INTRODUCTION
Patient Blood Management (PBM) is a patient-focused, evidence-based and systematic approach designed to optimize patients’ outcomes in an effort to improve quality of care in the pre-operative setting. PBM is based on three pillars: optimizing the patients’ red blood cell (RBC) mass, minimizing blood loss and optimizing in-hospital tolerance of anaemia. One of the main objectives of PBM is to mitigate the potential negative impact of anaemia pre-and postoperatively. We built a budget impact model (BIM) of a PBM program in France, defined in this study by the pre-operative management of iron deficiency anaemia with ferrous carboxymaltose (FCM).

METHODS
This BIM compared two scenarios: ‘current clinical practice’ (without a PBM program) and ‘national PBM implementation’ in orthopedic surgery from two different perspectives: hospital and Health Insurance payer. The time horizon of this BIM was one year.

The model was based on an analysis of the French national hospital database for 2016: Programme de Médicalisation des Systèmes d’Information (PMSI) which provides estimates of the eligible population, the average length of stay, the average number of RBC units transfused, and the cost of hospitalisation. These data were supplemented by a systematic literature review and validated by an expert consensus.

The literature data also allowed to determine a coefficient of variation in order to simulate input data after the PBM implementation. In this context, the proportion of patients treated pre-operatively with IV iron, Erythropoiesis Stimulating Agent (ESA) and RBC transfusion, with the corresponding drug was tested. A variation of the average length of stay was also considered (Kotasek et al. 2012).

RESULTS
More than 385,000 patients could benefit from the implementation of a PBM program in orthopedic surgery over one year (170,000 in public hospitals and 215,000 in private hospital respectively).

From a public hospital perspective, the total cost impact of PBM implementation is estimated to be €4.2M (€1,173.2 per patient, €138.4M in a public setting) and €4.2M for private hospitals.

From a Health Insurance perspective, the total cost impact of PBM implementation is estimated to be €4.3M in a public setting (€1,173.2 per patient, €138.4M for public hospitals and €4.2M for private hospitals).

CONCLUSION
The implementation of a national PBM program in France would represent a potential saving of patients’ outcomes and a high added value for the public health system resulting from reductions in transfusion rates and hospital lengths of stay. In orthopedic surgery, cost saving is estimated to be €1,173 per patient from a public hospital perspective. PBM, as a holistic approach, should become the standard of care in the pre-operative setting to improve patients’ outcomes and quality of care as well as lowering costs.

REFERENCES
Kotasek et al. 2012

BUDGET IMPACT ANALYSIS OF PATIENT BLOOD MANAGEMENT IMPLEMENTATION FROM HEALTH INSURANCE PAYER AND HOSPITAL PERSPECTIVES IN FRANCE