How Local and national benchmarking such as the MAPBM can empower hospitals in PBM implementation

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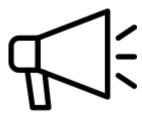
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DISCLOSURES



The MAPBM Project at the IMIM research center receives "Unrestricted Grant" from CSL Vifor, Sysmex and Baxter





PBM BENEFITS





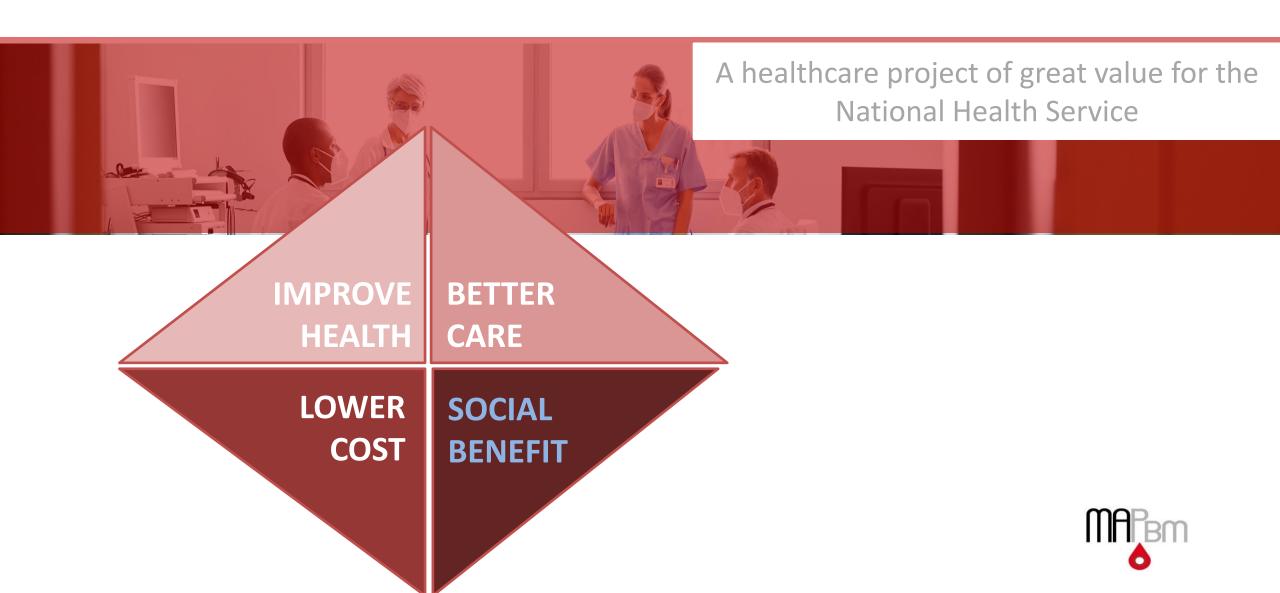








PBM. A "diamond" of the Quality policies







ACTION FRAMEWORK TO ADVANCE UNIVERSAL ACCESS TO SAFE, EFFECTIVE AND QUALITY-ASSURED BLOOD PRODUCTS • 2020-2023

The six strategic objectives are:

- 1 an appropriately structured, well coordinated and sustainably resourced national blood system;
- 2 an appropriate national framework of regulatory controls, national standards and quality assessment programmes;
- g functioning and efficiently managed blood services;
- effective implementation of patient blood management to optimize clinical practice of transfusion;
- 6 effective surveillance, haemovigilance and pharmacovigilance, supported by comprehensive and accurate data collection systems;
- opartnerships, collaboration and information exchange to achieve key priorities and jointly address challenges and emerging threats at global, regional and national levels.





There is a limited implementation of PBM in hospitals and in national health systems





THE CHALLENGE





A method that allow Hospitals or National Health Services

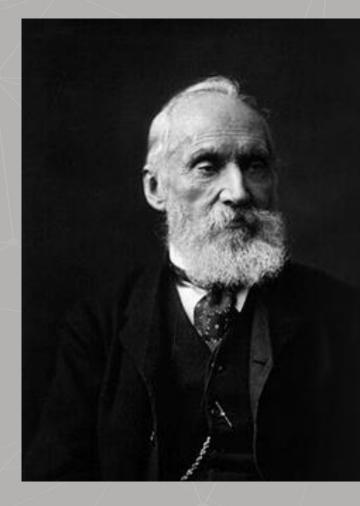




- **6** Facilitate the implementation of a PBM program
- Assess the maturity of their PBM clinical practice
- **benchmark** with other centers
- Identify the variability transfusion and PBM drivers
- ♦ Asses continuous improvement of transfusion-related KPIs & outcomes
- **b** Ease the communication between clinicians and management







"If you cannot measure it.
You cannot improve it."

Lord Kelvin

@PropertyDanH



We develop a PBM maturity scorecard to serve the healthcare providers and healthcare services to implement, measure, assess and benchmark their respective PBM programs.

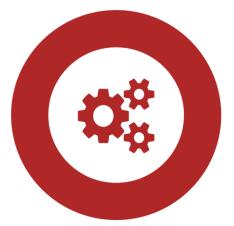


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Maturity Assessment Model in PBM

Improving clinical results with Patient Blood Management

Methodology



Benchmark



Clinical management





MAPBM Maturity Matrix

	Dimensions fo	or assessment	Maturity			
	Dimensions		Basic	Initial	Advanced	Excellent
	Structure	Organisation and Governance				
		Training and Education		0	0	
		Information Systems		Ĭ	I	
	Process	P1. Optimise red cell mass		Y		
		P2. Minimize blood loss and bleeding		(C)		
		P3. Harness and optimise physiological reserve of anaemia				
	Outcomes -	Intermediate : Transfusion Rate, Index,Total transfusion Index		9	>	
		Hard: In-Hospital Mortality, Complications, Length of Stay, Re-admissions		9 0		

SELECTION OF BLEEDING CLINICAL PROCEDURES

Total knee arthroplasty, total hip arthroplasty, colorectal cancer surgery cardiac valve surgery, hip fracture and gastrointestinal

*Hysterectomies



STRUCTURE. WEB BASED QUESTIONNAIRE AND SURVEY.



STRUCTURE DIMENSIONS	STRUCTURE DRIVERS
	PBM Workgroup
	Clinical Protocols
Organization & Governance	Pillar 1. Preoperative Anaemia management
	Pillar 2. Minimize blood loss
	Pillar 3. Transfusion thresholds
	Healthcare professionals' knowledge
Professionals & Training	PBM educational programs for clinicians
Training	PBM educational programs for patients
	PBM-related computerized physician order-entry (CPOE) systems
	Reporting capabilities
	Surveillance and monitoring
Information Systems	Patient -level KPIs (with possibility to compare baseline)
	Activity based consumptions
	Patient-level outcomes
	Use of information

Hospital internal survey

Questions to hospital healthcare professionals via an internal survey Do you know if there is a PBM program in your hospital? Do you consider alternatives to avoid/minimize transfusion in your daily practice with your patients? Are you familiar with the preoperative anaemia management protocol of your hospital? Are you familiar with any blood loss minimization protocol of your hospital (i.e. us of antifibrinolytics) Are you familiar with the transfusion protocol (transfusion thresholds) of your hospital? Do you consider any other factors than Hb levels for transfusion decision? Do you regularly receive (or have access to) useful information of your transfusion related clinical practice?





Global



PROCESS KPIs

HOSPITAL EMR DATASETS

PROCESS DIMENSIONS	CLINICAL RECOMMENDATIONS		PROCESS KPIs	APPLICABLE FOR	DATA AVAILABILITY ⁽³⁾
	1	Assess preoperative anaemia early enough to implement the appropriated treatment	% of patients with an Hb determination 21-90 days before surgery ⁽¹⁾	В	83 %
	2	Asses preoperative iron metabolism	% of patients with a Ferritin determination 21-90 days before surgery (1)(2)	В	83 %
PILLAR I.	3	Treat preoperative anaemia	% of patients treated preoperatively 7-90 days before surgery	В	75 %
Optimize red cell mass	4	Preoperative anaemia is a contraindication for elective surgery	% of patients with anaemia prior to surgery	В	83 %
	5	Treat periprocedural anaemia	% of patients treated with IV iron during hospital stay	А	85 %
	6	Do not transfuse preoperatively	% of patients with preoperative transfusion	В	98 %
PILLAR II.	7	Apply regional anaesthesia, whenever possible, to reduce blood loss	% of patients under spinal anaesthesia	С	88%
Minimize blood loss and bleeding	8	Minimize surgical bleeding with antifibrinolytics	% of patients treated with antifibrinolytics perioperatively	В	81 %
	9	Reuse own blood, whenever possible	% of patients with blood recovery systems preoperatively	В	80 %
PILLAR III.	10	Apply restrictive transfusion thresholds	Hb level prior to transfusion	А	81 %
Harness and optimize physiological reserve	11	Apply restrictive transfusion thresholds	% of patients transfused with $Hb \ge 8 g/dl$	А	81 %
of anaemia	12	Single-unit red cell transfusions	% of single-unit transfused patients	A	98 %
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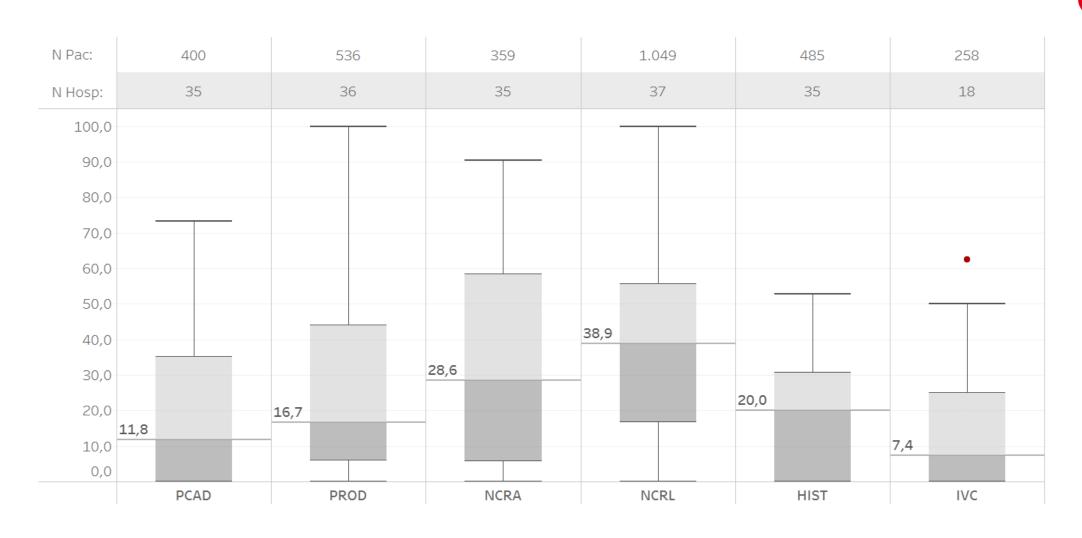
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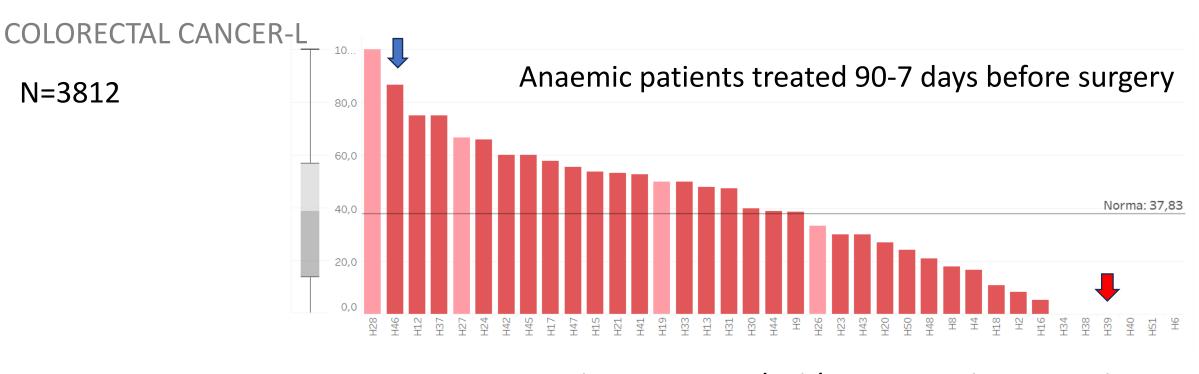
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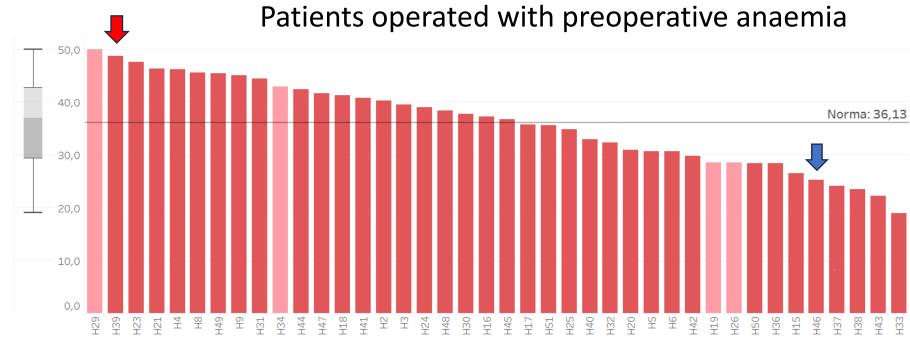
THR

PROCESS. Pillar 1. Anemic patients treated 90-7 days before surgery





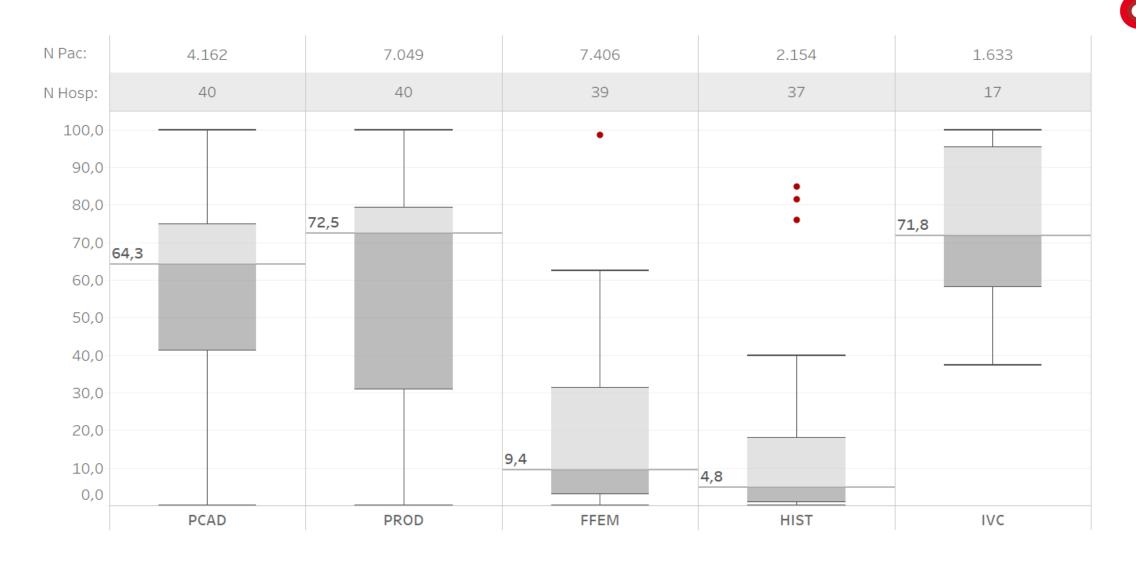




PROCESS. Pillar 2

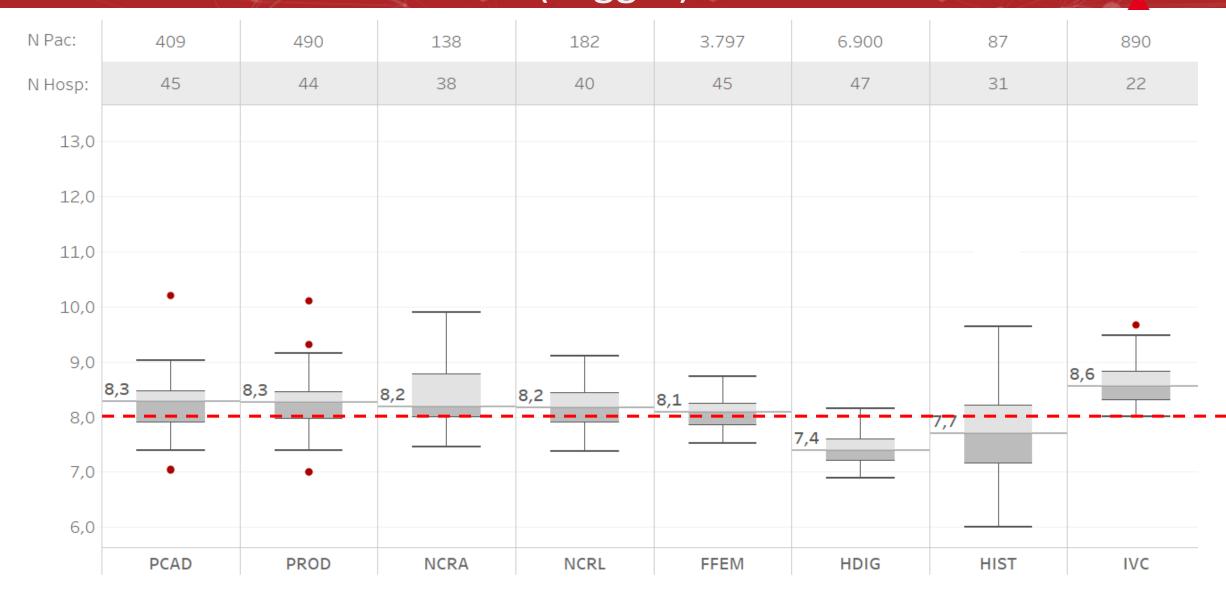
Patients treated with perioperative antifibrinolytics





PROCESS.Pillar 3 Mean Hb before transfusión (trigger)





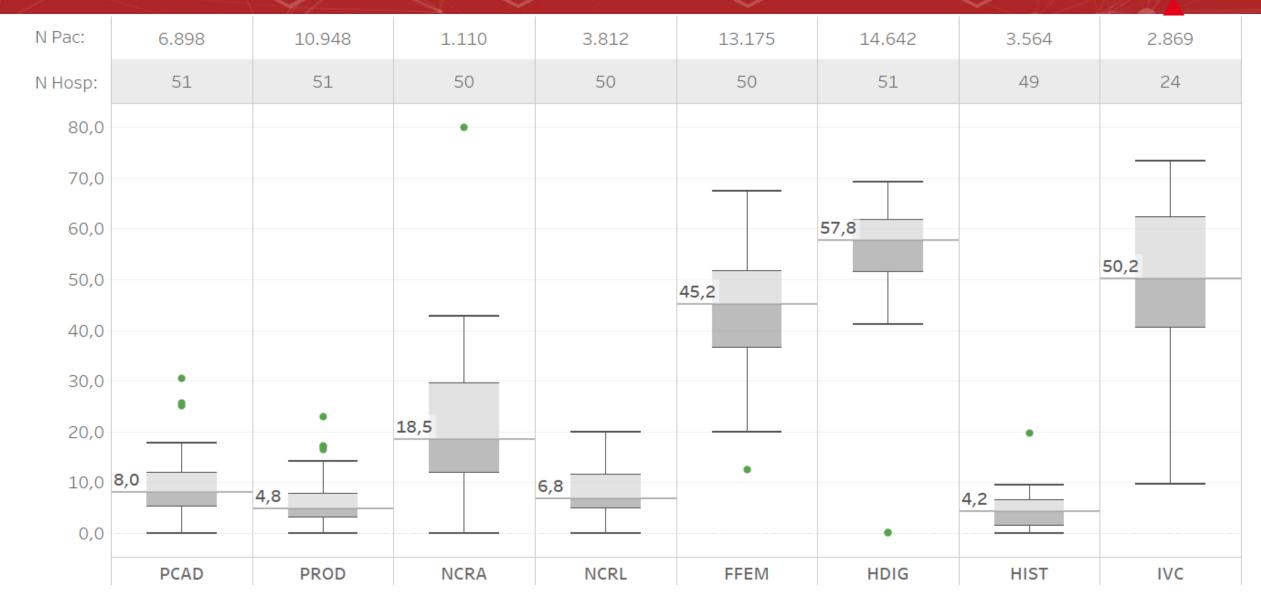
OUTCOMES KPIs

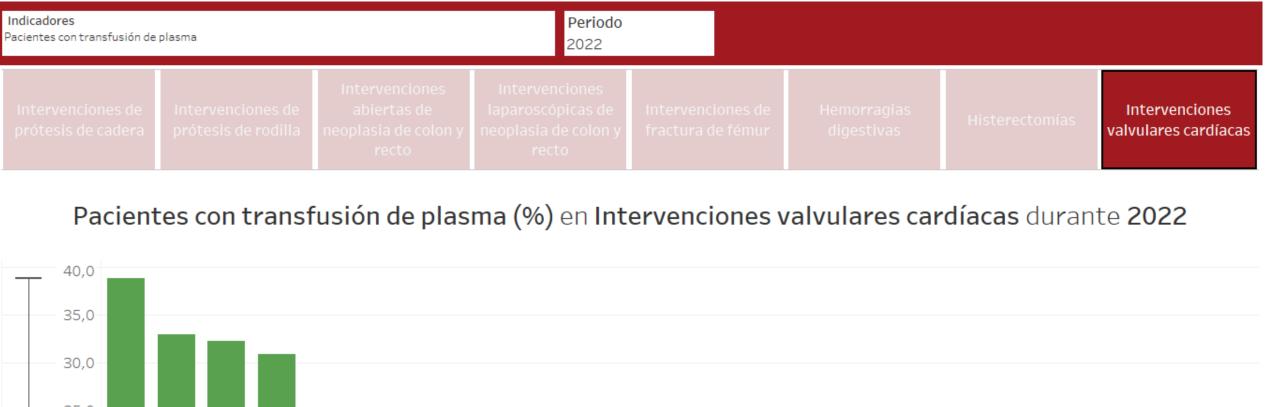


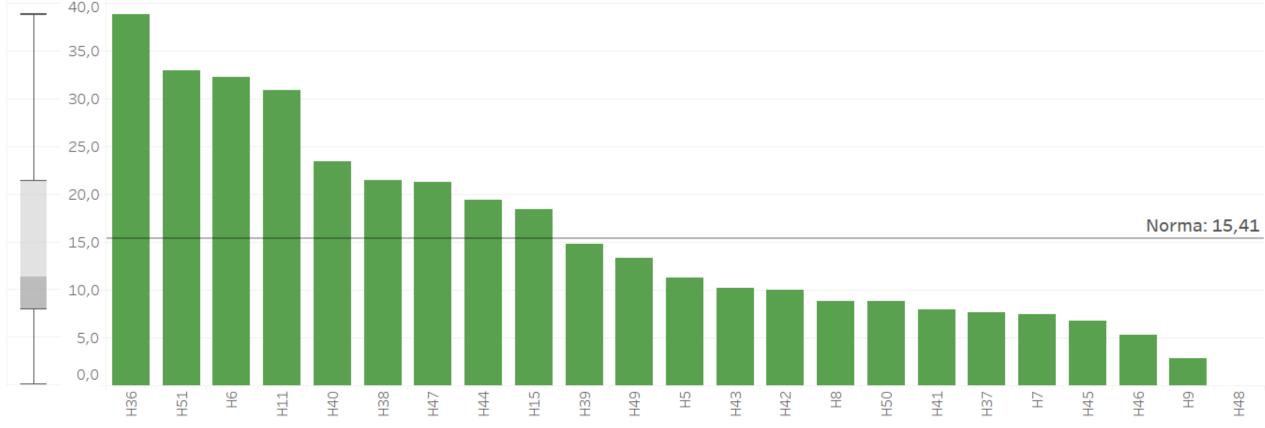
OUTCOMES DIMENSIONS	OUTCOMES KPIs	APPLICABLE FOR	DATA AVAILABILITY ⁽³⁾
	Transfusion rate	А	98 %
INTERMEDIATE OUTCOMES	Transfusion index	А	98 %
	Total transfusion index	А	98 %
	In-hospital mortality	А	100 %
HARD	Complications	А	100 %
OUTCOMES	Length of stay	А	100 %
	30-day related readmissions	А	100 %

RESULTS. Transfusion rate







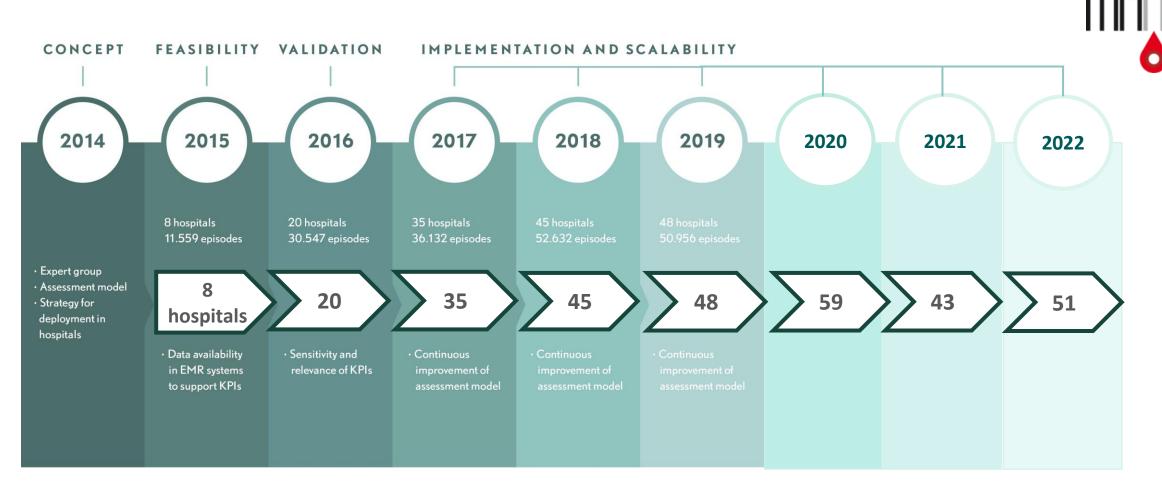


Correlation (model AHRQ of complications)

TTI (índice ajustado) **vs.** Outcomes (índice ajustado)

Coeficientes de correlación de Pearson





After 9 years of experience

Increasing hospitals included in the project (60)

> 300.000 procedures analyzed

BY SIZE				
Small-size general hospital (less than 200 beds)	10			
Mid-size general hospital (between 200 - 400 beds)	17			
Major-size general hospital (between 400 - 600 beds)	8			
Major-size general hospital and at least one reference department (1) (between 400 - 900 beds)	11			
Large hospital with reference specialties (more than 900 beds)	13			

⁽¹⁾Reference departments consider: Neurosurgery, Cardiac Surgery, Thoracic Surgery and Transplants.

BY TEACHING SERVICE			
Teaching*	43		
Non-teaching	16		

BY PUBLICLY FUNDED (NHS) / PRIVATE			
Public	55		
Private	4		

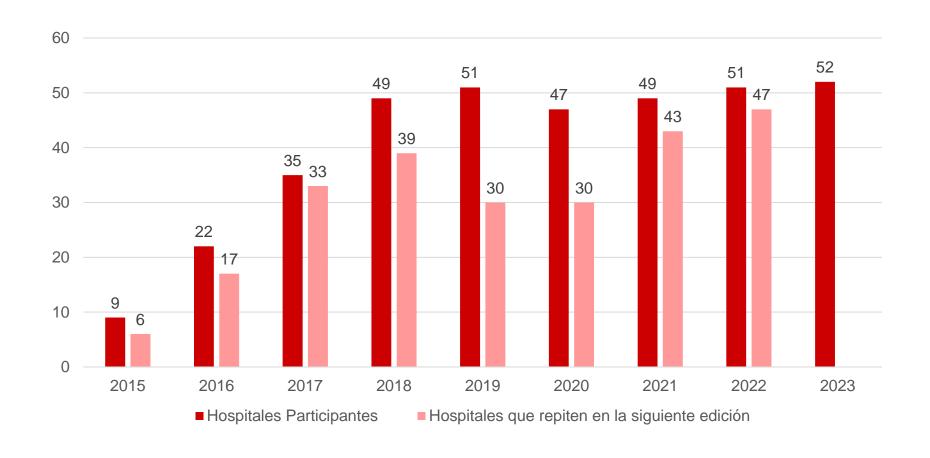


Bisbe E et al. The MAPBM project. Blood Transfus. 2021;19(3):205-15

Consolidated project







START



JANUARY-MAY New hospitals AGREEMENTS

MAY **KICK-OFF**

- . Information for new Hospital
- . Improvements of the tool



DECEMBER HOSPITAL REPORT











NOVEMBER BENCHMARKING

JUNE-SEPTEMBER



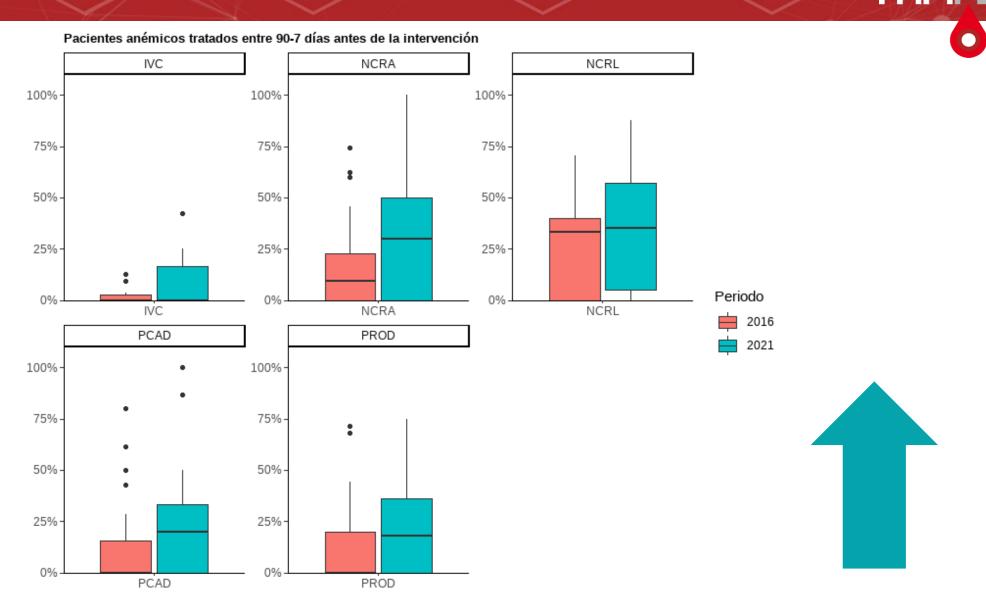
- MBDS
- DATASETS (PLATAFORM)
- WEB BASED QUESTIONNAIRE
- SURVEY



PBM evolution in 5 years. Preop anemia treatm. MAP

MAPBM

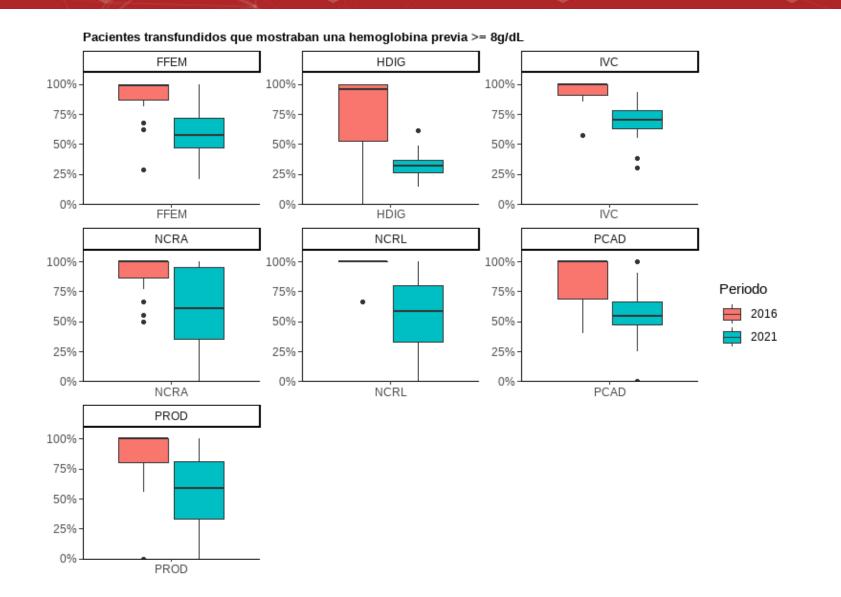
PILLAR 1



PBM evolution in 5 years. Hb trigger

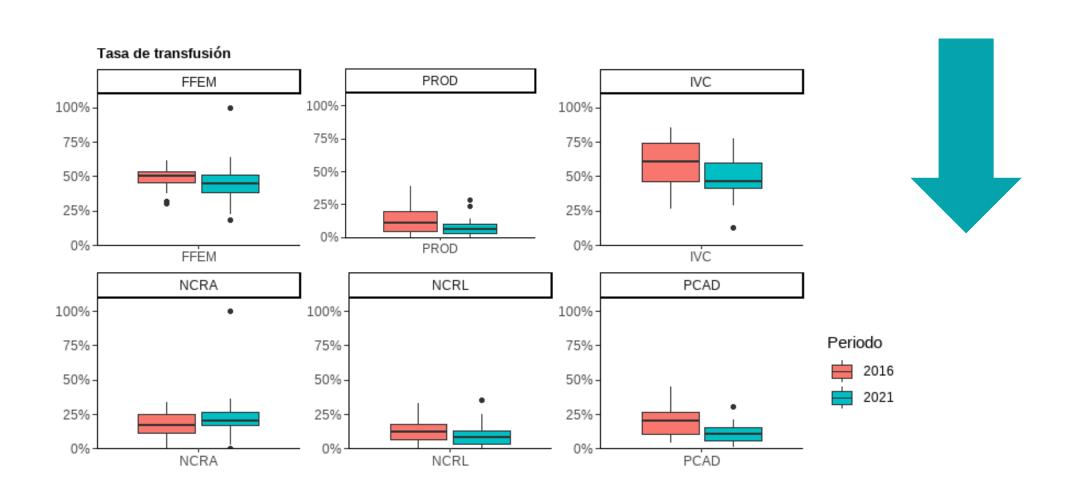


PILLAR 3



PBM evolution in 5 years. TRANSFUSION RATE





WHAT HAVE WE LEARNED?

measurable KPIs.

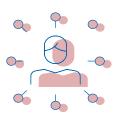


- This tool makes it easier for hospitals to measure and benchmark their PBM clinical programs and outcomes.
- Improving the implementation of PBM has proven to be feasible in a large and growing number of hospitals in Spain.
- ♦ MAPBM provides hospitals with a continuous scorecard to evaluate their PBM performance and improvement.



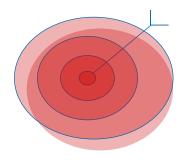
OTHER BENEFITS for the TEAM





Experience







Innovation

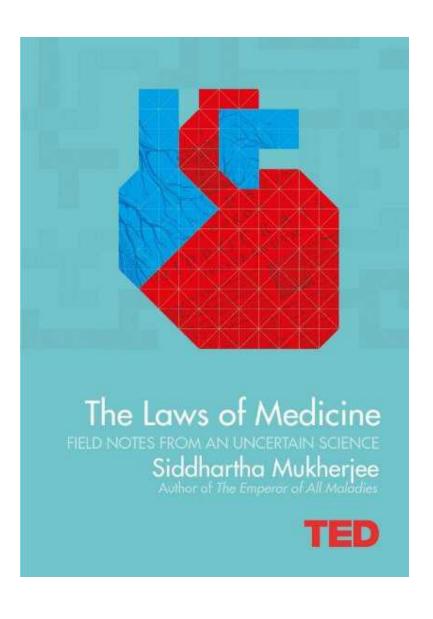


Networking



International collaboration





it's easy to make perfect decisions with perfect information.

Medicine, on the other hand, demands perfect solutions with imperfect information.





MAPBM has been a useful tool for hospitals to develop PBM programs and improve patients' safety

THANK YOU VERY MUCH

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