



## Patient Blood Management

### F. Chowdhury

*Patient Blood Management, NHS Blood and Transplant, London, United Kingdom*

In June 2012 Patient Blood Management (PBM), was launched jointly by the Department of Health (DOH), the National Blood Transfusion Committee (NBTC) and NHS Blood and Transplant (NHSBT). This superseded the Better Blood Transfusion (BBT) initiative taken in 1998 by the UK Chief Medical Offices. The aim was to build on the success of BBT initiatives and to take into consideration the resources needed to deliver and promote appropriate blood components usage, avoiding unnecessary transfusion and using alternatives transfusion whenever possible.

In the autumn of 2013, all NHS Trusts in England were surveyed <sup>(1)</sup> about their readiness for PBM. 97% of Trusts (144/149) sent in responses, 41% of Hospital Transfusion Committee (HTC) did not mention the development of PBM working groups. Majority of Trusts (97%) had a consultant haematologists assigned to transfusion medicine with job plans showing no time to 50% of the working week allocated to PBM. Over 50% reported having a fulltime Transfusion Practitioner; the majority (61%) spent less than 30% of their contracted time on PBM activities. Fewer than 50% of Trusts had additional staff (administrator, data analyst, quality manager and IT support). There were 30 different Laboratory Information Systems (LIMS) being used, the diversity was problematic for effective connectivity between hospital information systems in capturing information that demonstrated that PBM was operating or effective. In 2013 just over 1/3 Trusts had the software to electronically request blood components. Only 48 of Trusts used the national indication codes for transfusion.

The survey saw that whilst there was some preparedness for and delivery of PBM many Trusts did not have in place the resources (medical / nursing staff) or the policies to incorporate best practices recommended by PBM. The survey concluded that many Trusts had considerable scope for developing PBM initiatives, key areas for development were identified. These included

- 1) The provision of educational tools on PBM (i.e. presentations, protocols, published journal articles, website links, national templates, business cases, etc).
- 2) Publication of national PBM guidance / recommendations.
- 3) Sharing best practice examples.
- 4) Provision of data on clinical benchmarking.
- 5) Provision of further evidence and requirement for clinical staff to change.
- 6) Raising the profile & importance of PBM with senior Trust Management Teams.
- 7) Improving IT links with hospitals.
- 8) Providing examples of successful implementation of PBM initiatives
- 9) Targetting information at Hospital clinicians via workshops, education days, roadshows, Royal Colleges etc.
- 10) Highlighting the role of primary care in PBM to General Practitioners and Clinical Commissioners.

Two years later hospitals were again asked to participate in the NHSBT/NBTC PBM survey <sup>(2)</sup>, 136 (91%) Trusts responded this time. Improvement in education and training in transfusion was noted. Of the respondents, 94% indicated that PBM initiatives were included on their HTC agenda, and 98% of Trusts provided information relating to consent in comparison to 65% seen in 2013. Whilst



just over half (57%) of Trusts did not have a policy for the management of anaemia, 98% could offer, across all specialties both oral and intravenous iron to correct anaemia. There was an improvement in minimal blood sampling from 22% to 37%; ITU and pediatrics were the most common specialties with conservative blood sampling policies. There was significant increase in number of Trusts who developed and implemented a protocol for management of abnormal haemostasis. The use of TEG / RoTEM remained the same at 24%; theatres remained the main users (85%) of these tools. Intraoperative cell salvage was employed by 86% of respondents. Of the 43% who said they used post-operative cell salvage, 58% said use had decreased over the previous 2 years. There was a marked increase in use of the anti-fibrinolytics for major bleeding across all specialties. NBTC indication codes and / or local indication codes were used by 74% of Trusts. Protocols to guide transfusion requesting were available in 79% of Trusts, with 95% saying that requests are challenged. Almost 2/3 of Trusts had individual treatment plans for transfusion dependent patients.

Lower transfusion thresholds were implemented by 51% of Trusts, and 27% of Trusts had a single unit red cell policy but more than half of Trusts said they were planning to introduce a single unit red cell policy. Majority of respondents (89%) had or planned to have a policy for transfusion of single adult therapeutic dose of platelets, 95% said that patients were assessed prior to further transfusion both clinically and with a full blood count.

A third of Trusts (majority were high user groups) had recently submitted business cases to support PBM activity. Again, lack of Transfusion Practitioner time and allocated staff to support PBM was a barrier to PBM implementation, as well as lack of engagement in large teaching hospital.

The current PBM initiatives are: <sup>(3)</sup>

- 1) Improving donor marketing to achieve a blood group mix appropriate to clinical demands. BCSH guidance on appropriate use of O D Negative red cells is being produced as approximately 7% UK population is O D Negative, but demand is >12%. "Save one O D Neg a week has been launched together with the Toolkit that was produced in 2016
- 2) Education
  - a. Launch of the Blood Component App in April 2017, which can be downloaded on Apple and Android phones.
  - b. NHSBT Non-Medical Authorization of Blood Components – 3day program intended for senior nurse and midwives who are working towards making clinical decisions and providing instruction for blood component transfusion.
  - c. Courses in Leadership in Transfusion, Paediatric and Neonatal transfusion.
  - d. Resources for down loading including patient information leaflets.
  - e. Website links.
- 3) Pre-operative Anaemia, proposed pathways, assessment and optimization template, business case templates, references
- 4) Single unit blood transfusion: implementation guidelines and algorithms

Whilst the National Comparative Audit of Blood Transfusion (NCABT) <sup>(4)</sup> has been in operation since 2003, long before the launch of PBM, the profile of these NHSBT funded clinical audits in transfusion was raised by PBM in 2014 with the circulation of the audit of transfusion in children and adults with sickle cell disease and subsequent audits in 2016 (re-audit of patient blood management in adults undergoing elective, scheduled surgery and audit of red cell transfusion in palliative care), and 2017 (audit of O negative red cells, audit of red cell and platelet transfusion in



adult haematology patients and TACO audit). The objective of these national comparative audits is to provide evidence that blood is being prescribed and used appropriately and administered safely, and to highlight where practice is deviating from the guidelines to the possible detriment of patient care. PBM is now a multidisciplinary international initiative taking an evidence based approach to optimizing the care of patients who might need a blood transfusion. By using the NCABT findings PBM puts the patient at the heart of decisions made about blood transfusion to ensure that they receive the best treatment.

## References

1. Murphy, M. F. Gerrard, R. Babra, P. Grant-Casey, J. (March 2014) 2013 National Patient Blood Management Survey  
<http://hospital.blood.co.uk/media/28346/pbm-survey-2013-report.pdf>
2. Sherliker, L. Pendry, K. Hockley, N. 2015 Survey of Patient Blood Management  
<http://hospital.blood.co.uk/media/28341/2015-survey-of-patient-blood-management.pdf>
3. Join the conservation @PBM\_NHS. Hospital and Science  
<http://hospital.blood.co.uk/patient-services/patient-blood-management/>
4. National Comparative Audit in Blood Transfusion  
<http://hospital.blood.co.uk/audits/national-comparative-audit/>