Manifesto for European action on Patient Blood Management (PBM)

What is Patient Blood Management?

Patient Blood Management (PBM) is an evidence-based bundle of care to optimise medical and surgical patient outcomes by clinically managing and preserving a patient's blood.

The concept of PBM is built on three pillars

1. Optimise red cell mass
2. Minimise blood loss and bleeding
3. Optimise and harness the reserve of anaemia

To support the advancement and implementation of PBM, the World Health Assembly endorsed the concept in a resolution (WHA63.12) and the World Health Organisation and the European Commission have outlined strategies to support hospitals and member states with the implementation of PBM. These initiatives need to be translated into concrete action.

Benefits of Patient Blood Management

PBM is a disruptive approach to healthcare management with the potential of bringing benefits to millions of patients and thousands of healthcare institutions alike. Calling for an appropriate and patient centric approach, PBM can have the following mutually re-enforcing impacts:

↓ Reduced mortality
Reduced composite morbidity
Reduced average length of stay in hospital and re-admission rates

↓ Lower transfusion rates and transfusion volumes, thereby reduction of transfusion risks

↓ Reduced pressure on the blood supply ensuring blood is available for those who need it most

↑ Increased hospital savings through reduced resource utilisation

Why the current blood system also needs PBM disruption

The primary aim of PBM is to improve patient outcomes. A corollary of the improved care is a significant reduction in blood utilisation[1]. In Europe, more than 5 million patients receive approximately 25 million units of blood annually. With an aging population and decreasing number of blood donors, an increased number of countries will experience challenges in ensuring sufficient supply. Over the past 5 years, blood shortages have already been reported in several European countries during health emergencies[2]. Despite continued efforts of the European Commission to ensure 'appropriate and optimal use' of blood components[3], the NHS estimated that 15-20% of red cells were used inappropriately (2014)[4]. The persistent variation in blood utilisation across EU member states indicates that inappropriate use is pervasive.

Therefore, it is important to increase awareness around preserving and managing the patient's own blood rather than first resort to donor blood. Not only will the rate of so-called over-transfusion be reduced, but many transfusions will be pre-empted which otherwise would be deemed appropriate. This becomes even more important in light of accumulating evidence of a dose-response relationship between transfusion and adverse patient outcomes including morbidity, mortality and average length of hospital stay[5]. This demonstrates that blood transfusion as a life-saving intervention has become relative and is no longer generally applicable.

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Action plan for Patient Blood Management

During the 2019 European Health Forum Gastein, a cross-sectoral workshop, bringing together patient groups, government representatives, healthcare professionals and industry, debated the benefits of PBM and discussed the potential EU and national policy actions needed to support its implementation in hospitals across Europe.

The signatories of this Manifesto call for the following actions to be taken:

EU LEVEL ACTION

1. Fund the development of a European Network of Centres of Excellence to support the creation and implementation of PBM education programmes to train healthcare professionals and to create PBM curricula for post-graduates to be taught at Universities and medical schools.
2. Reference the concept of PBM in existing European legislation such as the EU Blood Directive in order to demonstrate its importance and give Member States an incentive to establish local guidance.
3. Include PBM in the Council of Europe's EDQM Blood Guide.
4. Exchange best practices in PBM implementation during European Commission Competent Authorities for Blood and Blood Components meetings.
5. Create an EU guidance framework that informs, educates and empowers European patients to achieve fully informed consent on treatment and therapies involving PBM.

NATIONAL LEVEL ACTION

1. Organise a Public Awareness campaign to inform patients about PBM and reinforce patient rights.
2. Bring together a multi-stakeholder group including clinicians, hospital managers, payers and chief representatives from the Ministry of Health to create national PBM guidelines based on the already published European Commission's guides on PBM.
3. Build incentives into government spending on hospitals including the use of Key Performance Indicators to ensure that hospitals implement government supported multi-professional PBM guidelines.
4. Allocate sufficient funding in healthcare budgets to routinely and timely diagnose and correct anaemia, bleeding disorders and coagulopathies in surgical and medical patients.

1. Menitove J.E. The U.S. blood system: under pressure.The Hematologist ASH News and Reports.May-June 2018, Vol 15, Issue 3 ; Klein HG, Hrouda JC, Epstein JS. Crisis in the Sustainability of the U.S. Blood System. N Engl J Med 2017;377:1485-8 **2.** European Commission (2019) Commission Staff Working Document: Evaluation of the Union legislation on blood, tissues and cells. Available at https://ec.europa.eu/health/sites/health/files/blood_tissues_organs/docs/swd_2019_376_en.pdf **3.** Hofmann et al. Building national programmes of Patient Blood Management (PBM) in the EU – A Guide for Health Authorities **4.** NHS (2014) Patient Blood Management: An evidence-based approach to patient care. Available at https://www.transfusionguidelines.org/document-library/documents/national-pbm-recommendationsfinaljune2014-pdf/download-file/National%20PBM%20 recommendationsfinalJune2014.pdf **5.** Ferraris VA, Davenport DL, Saha SP, Bernard A, Austin PC, Zwischenberger JB. Intraoperative transfusion of small amounts of blood heralds worse postoperative outcome in patients having noncardiac thoracic operations. The Annals of thoracic surgery; Goel R, Patel EU, Cushing MM, et al. Association of Perioperative Red Blood Cell Transfusions With Venous Thromboembolism in a North American Registry. JAMA surgery 2018;153(9):826-833; Yang T.O. et al. Cancer risk among 21st century blood transfusion recipients. Annals of Oncology, Volume 28, Issue 2, February 2017, p.393–399 ; Rohde JM, Dimcheff DE, Blumberg N, Saint S, Langa KM, Kuhn L, et al. Health care-associated infection after red blood cell transfusion: a systematic review and meta-analysis. JAMA. 2014 Apr 2;311(13):1317-26; Salpeter SR, Buckley JS, Chatterjee S. Impact of more restrictive blood transfusion strategies on clinical outcomes: a meta-analysis and systematic review. Am J Med 2014;127(2):124-131 e123.

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