

# Standardizing Investigational Hazardous Drug Handling

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## Introduction and Purpose

- Investigational hazardous drugs pose challenges
  - Limited research in early phase trials
  - Administration practices not well-defined causing
    - Deviations in time
    - Varied total amount of drug received
- Inconsistent usage of closed-system transfer device (CSTD)

**Purpose:** To lessen nurse and patient exposure to investigational hazardous drugs; to standardize nursing administration practices; and to obtain the most accurate investigational study data.

## Methods

- Components were trialed on commercial hazardous drugs with fluid volumes > 50mL
  - A membrane-based CSTD
  - Tubing primed with hazardous drug
  - A 'short-set' investigational hazardous drug flush practice

**Sample:** 25 infusions over 19 days (4 work weeks)

**Setting:** Midwest NCI designated cancer research center

- Nurses completed evaluation survey of safety and satisfaction pre- and post- trial
- Number of safety events pre- and intra-trial
- Infusion start/stop times with any infusion length deviations (+/-10 minutes) noted

## Results

- Increased nurse perceived safety and satisfaction using membrane-based CSTD and standardized flushing practices (Figure 1 & 2)
- Decreased safety event reports (Table 1)
- Standardized amount of drug received with 0.8 mL investigational hazardous drug remaining in tubing

## Conclusion

- Trialed membrane-based CSTD was more efficient than currently utilized luer-based CSTD (Figure 1)
- Nurses felt safer with trialed CSTD (Figure 1)
- 'Short-set' flushing practices standardize drug waste
- Using 'short-set' flushing and membrane-based CSTD would support safer administration of less understood investigational hazardous drugs

Membrane-based closed-system transfer device + standardized administration practices =

**Increased** nurse perceived safety  
**Increased** nurse satisfaction  
**Decreased** safety events  
**Accurate** infusion start/stop times



## Figures and Table

Figure 1. Reported Nursing Safety and Satisfaction for Membrane-Based CSTD

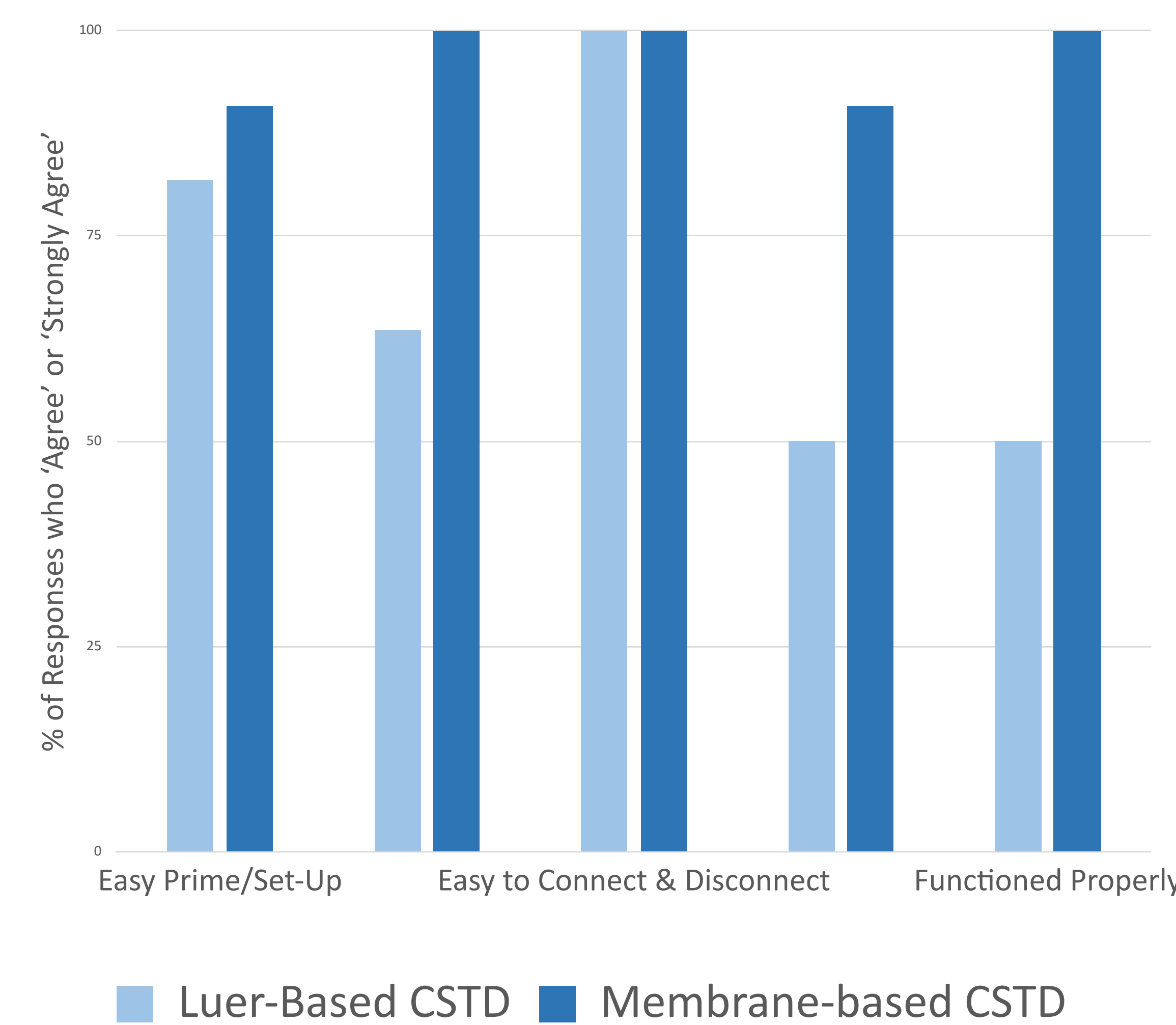


Figure 2. Investigational Hazardous Drug Flush Practice Nursing Survey Results

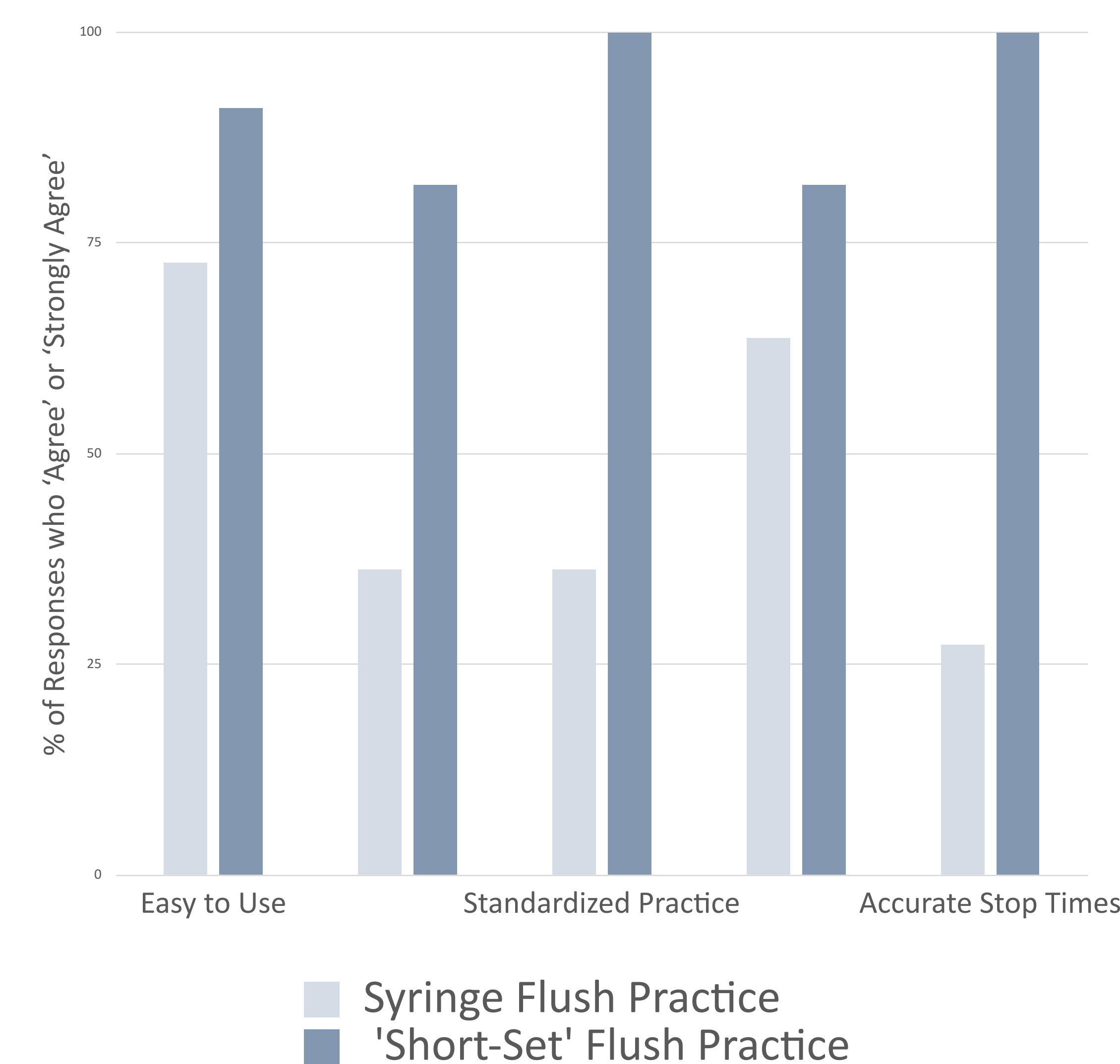


Table 1. Safety Event Reports 2023

Pre-Trial April 1 - June 18	Intra-Trial June 19-July 14
3	0

