20 Years Nationwide Trends In Blood Product Utilization: Evidence Of Effectiveness Of Blood Management Programs Across The Nation

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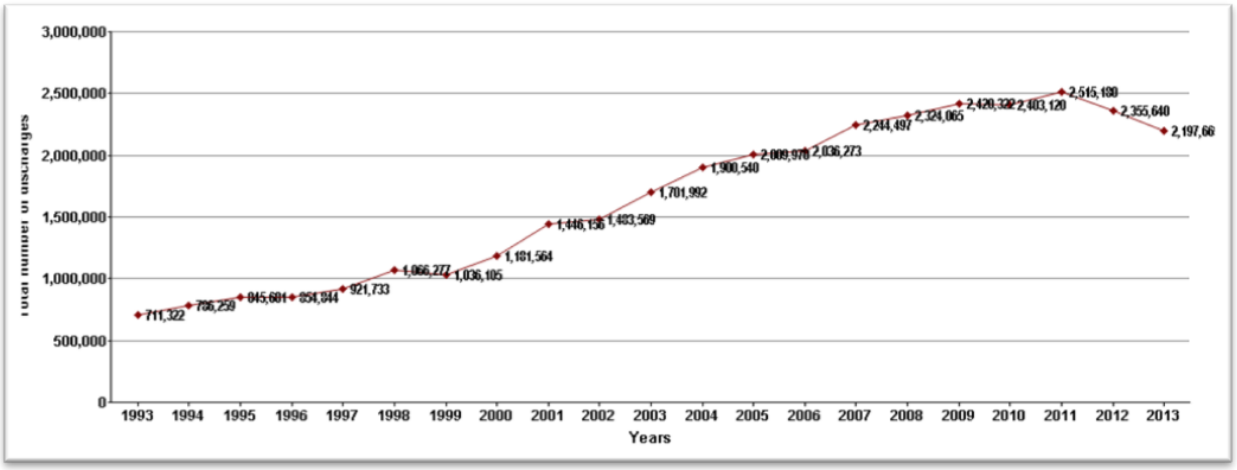
Background: Patient blood management (PBM) programs are expanding across the United States. Multiple studies show effectiveness of PBM initiatives at individual hospital/center level. However, nationwide trends in blood utilization remain less explored. This study aims to identify trends in blood utilization in hospitalized patients over 20 years.

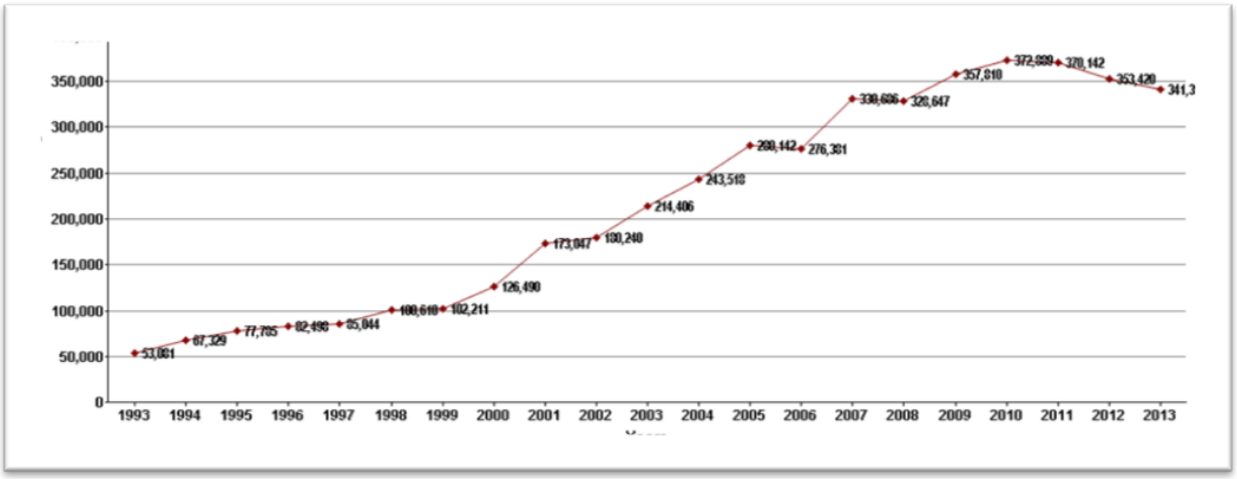
Methods: This study utilized the Nationwide Inpatient Sample (1993-2013) database for a trend analysis of inpatient blood product utilization. Using a stratified probability sample of 20% of hospitalizations, sampling weights and survey methodology were applied to generate nationally representative estimates.

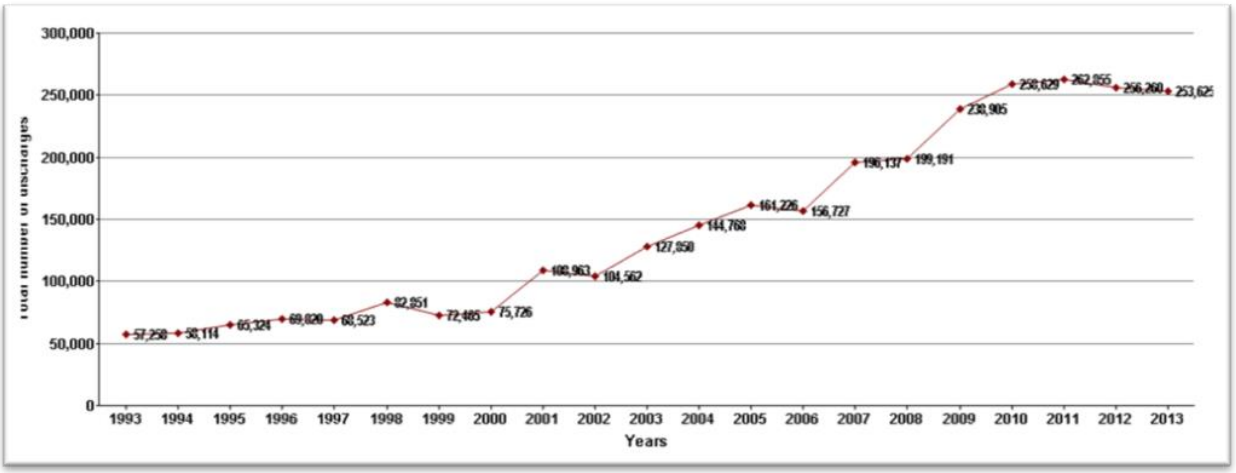
Results: From 1993 to 2011, there was steady upward trend in total number of hospitalizations reporting red blood cells (RBC), plasma, and platelet transfusions (Figure 1). However, from 2011 to 2013, there was a 12.6% decrease in hospitalizations with RBC transfusions (from 2,515,500 to 2,197,669), 7.7% decrease in hospitalizations with plasma transfusions (370,142 to 341,390) and a smaller decrease of 3.3% in hospitalizations with platelet transfusions (262,355 to 253,625).

In sub-group analysis, assessing RBC utilization by age groups, hospital type and payer, there was consistent decrease in RBC utilization for all groups assessed, except for 1) pediatric age group, 2) private for-profit hospitals 3) non-teaching and 4) small bed size hospitals.

Conclusions: These nationwide trends in RBC, plasma and platelet transfusions for hospitalized patients over 20 years show decrease in overall transfusions between 2011 to 2013 likely reflecting the effects of PBM initiatives. There is need for targeted PBM interventions for pediatrics, private for-profit hospitals, non-teaching and small bed size hospitals.







20 year nationwide trends in hospitalizations with reported platelet transfusions