

Specializing Bundled Supplies to Reduce Waste and Cost

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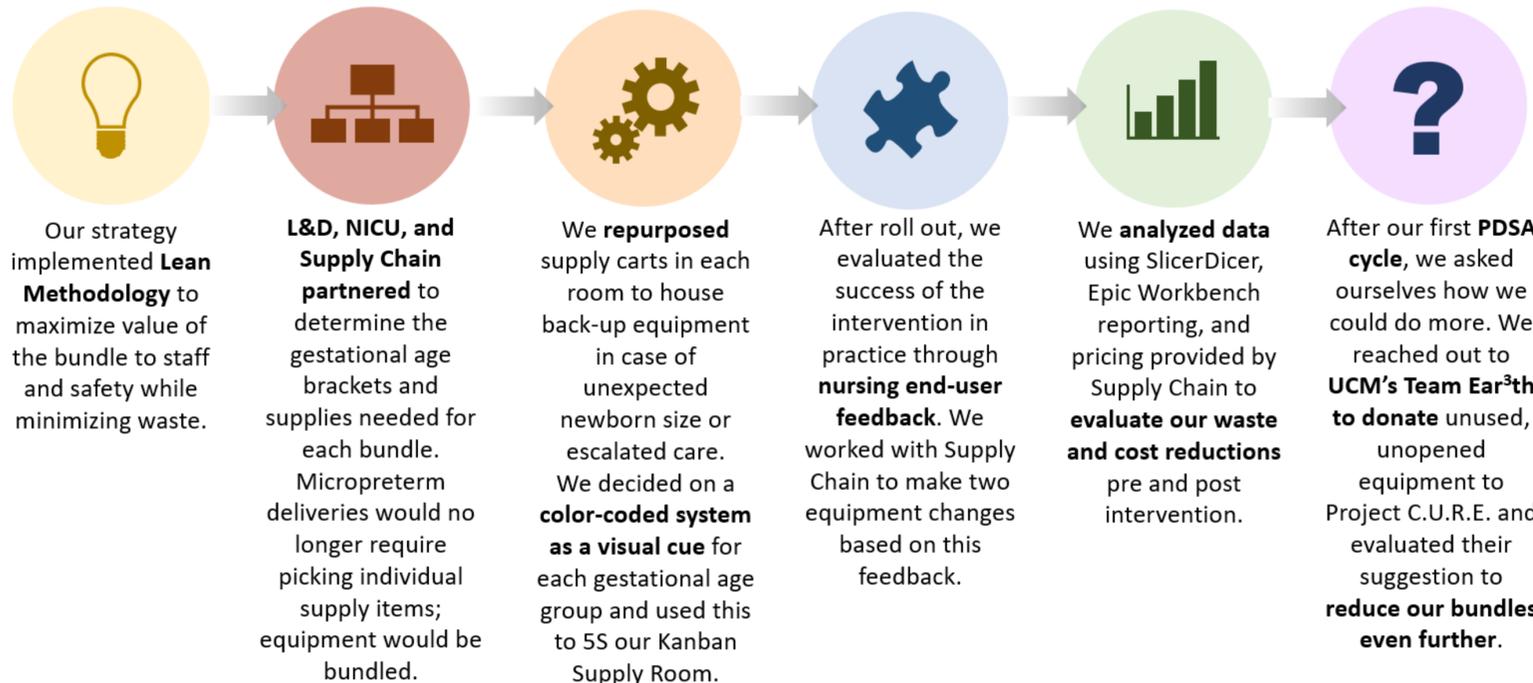
Problem

- Labor & Delivery nurses set up a newborn resuscitation bed for each admitted laboring patient. The required supply items are bundled in a grab bag for easy access.
- Each bundle contained 23 pieces of resuscitation equipment, including five resuscitation mask sizes for two different ventilation options, two suction catheter sizes, and outdated equipment that was no longer part of the NRP algorithm. Micropreterm deliveries required additional equipment to be individually picked from the supply closet.
- 2019-2021 had an average of 2,914 deliveries per year leading to about 67,500 pieces of bundled equipment used annually.
- These bundles created a lot of waste. Not all pieces were the appropriate size for the delivered newborn, not all newborns require resuscitation at delivery, and not all laboring admissions end up delivering, but once in a patient's room, disposable supplies must be discarded between patients per UCM's Infection Control policy.
- There was an opportunity to better align with UCM Perinatal Services AOP metrics of Value & Finance by, "identifying and implementing cost-savings measures to maintain and improve operating margins."

Goal

- We aimed to generate less waste by separating our generic supply bundle into three smaller, specialized bundles based on gestational age and removing outdated equipment based on the NRP algorithm.
- In addition to impacting UCM's ecological footprint with waste reduction, we intended to lower the cost of the bundle and streamline the nurse's workflow for setting up resuscitation equipment.

Strategy



Impact

- One generic supply bundle became three specialized, color-coded supply bundles.
 - Each bundle was reduced from 23 to 18 pieces of equipment.
- The new micropreterm gestational age bundle improved efficiency in setting up for these intensive resuscitations and reduced opportunity for human error in forgetting supplies or picking incorrect equipment.
- A previously unused stocking cart in each room was repurposed and 5Sed to house back-up supplies.
- Outdated equipment was removed from the bundle in alignment with NRP standards.
- We successfully decreased our unit's waste with a 22% reduction in bundled supplies and Supply Chain reported a cost savings for L&D's supply budget.



	Waste Reduction by Specializing Supply Bundles			
	Bundled Supplies	Annual Supply Usage*	Annual Waste Savings	Percent Reduction from Original
Pre Intervention	23	67,022		
Post Intervention	18	52,452	14,570	22%
Next Steps	14	40,796	11,656	39%

**Based off average 2,914 deliveries per year between 2019-2021*

Next Steps

- After a literature review of neonatal resuscitation ventilation methods and inspiration from UCM's Team Ear³th, we have begun the process of reducing our bundles even further.
- We have been stocking two options for ventilation. We will remove the redundancy by bundling only the t-piece resuscitator over the self-inflating bag and its components. This will allow us to remove four complementary equipment pieces from our bundles, leading to a 39% reduction from the original bundle and an additional savings of ~\$42,000.

Acknowledgements and References

- Thank you to the L&D and NICU nurses, the L&D and NICU Leadership Teams, Supply Chain, Team Ear³th and Project C.U.R.E.
- Environmental Cleaning And Disinfection. (2020, August). The University of Chicago Medicine Policy and Procedure Manual, Infection Control(02-09).
- Roehr, C. C., Davis, P. G., Weiner, G. M., Jonathan Wyllie, J. J., Wyckoff, M. H., & Trevisanuto, D. (2020, June 11). T-piece resuscitator or self-inflating bag during neonatal resuscitation: A scoping review. *Pediatric Research*, 89(4), 760–766. <https://doi.org/10.1038/s41390-020-1005-4>
- Weiner, G. M., Zaichkin, J., & Kattwinkel, J. (2016). Textbook of neonatal resuscitation. *American Academy of Pediatrics*.
- UpToDate. (n.d.). *Www.uptodate.com*. Retrieved September 12, 2022, from https://www.uptodate.com/contents/neonatal-resuscitation-in-the-delivery-room?search=neonatal%20resuscitation%20in%20the%20delivery%20room&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1