Self-evaluation of the implementation of Patient Blood Management

Patient Blood Management Foundation

Hospital:.....

Address:.....

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Person of contact:.....

Position:.....

Email:.....

This self-assessment form and the corresponding PBM-certificate are provided by the **PBM-foundation**, a non-profit organization committed to improve patient safety.
This questionnaire asseses the degree of implementation of PBM measures and determines the corresponding PBM level (e.g. Silver, Gold).

General instructions for completing the form:

Measures are considered feasible as soon as they are theoretically possible. This also includes measures that have not (yet) been implemented for financial or organizational reasons. If a measure is feasible, please indicate the degree of implementation by ticking the appropriate box:

0 = none / rare (<10%) implementation
1 = moderate (10-50%) implementation
2 = good / frequent (>50%) implementation

Measures are considered unfeasible if there is no theoretical possibility for their implementation (e.g. participation of stakeholders from paediatrics if there is no paediatrics department in the hospital). If the respective measure is unfeasible, please tick the corresponding column.

The self-assessment form can be signed digitally. Should any problems arise, you may print, sign, and scan the form.

Please send the completed form to: **patientbloodmanagement@unimedizin-ffm.de**

Bundle 1 – General PBM project management	unfeasible	feasible		
Involvement of key PBM stakeholders [role]		0	1	2
Local PBM coordinator with protected time [central role for communication, networking, education, documentation, and benchmarking]	☐	☐	☐	☐
Hospital board of directors (eg, chief medical officer, chief executive officer, chief nursing officer) [support; official decision]	☐	☐	☐	☐
Surgeons (eg, orthopaedic/trauma, cardiac, vascular, visceral, trauma, urology, neurosurgery [interdisciplinary consensus, practical collaboration]	☐	☐	☐	☐
Anaesthesiologist/intensive care specialists [interdisciplinary consensus, practical collaboration]	☐	☐	☐	☐
Transfusion medicine specialists/transfusion committee [prevention of blood wastage, optimal blood use, changes in donor blood management]	☐	☐	☐	☐
Internists/gastroenterologists/hematologists/cardiologists/nephrologists [Anaemia management, optimal blood use]	☐	☐	☐	☐
General practitioners/family doctors [determine the necessity for elective surgery, assign patients to a hospital, preoperative anaemia management]]	☐	☐	☐	☐
Patient`s representative [need to be informed about the different alternatives to treat anaemia/create awareness	☐	☐	☐	☐
Paediatrics mainly refers to blood conservation strategies]	☐	☐	☐	☐
Central laboratory/laboratory scientists [number and amount of blood sampling, smaller blood collecting tubes]	☐	☐	☐	☐
Pharmacists/purchasing department [introduction of new drugs for the management of anaemia and coagulopathy]	☐	☐	☐	☐
Information technology department [sampling of routine data and key performance metrics]	☐	☐	☐	☐
Finance department [finance experience for program budget plan, initial project costs; hospital-wide cost savings]	☐	☐	☐	☐
Quality management [project management experience; PBM as a fixed part of a quality improvement initiative]	☐	☐	☐	☐
Public affairs [dissemination channels/marketing of the PBM project (eg, via journals/Intranet/e-mails/posters/roll-ups/press]	☐	☐	☐	☐
Undergraduate and postgraduate education				
Undergraduate education (nursing school/medical school)	☐	☐	☐	☐
Postgraduate education of physicians and clinicians (lectures, workshops; initial and yearly)	☐	☐	☐	☐
Postgraduate education of nurses (intensive care unit, normal ward; initial and yearly)	☐	☐	☐	☐
Certification (eg, by online E-learning courses) - to enhance PBM education	☐	☐	☐	☐
Local standard operating procedures/protocols				
Standard operating procedures for PBM				
Anaemia management	☐	☐	☐	☐
Coagulation management	☐	☐	☐	☐
Blood conservation	☐	☐	☐	☐
Optimal blood use/transfusion of blood products (list of index procedures for “type and screen” or “type and crossmatch (and supply)”)	☐	☐	☐	☐
Massive haemorrhage protocols (including such as damage controlled surgery, arterial embolization, haemotherapy algorithm)				
Massive haemorrhage (in general)	☐	☐	☐	☐
Postpartum haemorrhage	☐	☐	☐	☐
Trauma-associated haemorrhage	☐	☐	☐	☐
Cardiac surgery-associated haemorrhage	☐	☐	☐	☐
Bundle 1 – Subtotal	0	0		

Bundle 2 – First strategy: Manage the patient's anaemia	unfeasible	feasible		
Preoperative management of anaemia (subgroup of surgical patients)		**0**	**1**	**2**
Diagnosis of anaemia				
Identification of anaemic patients (screening), especially surgeries with relevant transfusion risk >10%	☐	☐	☐	☐
Diagnosis of iron deficiency anaemia (eg, blood count, ferritin, transferrin saturation, calculation of the individual iron deficit)	☐	☐	☐	☐
Diagnosis of vitamin B_{12} or folic acid deficiency	☐	☐	☐	☐
Extended diagnostic of anaemia (eg, consultant for gastroenterology, endoscopy; haematology, bone marrow biopsy)	☐	☐	☐	☐
Diagnosis of anaemia ideally 3-4 weeks before surgery	☐	☐	☐	☐
Diagnosis of anaemia although time to surgery is shorter than 3-4 weeks	☐	☐	☐	☐
Anaemia clinic; anaemia/PBM nurse	☐	☐	☐	☐
Treatment of anaemia				
Administration of intravenous iron	☐	☐	☐	☐
Administration of vitamin B_{12} and/or folic acid	☐	☐	☐	☐
Administration of erythropoietin	☐	☐	☐	☐
Optimizing cardiovascular and pulmonary function to improve tolerance of anaemia				
Increase of oxygen delivery (increase of inspiratory oxygen concentration); decrease of oxygen consumption	☐	☐	☐	☐
Haemodynamic monitoring in high-risk procedures/patients (normovolaemia, optimization of cardiac output)	☐	☐	☐	☐
Management of anaemia in hospitalized patients and/or after surgery				
Diagnosis of anaemia				
Diagnosis of iron deficiency anaemia	☐	☐	☐	☐
Treatment of anaemia				
Administration of intravenous iron	☐	☐	☐	☐
Administration of vitamin B_{12}, folic acid and / or erythropoiesis-stimulating agents	☐	☐	☐	☐
Bundle 2 – Subtotal	0	0		

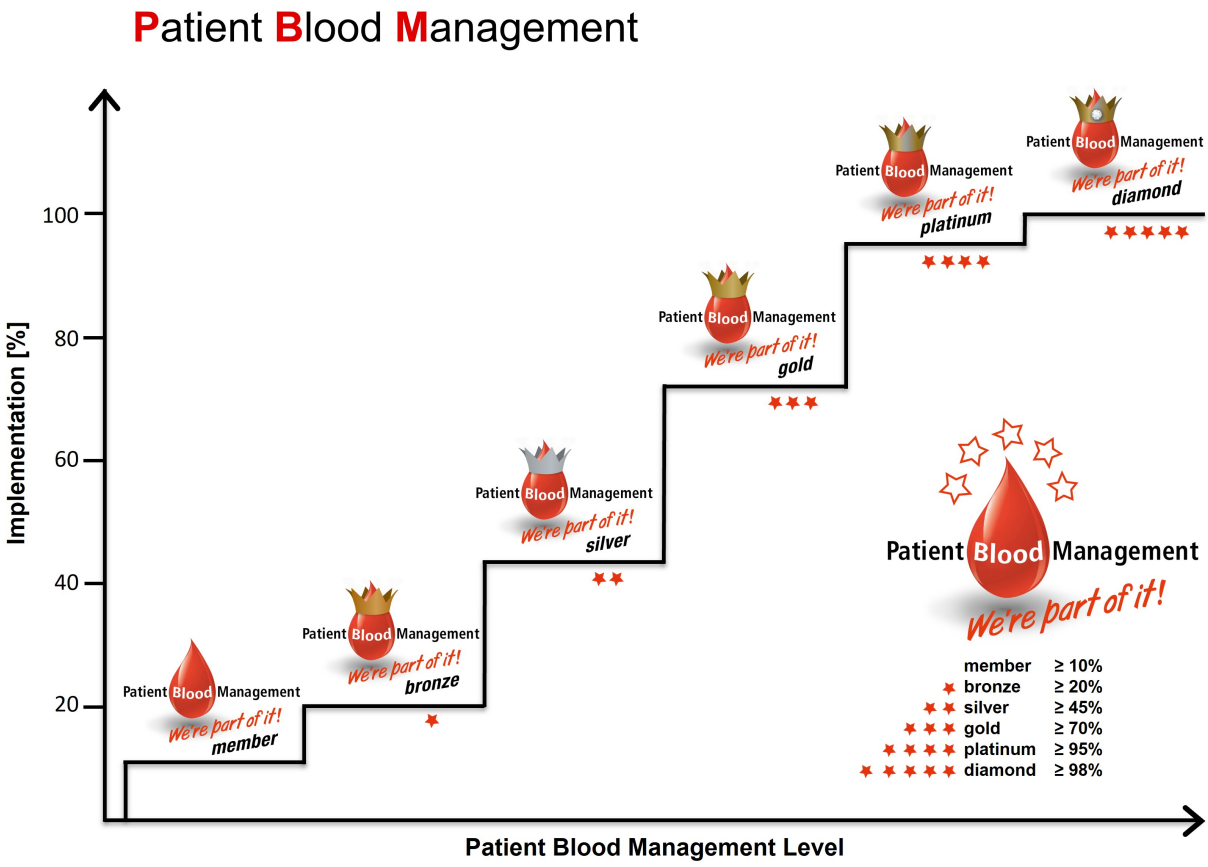
Bundle 3 – Second strategy: Interdisciplinary blood conservation modalities	unfeasible	feasible		
Reduction of diagnostic-associated blood loss		0	1	2
Restrictive frequency of blood collection	☐	☐	☐	☐
Appropriate timing of postoperative blood tests and not daily judicious use / “weekend” plan	☐	☐	☐	☐
Reduced size of blood collection tubes				
EDTA (eg, 1.8 ml), citrate (eg, 1.8 ml), lithium-heparin/serum (eg, 2.5 ml)	☐	☐	☐	☐
BGA (eg, 1 ml)	☐	☐	☐	☐
Type and screen tubes (z.B. 5 ml)	☐	☐	☐	☐
Reduced sampling for blood cultures in daily routine (limit to established indications)	☐	☐	☐	☐
Closed in-line flush devices (arterial pressure transducer systems, central venous blood	☐	☐	☐	☐
Reduction of surgery-related blood loss (subgroup of surgical patients)				
Extreme attention to minimize blood loss (eg, diathermy for tissue dissection), haemostatic adjuncts	☐	☐	☐	☐
Laparoscopic surgery/minimal invasive techniques/modern surgical instruments	☐	☐	☐	☐
Controlled hypotension (if no contraindication is present)	☐	☐	☐	☐
Autologous blood collection and retransfusion (cell salvage) – perioperatively				
Non-oncological procedures: if expected blood loss >500 mL	☐	☐	☐	☐
Oncological procedures: if massive blood loss	☐	☐	☐	☐
Oncological procedures: if expected blood loss >500 mL (radiation of washed blood; filtration using leukocyte depletion filters)	☐	☐	☐	☐
Limited numbers of swabs for blood absorption/swab washing and cell salvage (“single swab”)	☐	☐	☐	☐
Cardiac surgery (as special area)				
Small extracorporeal circuits (priming volume <1.2 L; 3/8″ lines; minimized extracorporeal circuits)	☐	☐	☐	☐
Extracorporeal circuits (retrograde autologous priming; blood cardioplegia, modified ultrafiltration/haemofiltration)	☐	☐	☐	☐
Bloodless saphenous vein graft removal/immediate wound closure/endoscopic vein removal	☐	☐	☐	☐
Preoperative management of coagulopathy				
Questionnaire/tests of haemostasis	☐	☐	☐	☐
Algorithm for management of patients with oral/parenteral anticoagulation and/or antiplatelet therapy	☐	☐	☐	☐
Haemostasis management in hospitalized patients				
Use of a coagulation algorithm for administration of blood products, clotting factor concentrates, tranexamic acid	☐	☐	☐	☐
Physiological conditions of haemostasis				
Body temperature >36°C (normothermia), pH >7,2 / Ca_i^{2+} >1,1 mmol/l	☐	☐	☐	☐
Point-of-care diagnostic in coagulopathy				
Coagulation system (eg, viscoelastic methods)	☐	☐	☐	☐
Platelet function (eg, aggregometric methods)	☐	☐	☐	☐
Empiric administration of tranexamic acid in certain procedures (particular in cardiac, orthopaedic, transplant surgery, massive haemorrhage)	☐	☐	☐	☐
Empiric therapy of platelet dysfunction (eg, desmopressin)	☐	☐	☐	☐
Bundle 3 – Subtotal	0	0		

Bundle 4 – Third strategy: Optimal blood use with patient-centred decision making	**unfeasible**	**feasible**		
Patient-centred decision making		**0**	**1**	**2**
Individual PBM plan with transfusion triggers based on the patient's risk profile/tolerable erythrocyte deficit	☐	☐	☐	☐
Written patient information form/informed consent for allogeneic blood products (in emergency after transfusion)	☐	☐	☐	☐
Intelligent electronic ordering system for blood products (including patient's lab results, alert function)	☐	☐	☐	☐
Clinician who ordered blood products can be identified (important for feedback and audit)	☐	☐	☐	☐
Indication list for each of the following hemotherapy products (eg, pocket card, posters etc)				
RBC units	☐	☐	☐	☐
Platelet concentrates	☐	☐	☐	☐
FFP units	☐	☐	☐	☐
Coagulation factors (prothrombin complex concentrate, fibrinogen, recombinant VIIa, recombinant XIII)	☐	☐	☐	☐
Single-unit policy (RBC units, platelet concentrate)	☐	☐	☐	☐
Documentation of the indication for each of the following hemotherapy products (eg, by paper-/electronic-based ordering				
RBC units	☐	☐	☐	☐
Platelet concentrates	☐	☐	☐	☐
FFP units	☐	☐	☐	☐
Coagulation factors (prothrombin complex concentrate, fibrinogen, recombinant VIIa, recombinant XIII)	☐	☐	☐	☐
Use of dosage for blood components instead of units	☐	☐	☐	☐
Bundle 4 – Subtotal	0	0		

Bundle 5 – PBM-related metrics/patient's outcome/benchmark	unfeasible	feasible		
PBM-related metrics		0	1	2
Anaemia - itemized for each department with percentage of patients				
Preoperative anaemia	☐	☐	☐	☐
Hospital-acquired anaemia	☐	☐	☐	☐
Treated anaemic patients (eg, parenteral iron, vitamin B_{12}, folic acid, erythropoiesis-stimulating agents)	☐	☐	☐	☐
Use of blood conservation techniques - itemized for each department with number of units and percentage of patients				
Use of haemostatic agents (tranexamic acid, desmopressin)	☐	☐	☐	☐
Use of cell salvage	☐	☐	☐	☐
Haemotherapy product use - itemized for each department with number of units/dosage and percentage of patients				
Blood products (RBC units, platelet concentrates, FFP units)	☐	☐	☐	☐
Coagulation factors (prothrombin complex concentrate, fibrinogen, recombinant VIIa, XIII)	☐	☐	☐	☐
Transfusion episodes where a single unit of RBCs/platelet issued	☐	☐	☐	☐
Indications for blood product use - mean pretransfusion levels (haemoglobin, platelet count, INR)	☐	☐	☐	☐
Blood product use that falls outside of hospital or professional transfusion guidelines	☐	☐	☐	☐
Blood wastage - number of units				
Crossmatch (supply) / transfusion ratio (aim: as low as possible, ratio 1.7:1)	☐	☐	☐	☐
Discarded blood products (RBC units, platelet concentrates, FFP units)	☐	☐	☐	☐
Report to clinicians/administrative departments about PBM-related metrics (once a year)	☐	☐	☐	☐
Patient's outcome				
Haemovigilance (transfusion reactions, transfusion-associated cardiac overload, TRALI)	☐	☐	☐	☐
Mortality (in-hospital)	☐	☐	☐	☐
Morbidity (eg, ICD-10 codes)				
Infections (sepsis, pneumonia), acute renal failure, acute myocardial infarction, acute ischemic stroke	☐	☐	☐	☐
Length of stay in hospital/intensive care unit	☐	☐	☐	☐
Benchmarking				
Internal/external benchmarking (eg, for selected surgical procedures)	☐	☐	☐	☐
Membership of a PBM network	☐	☐	☐	☐
Program budget for PBM				
Initial/ongoing project costs (personnel resources, dissemination); PBM-related cost savings (reduced blood products, laboratory analyses)	☐	☐	☐	☐
Hospital audit for PBM				
Participation in hospital audit for PBM practice and transfusion decisions in a sample of scheduled cases	☐	☐	☐	☐
Hospital accreditation for PBM				
Participation in a hospital certification (accreditation) program	☐	☐	☐	☐
Bundle 5 – Subtotal	0	0		

Summary

	Number of measures (total)	Maximum score (total)	Number of feasible measures (local)	Maximum score (local)	Score achieved (local)	Relative degree of implementation
Bundle 1	27	54	27	54	0	0 %
Bundle 2	15	30	15	30	0	0 %
Bundle 3	25	50	25	50	0	0 %
Bundle 4	14	28	14	28	0	0 %
Bundle 5	22	44	22	44	0	0 %
Sum	**103**	**206**	103	206	0	0 %



Place, Date	Name, Stamp	Signature

The PBM world survey

We like to ask whether you would be willing to participate in our PBM World Survey:

https://www.patientbloodmanagement.de/en/pbm-world-survey/

This study aims to assess the current degree of PBM implementation worldwide using the self-evaluation form issued by the PBM foundation. In this context, we would greatly appreciate your feedback on the following points:

1. Your institution would like to be listed on the PBM World Map on our homepage.

   Yes ☐ No ☐

2. You agree that we may use the data from your self-evaluation form in future publications.

   Yes ☐ No ☐

3. You agree that you and your hospital is named as a contributor in future publications. Readers will not be able to identify the degree of PBM implementation at any specific hospital.

   Yes ☐ No ☐

Questions & Comments