Countess of Chester Hospital NHS
NHS Foundation Trust

Audit – BSMS 2019

Louise Hodgkinson
Nikki Swarbrick

Aim

- What data we collect at COCH
- How we use this data
- How we are trying to improved practice

What is the purpose of Audit?

“Clinical audit is a way to find out if healthcare is being provided inline with standards and lets care providers and patients know where their service is doing well, and where there could be improvements.”

NHS England

What is the purpose of Audit?

"Clinical audit is a way to find out if healthcare is being provided inline with standards and lets care providers and patients know where their service is **doing well**, and where there could be **improvements**."

NHS England

Audit therefore …

- Not just a data collection exercise.
- It should involve measuring current practice against explicit audit criteria or standards.
- There is usually at the start of the process an expectation that clinical practice will improve (not always)
- Can lead to further audits!!

Challenges of audit at COCH

- Competing priories.
- Understanding what data can be obtained.
- Ensuring the data is meaningful for clinical teams.
- Building communication with clinical teams, audit and information analysis – stop working in silo.
- Disseminating the finding to make change.

Audit at COCH

Our audit calendar this year consists…

- Sample rejection
- Bedside audit
- Traceability audit
- MHP local audit
- NCA audits
- Albumin usage
- Blood component Wastage / usage
- Post - operative Blood Transfusions Audit
- Laboratory audits

Audit at COCH

Our audit calendar this year consists…

- Sample rejection
- Bedside audit
- Traceability audit
- **MHP local audit**
- NCA audits
- Albumin usage
- Blood component Wastage / **usage**
- **Post - operative Blood Transfusions Audit**
- Laboratory audits

COCH MHP local audit

MAJOR HAEMORRHAGE POLICY ACTIVATION PROFORMA

PATIENT INFORMATION

Patient name		C	C									
Date Of Birth				Age (years)								

MHP ACTIVATION INFORMATION

Date of Activation				Time of Activation (24hrs)	
Clinical Diagnosis				Location of patient at activation	
Name of person activating MHP				Staff Grade of person activating MHP	
Name of Consultant				Contact number (ext or bleep)	
Was Trauma Bleep activated?	Yes	No	Name of BMS		

BLOOD TRANSFUSION INFORMATION

Sample 1 received at	Time			T number						
Sample 2 received at	Time			T number						
Haematology Results (1st results after activation)	Hb g/L		Plt count		FibC		Clotting deranged?	Y	N	UNK

COMPONENTS REQUIRED	LABORATORY DATA			TRANSFUSION PRACTITIONER DATA		
COMPONENT	NUMBER REQUESTED	TIME REQUESTED	TIME ISSUED	TIME TRANSFUSED (1st)	NUMBER TRANSFUSED	NUMBER WASTED
Emergency Stock RBC						
Uncrossmatched RBC						
Fully crossmatched RBC						
FFP						
Platelets						
Cryoprecipitate						
Octaplex or NovoSeven issued?						
Check blood stocks (order if necessary)			RBC	FFP	CRYO	PLTS

TRANSFUSION PRACTITIONER DATA

Was ROTEM used?	Yes	No	Was cell salvage used?	Yes	No
Survival at 24 hrs			**Survival at 30 days**		
Survived	Transferred	Discharged	Survived	Transferred	Discharged
Deceased	Cause of death:		Deceased	Cause of Death:	
Was Tranexamic acid given?	Yes	No	Within 3 hrs of presentation?	Yes	No

Activation appropriate?	Yes	No	Was there any reaction?	Yes	No	Was there an incident?	Yes	No

COCH MHP local audit

- Every activation enters into the audit for MHP.
- Completed by the lab, TP and audit department
- Reported twice a year to HTC.
- ~ 4 activations per month.
- Standards measured against MHP North West Regional Transfusion policy which has been adapted for COCH.

2018 Results COCH MHP local audit

- 5 incorrectly activations in 6 months.
- No communication to the laboratory.
- Incorrect terminology used.
- Emergency Stock used when crossmatched units were available.
- Component Wastage
- Fibrinogen levels not checked

Actions COCH MHP local audit

- Timely feedback to clinical teams.
- Trauma activation discussed at local Trauma Board with lesson learnt.
- New blood collection tracking system
- Education.
- Availability of blood components chart in all adult areas.

Availability of blood components

PRODUCT	SCENARIO	TIME TO PREPARATION (APPROX.)	SAMPLE REQUIRED	CROSS MATCHED	AVAILABILITY	CONSISTS OF	NAMED BLOOD UNITS	PINK THERAPY CHART?
CODE RED (AED ONLY)	Patient needs blood in AED prior to arrival in Resus	**5-10** mins to box up units prior to casualty's arrival	**No**	**No**	**Prior to casualty's arrival in AED**	**2 units of O Neg** in transport box	**No**	**No**
EMERGENCY STOCK	Cannot wait for MHP or no sample available	**0**	**No**	**No**	**Always available** in Blood Bank Issue Fridge	**2 O Pos** (males and women≥51yrs) **2 O Neg** (children (1-18) or women<50 years) **O Neg** (paedi units) <1 years	**No** – unless Blood bank informed of patient's ID	**No**
MAJOR HAEMORRAGEPACK (MHP)	Blood loss with clinical signs of shock	**RBC – 10 mins** **FFP -25 mins** **Platelets – 90 mins**	**Yes** (two if no blood bank history	**No**	**Can begin preparing once Transfusion sample(s) received**	**4 RBC** **4FFP** **1 AD Plts** ordered from Liverpool in case	**Yes**	**Yes**
GROUP O (if group is unknown on Meditech)	Blood required within 10 minutes.	**10 minutes**	**Yes** (two if no blood bank history)	**No**	**Within 10 minutes** of receipt of Group and Screen sample	**Group O blood** (patient may be another ABO blood group)	**Yes**	**Yes**
GROUP SPECIFIC (if group is known on Meditech)	Blood required within 10 minutes.	**10 minutes**	**Yes**	**No**	**Within 10 minutes** of receipt of Group and Screen sample	**Blood of the same ABO group as the patient**	**Yes**	**Yes**
CROSSMATCH (urgent)	Can wait for fully crossmatched	**40 minutes**	**Yes** (two if no blood bank history)	**Yes**	**Within 40 minutes** of receipt of Group and Screen sample	**As many units as requested**	**Yes**	**Yes**
CROSSMATCH ROUTINE (non- urgent/stable patient)	Can wait for fully crossmatched	**60 minutes**	**Yes** (two if no blood bank history)	**Yes**	**Approx. within 60** minutes of receipt of Group and Screen sample	**As many units as requested**	**Yes**	**Yes**
CROSSMATCH with red cell antibodies	Can wait for fully crossmatched	**Dependent upon antibody (2hrs minimum)**	**Yes** (two if no blood bank history)	**Yes**	Dependent upon antibody and availability of blood units	**As many units as requested**	**Yes**	**Yes**

Availability of blood components

PRODUCT	SCENARIO	TIME TO PREPARATION (APPROX.)	SAMPLE REQUIRED	CROSS MATCHED	AVAILABILITY	CONSISTS OF	NAMED BLOOD UNITS	PINK THERAPY CHART?
CODE RED (AED ONLY)	Patient needs blood in AED prior to arrival in Resus	**5-10** mins to box up units prior to casualty's arrival	**No**	**No**	**Prior to casualty's arrival in AED**	**2 units of O Neg** in transport box	**No**	**No**
EMERGENCY STOCK	Cannot wait for MHP or no sample available	**0**	**No**	**No**	**Always available** in Blood Bank Issue Fridge	**2 O Pos** (males and women≥51yrs) **2 O Neg** (children (1-18) or women<50 years) **O Neg** (paedi units) <1 years	**No** – unless Blood bank informed of patient's ID	**No**
MAJOR HAEMORRAGEPACK (MHP)	Blood loss with clinical signs of shock	**RBC – 10 mins** **FFP -25 mins** **Platelets – 90 mins**	**Yes** (two if no blood bank history	**No**	**Can begin preparing once Transfusion sample(s) received**	**4 RBC** **4FFP** **1 AD Plts** ordered from Liverpool in case	**Yes**	**Yes**
GROUP O								

Availability of blood components

Points to consider		
Unstable patients	The table above is expected to be a guide, but we are aware that patients can move from one section to another very quickly. We would ask you to **please communicate** with Blood Bank as soon as a patient's clinical need changes.	
Emergency Stock	Please complete the paperwork attached to the unit with patient's details and time/date of transfusion, send these documents to Transfusion and these units will be documented as 'Transfused' by the **Blood Bank staff**	
Number of units per collection	Ideally we would only advise the collection of **one unit at a time** to reduce risk and potential wastage, but we would allow a maximum of two units to be collected in emergency situations	
Adding a request to a GS sample	If there is a Group and Screen sample in Blood Bank that is **<72 hrs** then we can add a transfusion request onto that sample. Blood can often be electronically issued within minutes in these cases.	
Unrequired units	If blood component units on the clinical area are **no longer required** please return the units to Blood Bank ASAP. In MHP cases **please inform Blood Bank** if the patient sadly passes away, as multiple other blood products may be on their way to us and can potentially be cancelled prior to them leaving the Blood Stores in Liverpool. It is **especially important to inform us if you no longer require platelets allocated to a patient** as they have a very short expiry date.	
Sending a Group and Screen to Blood Bank	If you are sending an urgent Group and Screen/Crossmatch sample to Blood Bank **please inform the lab** and let them know to which pod you are sending it. Where possible send with a porter thus reducing the risk of a sample being lost in the pod. Out of hours there is just **one Scientist working in the Haematology and Blood Transfusion** department, which are located on different floors, therefore time can be wasted trying to locate a sample.	
Routine deliveries	Routine delivery of blood products at **10:30am** and **15:30pm** Monday to Friday	
Delivery times for blood products	Order **by 06:00 for delivery at 10:30** same day (ideally order before 5pm for following day 10:30 delivery)	Order **by 12:00 for delivery at 15:30** same day
	Adhoc deliveries are available in urgent cases with a minimum of 2 hrs 45 mins delivery time	**Blue Light** deliveries are available in life threatening situations with a named Consultant authorisation

So far…

6 months following this…

- Supported education on MHP.
- Helped breakdown barriers to communication.
- Stopped the inappropriate use of group O units.
- No activations incorrect.

12 months on…

- 1 incorrectly activated MHP call.
- Checklist for MHP.
- Data sets for ordering blood.

Usage data

	2018 (Jan – July)		2019 (Jan – July)		Overall %
	Transfused	Cost	Transfused	Cost	
RBC	3297	411,998.62	2522	326,270.08	↓23.5
FFP	398	11,838.17	261	8569.68	↓34.4
PLTS	358	106,631.66	383	77,410.37	↑6.9

1756 CROSSMATCHES PERFORMED (↓18.9%)

Usage may have been impacted by:
Single unit policy / awareness of TACO.
Anaemia pathway.
ROTEM

Usage data

- Reported 6 monthly to the Hospital Transfusion Committee and Exec's team.
- Supported removal of blood fridge from obstetric ward.
- Helped develop MBOS.
- Review stock held.
- Reduced emergency stock held in issue fridge.

Remember – Audits can lead to further audits!

Post - operative Blood Transfusions Audit

Method

- All operations from 2017-2018 in COCH considered (~16,000 operations).
- All red blood cell units transfused from 2017-2018 in COCH considered (~4000 units of RBC).
- Patients who both had an operation and a blood transfusion in the same inpatient spell looked at in more detail (~500 patients).

Method Continued

- Of the 500 patients remaining, any that had pre-operative or intra-operative blood transfusions only were excluded leaving 212 patients who had a post operative blood transfusion.

- The following criteria for each of those 212 patients was examined in more detail:
- - Evidence of bleeding - Evidence of IHD
- - Single unit transfused - Hb checked after unit?

Audit Results: Post-operative Transfusion

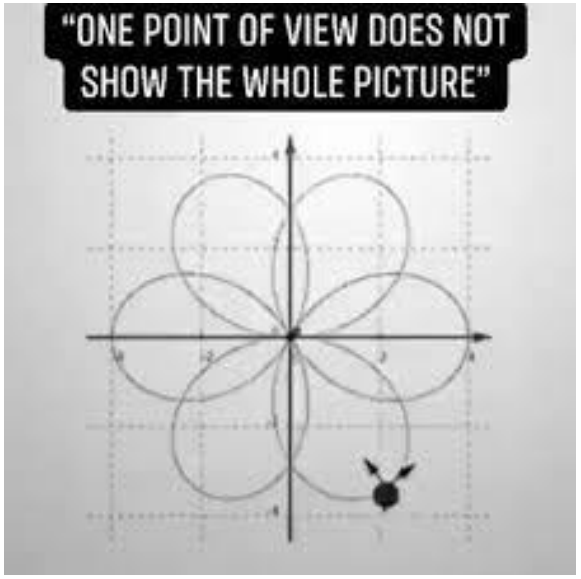
- 212 patients received post operative transfusions only 41 had evidence of bleeding.
- Non-bleeders received an mean of 2.3 units (mode/median 2 units) compared to 3 units (mode/median 2 units) of RBC in bleeding patients.
- 96 patients had their Hb check after every unit of RBC transfused.
- Patient that did not have their Hb checked after each unit received a mean of 3.1 RBC units (2 units mode) compared to a mean of 1.6 units (1 unit mode) in patients that had their Hb checked after every unit given.

So what now…

- All pre operative clinics to use anaemia screens at ‘Gateway Clinics’.
- Increase availability iron clinics.
- Empowering our BMS to question and refer requests for non bleeding patients (different than not giving the components).
- Post operative use of iron.
- Audit of medical patient admitted with Anaemia requiring a transfusion.

Summary

- Audit has helped start communication and remove some of the traditional silo's
- Built networks of information.
- Audit is supporting the quality improvement
- But still lots more to do!



Acknowledgments

- Karen Roger, Clinical Audit
- Dr Will Gray, FY2 ICU