

Using a Refrigerator on Wheels To Reduce Blood Wastage in the Operating Room



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Introduction

Red Blood Cell (RBC) wastage continues to be a challenging issue for hospitals.

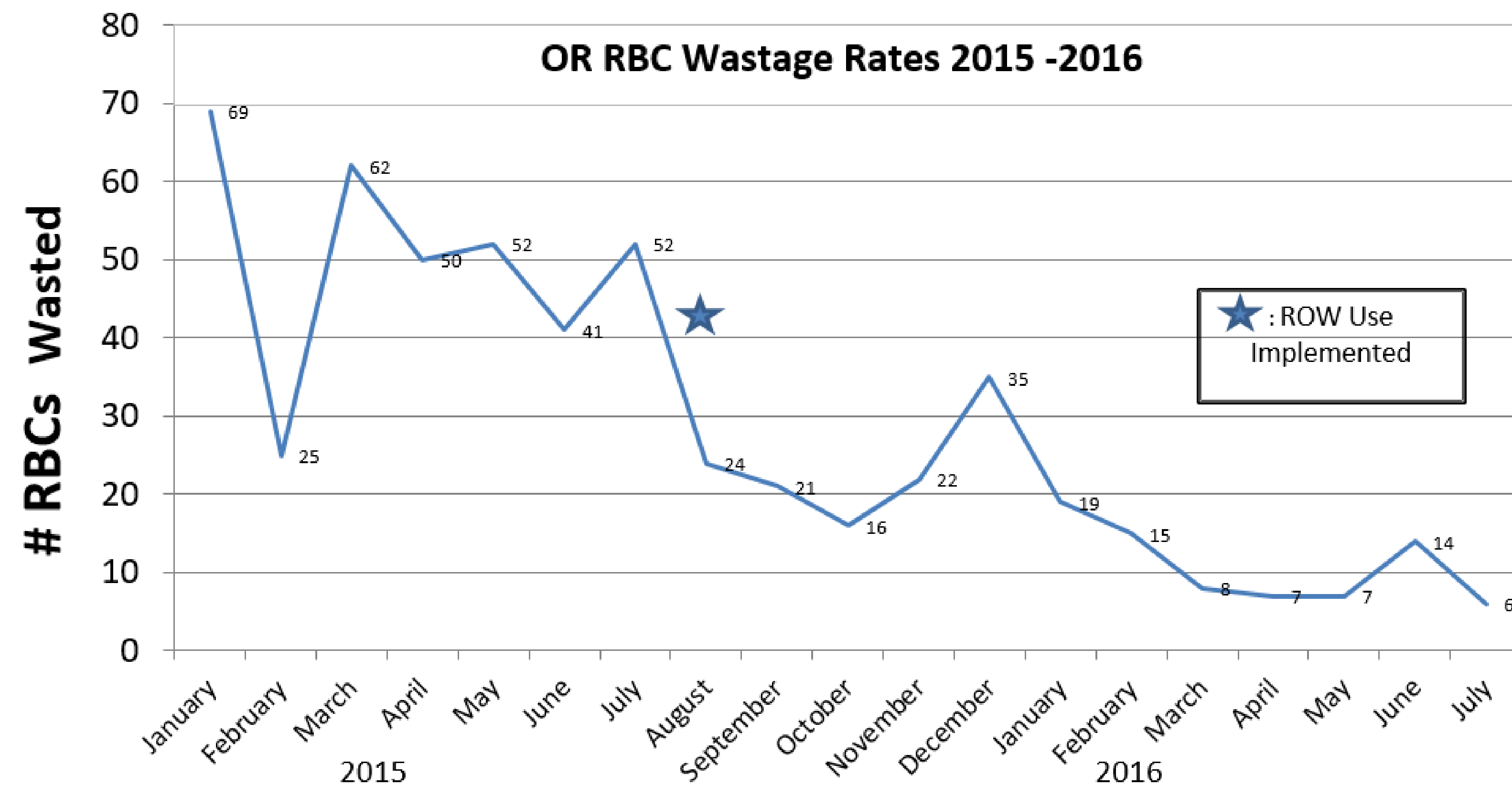
- CAP Q Probe studies shows that it is possible for RBC wastage rates to reach < 0.5%¹.
- RBC wastage rates from Jan – July 2015 in our Level 1 trauma hospital Operating Rooms (OR) were well above this level (average 6.4%). 100% of this wastage was due to units exceeding acceptable temperature.
- Wastage in OR was due to the lack of storage options within the OR rooms.
- We implemented a process improvement project to reduce wastage by focusing on providing refrigerators on wheels (ROWs) for surgeries with a potential for high blood use.

Materials and Methods

- Safe-T-Vue temperature indicators, Williams Laboratories, Temptime Corporation, Morris NJ
- LR-8 Portable Medical Refrigerator, Roemer Industries, Santee, CA

Results

	RBC Transfusions Total	RBCs Wasted in OR	Wasted/Transfused Rate (OR)	Total Acquisition Cost (wasted RBCs)	Acquisition Cost per Month (wasted RBCs)
Pre-intervention (Jan – Jul 2015)	5606	359	6.4%	\$86,160	\$12,309
Post-intervention (Aug 2015 – Jun 2016)	8799	188	2.1%	\$45,120	\$4,102



Conclusions

By educating OR staff and adding a ROW to the equipment for holding RBCs in the high-RBC using OR cases:

- RBC wastage decreased by 66%.
- Reduction of RBC acquisition cost by \$92,202.
- No RBCs issued in the ROW were wasted.
- ROW purchase was less than \$5,000, giving an almost immediate return on investment.
- Based on these results, we expanded our ROW inventory by two more ROWs as well as purchasing new coolers
- Continuous monitoring of wastage is an important part of inventory management.

References

1. Novis DA, Renner S, Friedberg R, et al. Quality Indicators of blood utilization. Arch Pathol Lab Med – Vol 126, Feb 2002, p.150-156