

Key Points

- Baptist Health Louisville Pharmacy **incurred a loss \$8,743.58** due to compounded sterile product waste over three months
- Vasopressin and Phenylephrine constituted approximately half of the wasted products and were **most commonly wasted in the ICU/CCU**
- A ‘Call-to-Verify’ system was implemented for three months and resulted in the **reduction** of Vasopressin waste **by 38.9%** and a reduction of Phenylephrine waste **by 41.4%**
- Pharmacist-led waste reduction efforts led to a **savings of \$2,166.53** over three months

Learning Objectives

- Develop internal assessments of compounded sterile product waste
- Develop a strategy to mitigate unnecessary CSP waste
- Recognize the financial implications of the elimination of unnecessary CSP waste

Introduction

The standard of practice for compounding sterile products (CSP) is outlined in the United States Pharmacopeia (USP) Chapter <797>.¹ Compliance with <797> is essential for providing patients with safe, non-contaminated intravenous products. CSP waste is unavoidable, but many products are wasted unnecessarily, imposing a significant financial burden on the pharmacy. Stringent beyond use dating (BUD) guidelines for CSPs necessitate the establishment of CSP handling procedures to decrease the potential for waste. The goal of this study is to identify potential sources of CSP waste and demonstrate the financial implications of waste reduction in a community hospital setting.

Table 1

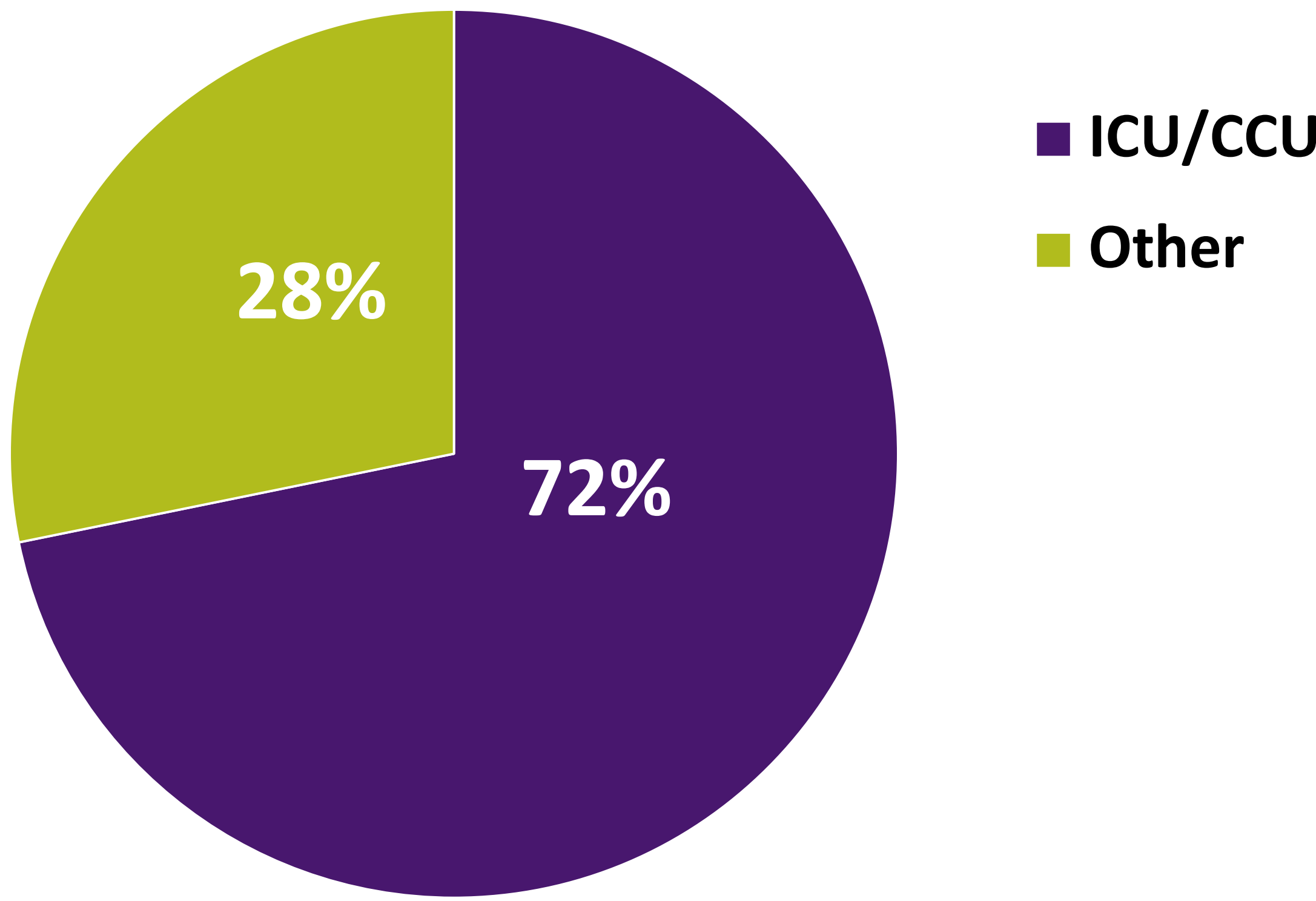
	Drug	Times Wasted	Money Wasted
1	Vasopressin	17	\$2,386.33
2	Phenylephrine	39	\$1,208.14
3	Daptomycin	5	\$725.12
4	Ertapenem	8	\$438.95
5	Phytonadione	3	\$404.80

Methods

- To analyze potential sources of CSP waste at Baptist Health Louisville Pharmacy, an **internal assessment was conducted for three months**
- Each wasted CSP was recorded along with the dosage, unit to which it was dispensed, and fluid (if applicable) in which it was dispensed
- To assess the financial implications of this waste, the **cost of each wasted product was calculated** based on the price of purchase established on the first day of data collection (*Table 1*)
- The orders that incurred the greatest financial loss in Baptist Health Louisville Pharmacy were Vasopressin and Phenylephrine when ordered from the ICU/CCU (*Figure 1*)

Figure 1

Location of Phenylephrine and Vasopressin Waste



- To mitigate overproduction and financial losses, a **‘call-verification’ system was implemented** and served to verify immediate need, as Vasopressin and Phenylephrine were commonly ordered automatically in the ICU/CCU²
- The call-verification system was implemented for three months
- The **internal assessment of waste was repeated** and the financial implications are reported

References

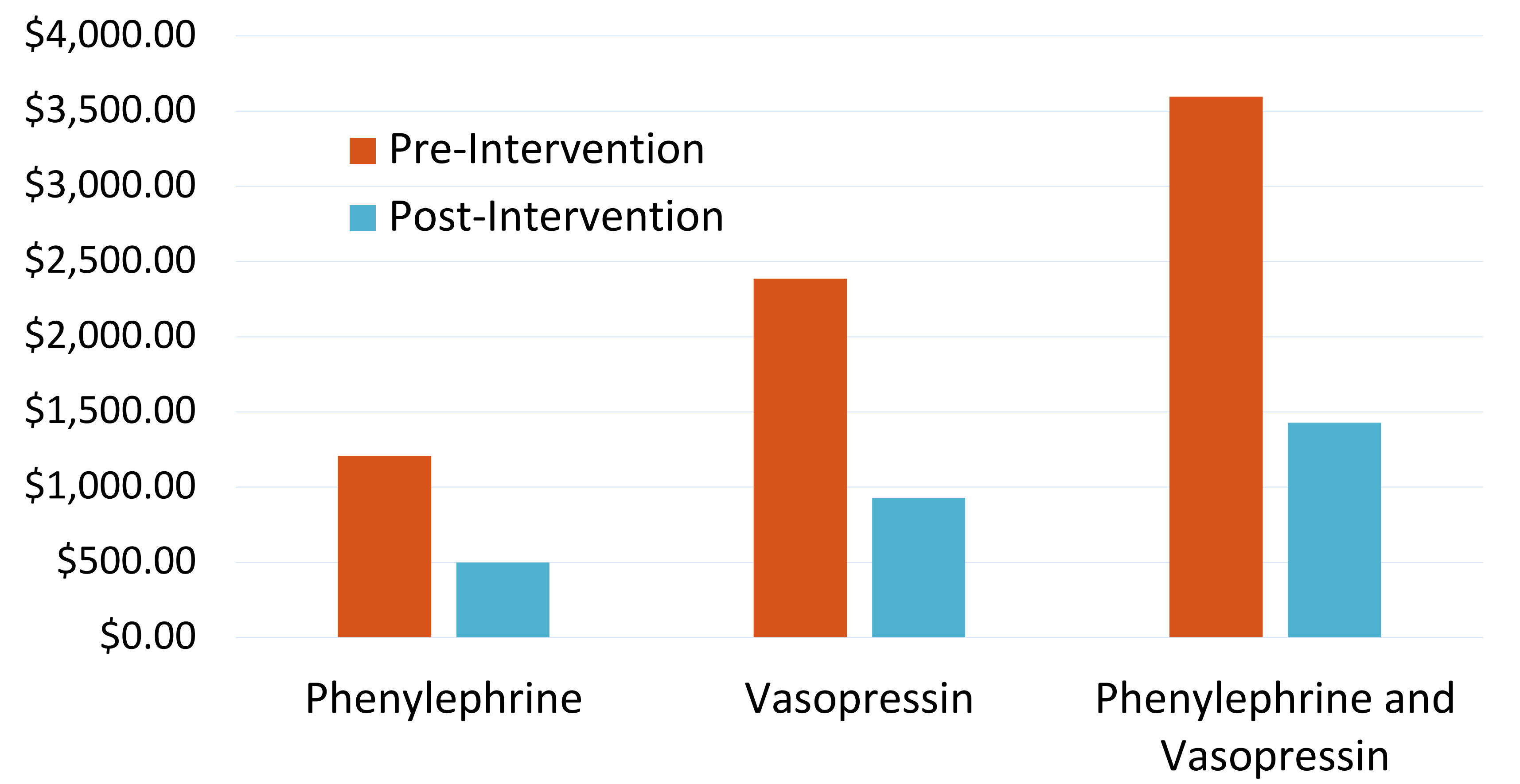
- Pharmaceutical compounding—sterile preparations (general information chapter 797). In: The United States Pharmacopeia, 36th rev., and the National Formulary, 31 ed. Rockville, MD: The United States Pharmacopeial Convention; 2016.
- Kastango, E. S. (2009, March 31). Waste is the Enemy. Retrieved March 20, 2018, from <http://asp.pharmacyonesource.com/images/medboard/WasteistheEnemy.pdf>

Authors do not report any possible financial or personal relationship with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.

Results

- The ‘Call-to-Verify’ intervention **reduced unnecessary waste of two vasopressors** commonly used in the ICU/CCU at Baptist Health Louisville from \$3594.47 to \$1427.94 (+\$2166.53; -39.7%)
- Phenylephrine waste was reduced by the **41.4% (+\$708.22)**
- Vasopressin waste reduction saved **\$1458.31 (-38.9%)**

Savings with 'Call-to-Verify' System in the ICU/CCU



Limitations

- Cost calculations did not include the labor costs associated with compounding and dispensing the wasted CSPs, the cost of any reconstitution and dilution fluids, nor any supply cost for compounding
- Fluctuation in drug pricing during the study was assessed
- Fluctuation in dispensing patterns occur throughout the fiscal year and this study only assessed two three-month periods

Implications and Future Direction

- Hospital pharmacies can **discover significant sources of waste** through internal assessments
- Simple interventions** to procedural and workflow shortcomings can **eliminate unnecessary waste**
- This study may serve as a **model for additional assessments** within Baptist Health Louisville, but also for other **community hospitals seeking to mitigate unnecessary CSP waste**