Te Hononga Whētuki ā-Motu
National Trauma Network

Health Quality & Safety Commission New Zealand
Kupu Taurangi Hauora o Aotearoa

Meeting Minutes

Meeting:	**Critical haemorrhage project expert reference group meeting**
Location:	Zoom.
Date:	Wednesday 24 June 2020
Time:	13.00 - 16.00
Attendees:	Kerry Gunn (Chair), Dominic Fleischer, James Moore, Richard Charlewood, Susan Mercer, Ian Civil, Caroline Gunn, Jack Hill, Dave O'Byrne, Richard Aickin, Orla Fowden, Renate Donovan, David Lang, David Drower, Gabrielle Nicholson, Paul McBride, Sandy Ngov (Minutes)
Apologies:	Tony Smith, Andy Swain, Siobhan Isles

Discussion	Actions/ Follow up
Introduction Minutes approved from the last meeting. Welcome Jack Hill (Obstetrics at Auckland DHB) to the group.	
Quality improvement/implementation planning *Presentation shared with the group* Feedback on QI/implementation plan: - Proposed implementation follows the PDSA (plan, do, study, act) approach at the local hospital level. - A key driver will be identifying champions in the sector and providing national data analysis to feedback and support local implementation. - The group suggests a clear communication plan needs to go alongside this QI plan. - **Next step** for this group (and subsequently the wider ERG) to agree the guidance and bundle components. Feedback on Driver Diagram: - Include critical early steps for stopping the bleed, e.g.: tourniquets, adequate wound packing, pelvic binders, haemostatic dressings, etc. - Consumer role: Discussion on where consumers can be involved to enhance what happens to them or their whānau, notwithstanding when they are likely to be unconscious. It was agreed that the guidance should include a patient advocacy perspective/due diligence to support clinicians to effectively communicate with families. - Include consideration for distinct patient groups: Jehovah's witness and DNR patients. How to ensure they are clearly informed, and care is given appropriately.	1. David to share slides with the group. 2. David to update the driver diagram and resend.

Discussion	Actions/ Follow up
Quality improvement indicators/metrics *Draft data work shared with this group* Discussion on the first draft of the analytical framework, which we expect will be reviewed substantially over the course of the project. 1. Establish baseline activity – using retrospective data to measure how many people are at-risk of haemorrhage: - Preliminary work analysing major trauma registry data shown there is no single identifying factor for patients at-risk. - Certain anatomic injuries (i.e., unstable pelvic fractures, penetrating injuries, large volumes of blood loss etc) are good indicators of haemorrhagic death. Vital signs are also useful indicators, i.e. shock index, base excess/deficit. When considering these factors, modelling shows haemorrhagic risk scales with the number of factors present. 2. Early identification of patients for bleeding bundle – using real time vital signs: - Rapid clinical assessment tools such as ABC, COAST, and TASH may form the basis of the criteria for entry into the bundle. Noted again the caveat that pre-hospital do not use ultrasound so cannot do ABC scoring. - ANZMTR data records cases where 5 units RBC given within 4 hrs (at sites that submit data to the registry). - NZBS data records all in-hospital blood use (important as some patients exsanguinate in ED with less than 2 units of blood given). - Discussion on the advantages and disadvantages of viscoelastic monitoring (VEM) techniques without explicit MTP: Advantage of MTP is speed and coordinated approach with the blood bank. Disadvantage is wastage when it is not turned off appropriately. Although VEM manages this wastage, blood banks are not involved so the process may be slower. The feasibility to livestream VEM online to blood banks was raised, with issues around responsibility for costs of wastage under such a model being raised. 3. Implementation of bundle - general sense of its uptake: - Survey of sites who have adopted the bundle/guidance 4. Evaluation of the bundle – these are **indicative/suggestions only** as bundle itself and measures to judge it have not been agreed. - Process measures: Measure appropriateness of activation and portion of blood usage and wastage. - Outcome measures: We expect a slow reduction in deaths due to haemorrhage (as only 25 deaths in one year and 20 MOF deaths associated with haemorrhage caused by trauma). Other measures of outcome may include length of stay and ICU length of stay. - Include 'time from arrival in hospital to interventional radiology or operating theatre (definitive haemorrhage control)'. - Measure variation around the country such as geographic equity of care, and gap in outcomes for Māori and non-Māori.	3. Paul to update the draft analytical framework.

Discussion	Actions/ Follow up
- Registry keeps track of domicile of injury, so we can look at rural vs urban geography at different scales and overlay timestamp data (assess significance of time delays). Other questions: Are pre-hospital deaths included? - We are in the process of a data request with SJA and WFA. - Clarification that this work is only able to impact pre-hospital deaths after treatment has been initiated (resuscitation).	
Guidance and bundle *Presentation shared with the group.* Feedback from last meeting have been incorporated. Discussion on whether the following should be included in the bundle: 1. TXA (Tranexamic acid) - PATCH study underway looking at early administration of TXA prehospital. This is due to complete recruitment at the end of the year. - Further discussion from the group is required on this. 2. Whole blood in hospitals - Important considerations for implementation are shelf life and wastage. NZBS is prepared to supply leuco-depleted blood products to hospitals that have the capacity to cycle use to minimise wastage. Currently unfeasible to provide non-leuco-depleted blood. - Small centres (where there is no surgeon on site afterhours and no interventional ability) will be unable to support whole blood use on this basis. - Optimal use of whole blood in the bleeding bundle: Whole blood **in the ED for resuscitation** followed by further **goal directed use in the operating room**. 3. Viscoelastic monitoring (ie, TEG, ROTEM) - The group agrees equipment like TEG should be available at the ED. - Unlike MTP viscoelastic monitoring requires specific set of skills to run. For smaller hospitals sourcing this may be difficult. - The group agrees that laboratory services or 'Point of care' teams should be involved in the wider group to advise on associated quality controls and expertise of laboratory services, maintaining POC devices. 4. Responsibilities for identifying the patient: - Cannot prescribe specific person/roles as these vary for different hospitals (capabilities differ). The group agrees that one QI task could be to come up with principles of each responsibility and share with DHBs for feedback and see what each DHB come back with based on their context. - The group agrees to not prescribe the activities of an interventional radiologist or surgeon, and instead focus on identifying at-risk patients, resuscitation and getting them to a haemostatic site for definitive control of bleeding. - On-site training would be valuable, e.g. NetworkZ trauma team training.	5. Kerry to circulate a summary of recommendations to this group for approval. 6. Working group to continue whole blood discussion offline and report back to this group.

Discussion	Actions/ Follow up
Link to MTP audit: https://www.clinicaldata.nzblood.co.nz/resourcefolder/audits/Adult.Massive.Transfusion.Protocol.final.audit.report.pdf **Next step** is for Kerry to share the list of recommended bundle components for the group to review/endorse.	
Draft evidence to date/short review paper *Paper shared with the group* Add a section on process in relation to a recent evidence paper. Add detail on good bleeding control management. Group can give further feedback to Kerry and David outside of the meeting.	7. David to update the review paper and resend to the group.
Other business Finalised TOR has been sent out, alongside administration documentation/ tasks. A doodle poll to set up meetings monthly until October has also been sent. We are looking at having the meeting in August in-person and will confirm this asap.	8. Everyone to complete required admin and doodle poll by Friday.
Close – Next meeting scheduled for late July.	