Shark Tank Project Concept

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Title	Reducing Unnecessary Blood Transfusions at UCH

Abstract 6.

Background:

Blood Banks of large medical centers have annual budgets of millions of dollars. Overuse of blood products results not only in a loss of the product's direct cost, but also of the fees involved in transporting, handling, and administering these products. Optimal utilization of blood products requires a balance between maximizing patient clinical outcomes while avoiding unnecessary costs and risks associated with transfusions. There are well-studied thresholds of anemia severity (a measured serum hemoglobin of 7g/dL) above which, with few exceptions, packed red blood cell (pRBC) transfusions are not beneficial and sometimes cause harm.

From May 2017 to May 2018, 46.4% of pRBC transfusions were given to patients with a hemoglobin (Hgb) greater than 7g/dL across UCH hospital floors, accounting for 4922 pRBC transfusions of a total of 8573.

Project Description:

We propose conducting a single site (University of Colorado Hospital) QI project with the goal of decreasing inappropriate pRBC transfusions. Our target measures include the percent of pRBC transfusions occurring when pre-transfusion hemoglobin was greater than 7g/dL, the absolute ratio of single versus multiple pRBC units transfused, and the variability among ordering provider teams. We plan to improve value in blood product utilization by using models from other institutions as a springboard to accelerate change in our institution. At a direct cost of ~$250 per unit, and with a modest estimate of 15% reduction in inappropriately transfused units, the potential cost savings is nearly $190000 annually. With a true estimated cost of closer to $600 per unit, the annual cost savings could approach nearly $450000. Other institutions have demonstrated significantly higher savings due to overall reduction in transfusions, upwards of >$1 million annually.

AIM Statement:

We aim to reduce unnecessary pRBC transfusion (transfusions for Hgb>7.0) in non-ICU inpatient settings by 30% by June 2019.

Project Needs:

Graphic analysis (example: pareto and control charts); Data Support (EPIC, Vizient, PowerBI, COMPASS)