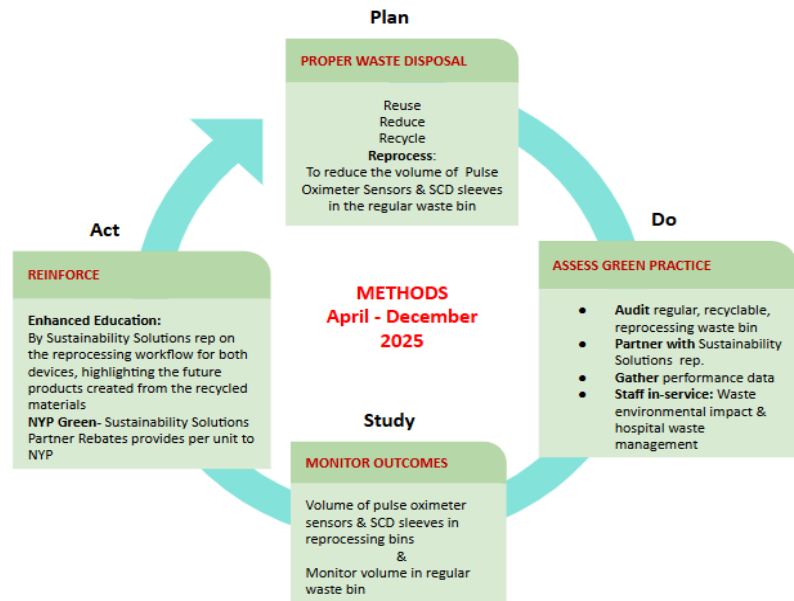


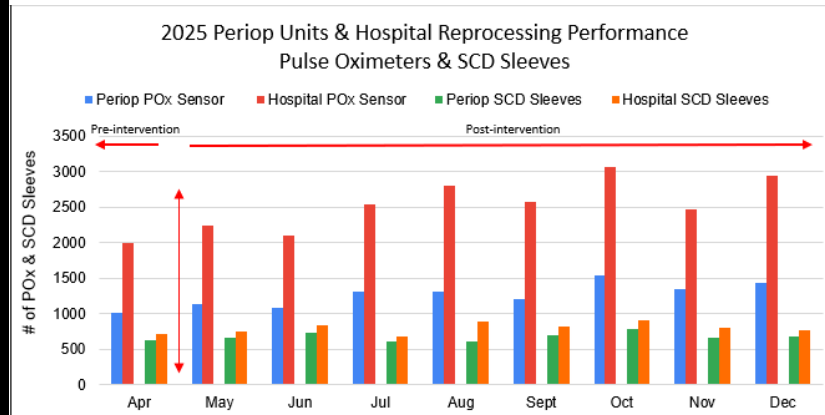
## BACKGROUND

- The daily waste generated by US Healthcare facilities is approximately 14,000 tons, with each patient accounting for about 33.8 pounds. Much of this waste ends up in landfills or in the natural environment
- Medical device reprocessing programs offer an opportunity to improve operational efficiency, reduce healthcare costs, and environmental impact. In 2024, the Association of Medical Device Reprocessors (AMDR) reported that reprocessed single-use devices diverted nearly 12 million pounds of medical waste from landfills
- PACU staff awareness, knowledge & practice of proper waste management in the unit requires attention
- PICO Question:** How does **enhanced education** on the **reprocessing of pulse oximeter sensors and SCD sleeves**, compared to the current hospital reprocessing education program, influence staff practice in reprocessing of both devices?



## KEY FINDINGS

- Monthly rate variability highlighted the need for ongoing education, reminders, and reinforcement to sustain green practices
- PACU staff contributed an average of 50% of all hospital pulse oximeter reprocessing and 84% of compression sleeves monthly, highlighting significant role in waste reduction
- Perianesthesia nurses can lead sustainable initiatives that reduce waste, protect the environment, and generate **cost savings** (0.30-0.50 cents per pulse oximeter and 0.35 cents per SCD sleeve)



## Waste Hierarchy



## RESULTS

- Reprocessing rates improved, particularly for pulse oximeters, following enhanced education
- Pre-intervention (April):** 859 pulse oximeters & 191 SCD sleeves were reprocessed. Hospital total 1999, and 710, respectively
- Post-intervention (May-December): Periop Units** Pulse oximeter collections fluctuated between 1078 to 1535 and SCD sleeves fluctuated between 604 to 778 monthly  
**Hospital** pulse oximeters increased to 2109 to 3066 and SCD sleeves fluctuated between 687 to 903 monthly
- Cost savings generated** = (PACU) Pulse Ox \$3,419 - \$ 5,699 & SCDs \$2,113. Hospital Pulse Ox (\$6,832 - \$11,386) & SCDs \$2,515

## DISCUSSION

- This initiative demonstrates that reprocessing education can be expanded to include additional reusable items (e.g., urinals, bedpans, basins, nasal cannulas), further reducing hospital waste
- Long-term success depends on fostering a culture of environmental responsibility, where staff consistently engage in effective waste management practices.
- Health care facilities and manufacturers should be leading in making supply chain decisions to reduce harmful environmental and public health effects

## REFERENCES

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