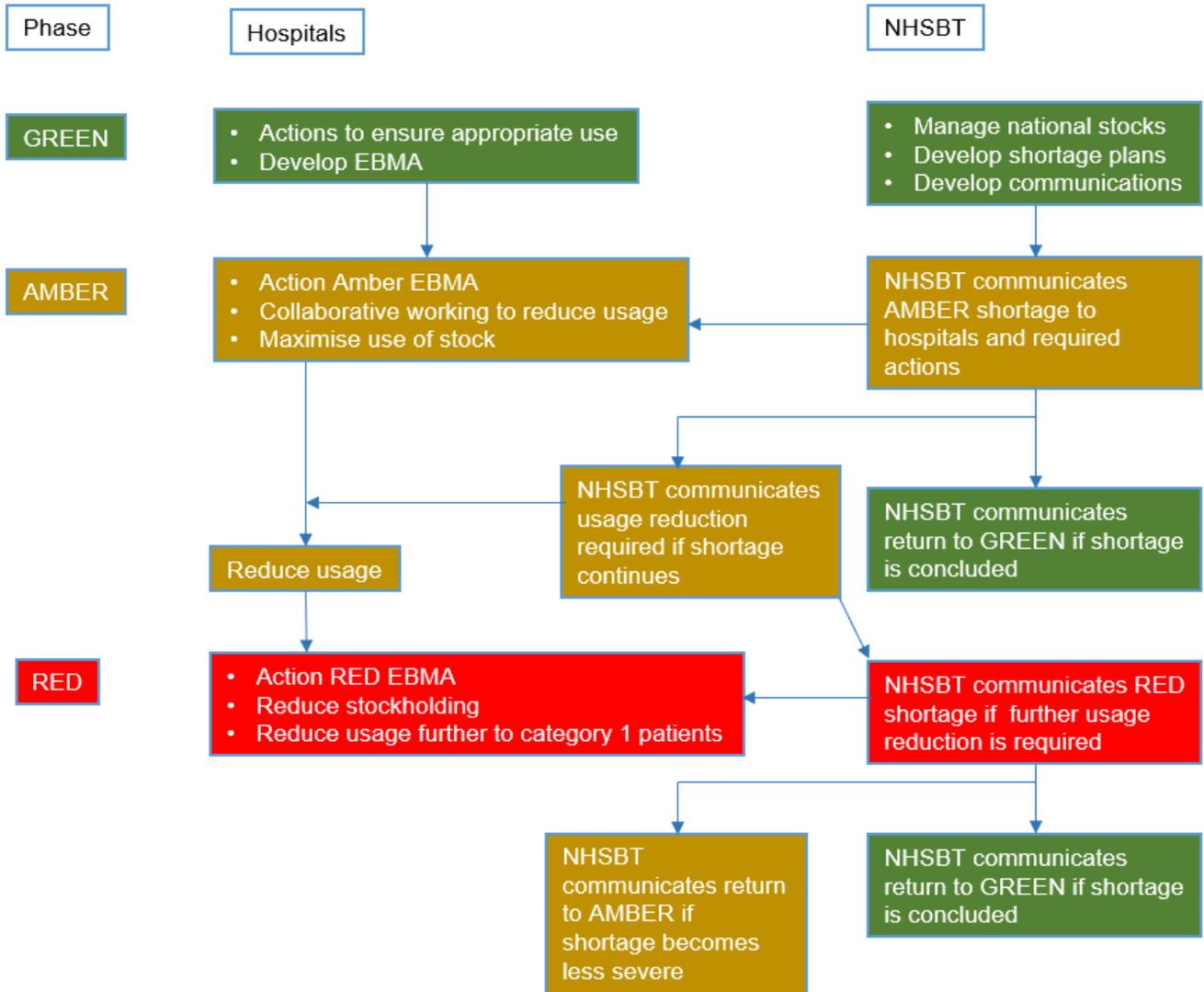
As per implementation and Training and awareness.

Training and awareness

The Blood Management Group will be aware of the policy and at times of shortages each member will be notified of the situation as it develops, progress of the situation and any clinical situations that need specific attention as will the designated Consultant Haematologist at that time

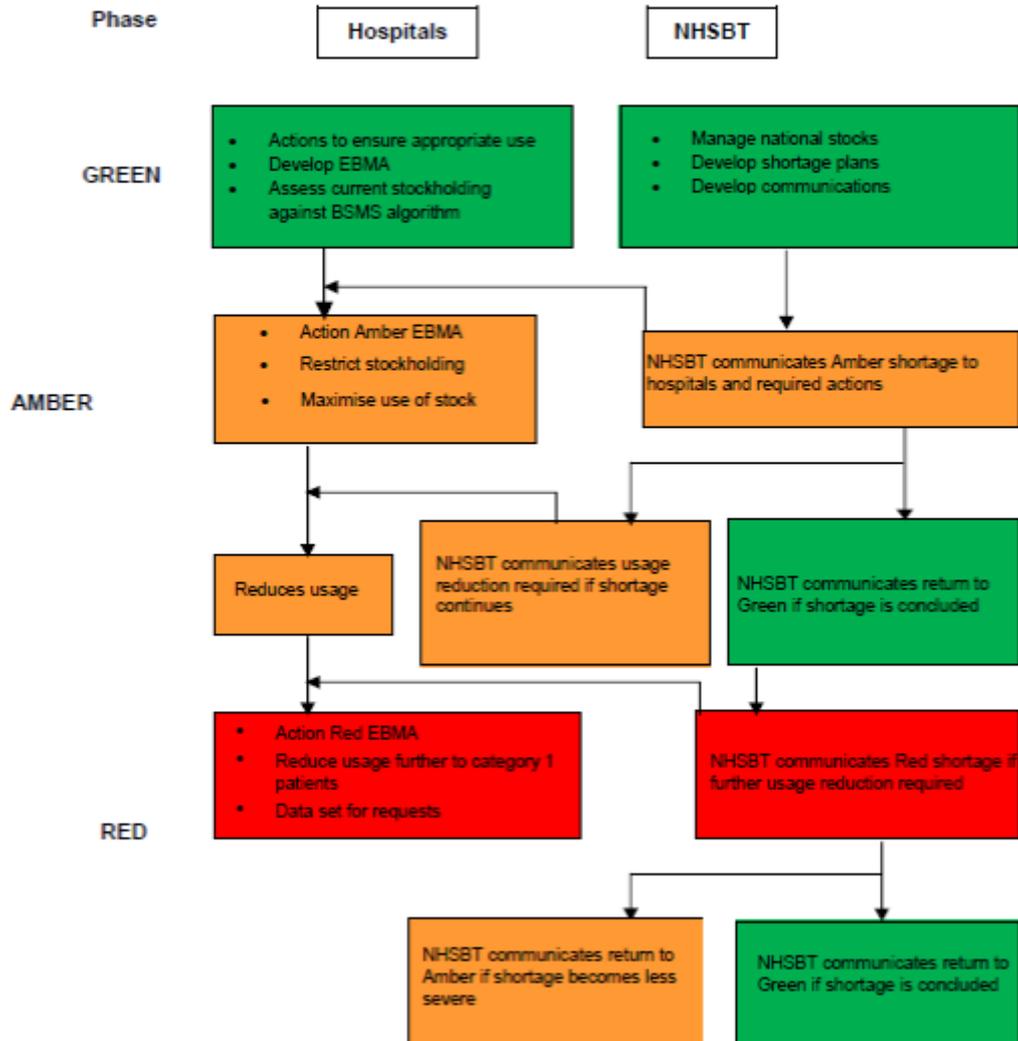
Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information
--

Appendix 1 Schematic of red cell shortage plan



Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information

Appendix 2: Schematic of platelet shortage plan



Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information

Supporting Document 1 – Equality Impact Assessment form

To be completed by the key document author and included as an appendix to key document when submitted to the appropriate committee for consideration and approval.

Please complete assessment form on next page;

Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information



Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form
Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP	<input type="checkbox"/>	Herefordshire Council	<input type="checkbox"/>	Herefordshire CCG	<input type="checkbox"/>
Worcestershire Acute Hospitals NHS Trust	<input checked="" type="checkbox"/>	Worcestershire County Council	<input type="checkbox"/>	Worcestershire CCGs	<input type="checkbox"/>
Worcestershire Health and Care NHS Trust	<input type="checkbox"/>	Wye Valley NHS Trust	<input type="checkbox"/>	Other (please state)	<input type="checkbox"/>

Name of Lead for Activity	
----------------------------------	--

Details of individuals completing this assessment	Name	Job title	e-mail contact
	Gill Godding	Lead Transfusion practitioner	gilliangodding@nhs.net
Date assessment completed	10/07/20		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	Title: Emergency Management for Red cell and platelet management WAHT-KD-001			
What is the aim, purpose and/or intended outcomes of this Activity?	To ensure that the policy is relevant and fair to all stakeholders.			
Who will be affected by the development & implementation of this activity?	<input checked="" type="checkbox"/> Service User	<input checked="" type="checkbox"/> Staff	<input type="checkbox"/> Communities	<input type="checkbox"/> Other _____
	<input checked="" type="checkbox"/> Patient	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/> Carers	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/> Visitors	<input type="checkbox"/>	<input type="checkbox"/>	

Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information

Is this:	<input checked="" type="checkbox"/> Review of an existing activity <input type="checkbox"/> New activity <input type="checkbox"/> Planning to withdraw or reduce a service, activity or presence?
What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.)	NHSBT service provision guidelines
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	Consultation not required as this policy has already gone through full review when it was first written. This version has minor amendments only.
Summary of relevant findings	None

Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale.** Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age		✓		
Disability		✓		
Gender Reassignment		✓		
Marriage & Civil Partnerships		✓		
Pregnancy & Maternity		✓		
Race including Traveling Communities		✓		
Religion & Belief		✓		

Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Sex		✓		
Sexual Orientation		✓		
Other Vulnerable and Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)		✓		
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)		✓		

Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate negative impact	Who will lead on the action?	Timeframe
	None identified			
How will you monitor these actions?	N/A			
When will you review this EIA? (e.g in a service redesign, this EIA should be revisited regularly throughout the design & implementation)	July 2020			

Section 5 - Please read and agree to the following Equality Statement

Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing EIA	Gill Godding
Date signed	10/7/20
Comments:	
Signature of person the Leader Person for this activity	
Date signed	
Comments:	



Please note that the key documents are not designed to be printed, but to be used on-line. This is to ensure that the correct and most up-to-date version is being used. If, in exceptional circumstances, you need to print a copy, please note that the information will only be valid for 24 hours and should be read in conjunction with the key document supporting information page/and or Key Documents intranet page, which will provide approval and review information