



Fewer Blood Transfusions – Reducing Risks and Costs: Implementing a program to reduce red cell transfusions in adult patients in Calgary hospitals

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Why?

Transfusions present numerous risks to patients including:

- Allergic reactions
- Febrile non-hemolytic
- Bacterial sepsis
- Circulatory overload
- Acute lung injury
- Infectious complications
- Hemolysis



The estimated cost of a red cell transfusion to the health care system is \$1000 .

That’s approximately \$90,000/day in red cell transfusions in Calgary alone.

Choosing Wisely Canada and the Canadian Society for Transfusion Medicine recommend single unit red cell transfusions as the standard of care for non-bleeding, hospitalized patients. This is based on the increased morbidity and mortality associated with transfusion, when often a single unit of blood is adequate to relieve patient symptoms. Calgary Zone Transfusion Guidelines advocate transfusion decisions be based on symptoms in addition to hemoglobin concentration.

How?

A screening algorithm was created for stable adult inpatients and ER patients after consulting Calgary physicians and laboratory stakeholder groups:

- Hgb < 60g/L – give up to 3 RCs
- Hgb 60-65g/L – give up to 2 RCs
- Hgb 66-79g/L – give 1 RC
- Hgb > 79g/L – no RCs given / consult with Transfusion Medicine physician

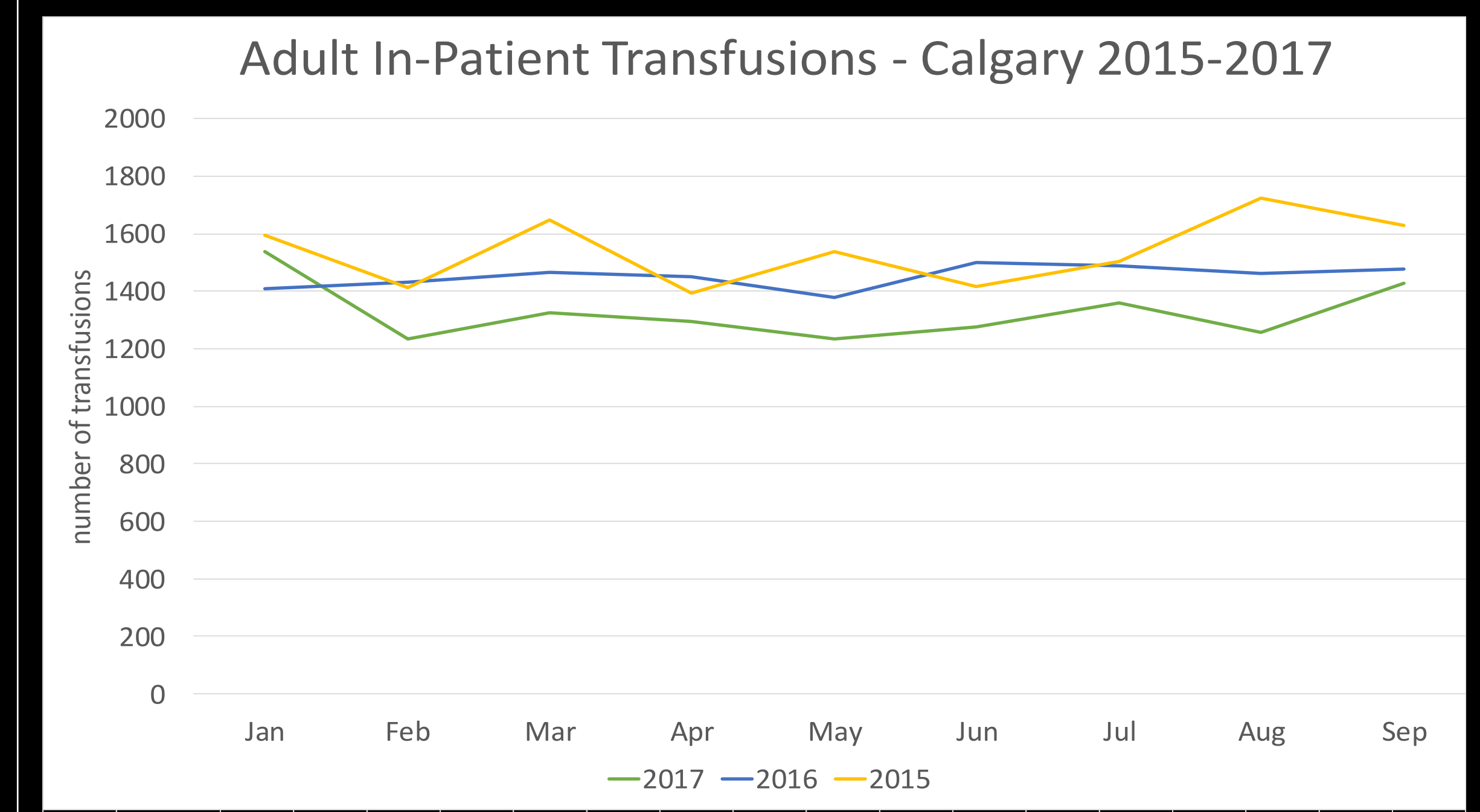


Transfusion Medicine dispenses red cells according to the screening algorithm and the patient’s current hemoglobin result. Additional red cells ordered outside of the algorithm require intervention with either a new hemoglobin result or a Transfusion Medicine physician consult.

Communication and staff education were the main challenges and ensuring patient care was not impacted.

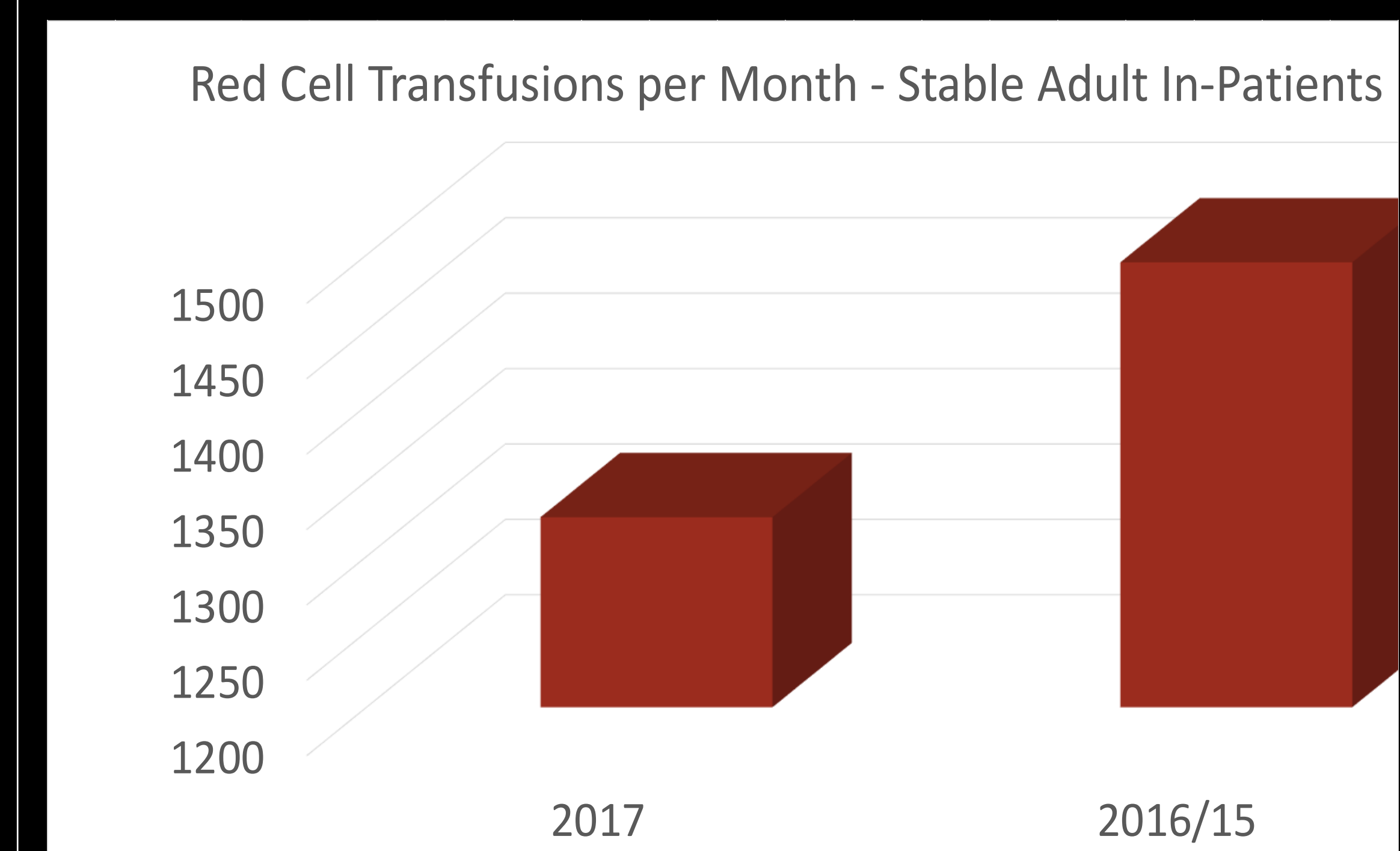
A database is kept to track the results of all orders screened and blood use statistics are reviewed and analyzed regularly.

What happened?



Starting in January 2017 at our two pilot sites, the Foothills Medical Centre and South Health Campus, we saw an immediate reduction of approximately 110 red cells per month. By April we had brought Calgary’s other two adult hospitals on board, the Rockyview and Peter Lougheed Centre.

Almost 200 unnecessary red cell transfusions per month are now being avoided, which translates to approximately \$200,000 in savings per month for the Alberta blood budget between these four hospital sites.



What did we learn?

Almost 200 unnecessary transfusions per month are being avoided which translates into 200 fewer opportunities for errors and adverse reactions for patients. This reduction in red cell utilization is also saving the provincial blood budget approximately \$200,000 per month for the changes made at these four hospital sites. We are in the process of extending the red cell screening program to our rural hospitals and are in the initial stages of a plasma screening implementation.