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Implementing a Nurse-Driven Preoperative Optimization Bundle to Improve Workflow and Chlorhexidine Gluconate Hygiene Practices in Same Day Services

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Introduction

Background

- Surgical Site Infections (SSIs) remain a significant cause of postoperative morbidity, increasing length of stay, patient satisfaction and healthcare cost. ^{3,6,8,11}
- CHG hygiene education supports preoperative infection prevention practice, reinforce standardized nursing workflow & documentation. ^{2,7,9}
- Enhanced Recovery After Surgery (ERAS) guidelines emphasize standardized preoperative optimization to strengthen surgical outcomes and workflow efficiency. ^{2,7,9}
- In Same Day Services (SDS), Inconsistent preoperative workflows and CHG education contributed to variability in documentation & patient preparation.

Problem Statement

- CHG hygiene education and documentation practices in SDS varied among nursing staff, contributing to workflow variability, documentation deviations and differences in patient surgical readiness.

PICO

- P** SDS Nurses/preoperative patients
- I** Nurse-driven preoperative optimization bundle
- C** Usual pre-implementation workflow
- O** Workflow consistency, documentation reliability and preoperative patient optimization

Literature Synthesis

Keywords: SSI, CHG, preoperative optimization, ERAS, nursing workflow, clinical documentation

Databases: PubMed, CINAHL, Cochrane Library and Google Scholar

PRISMA

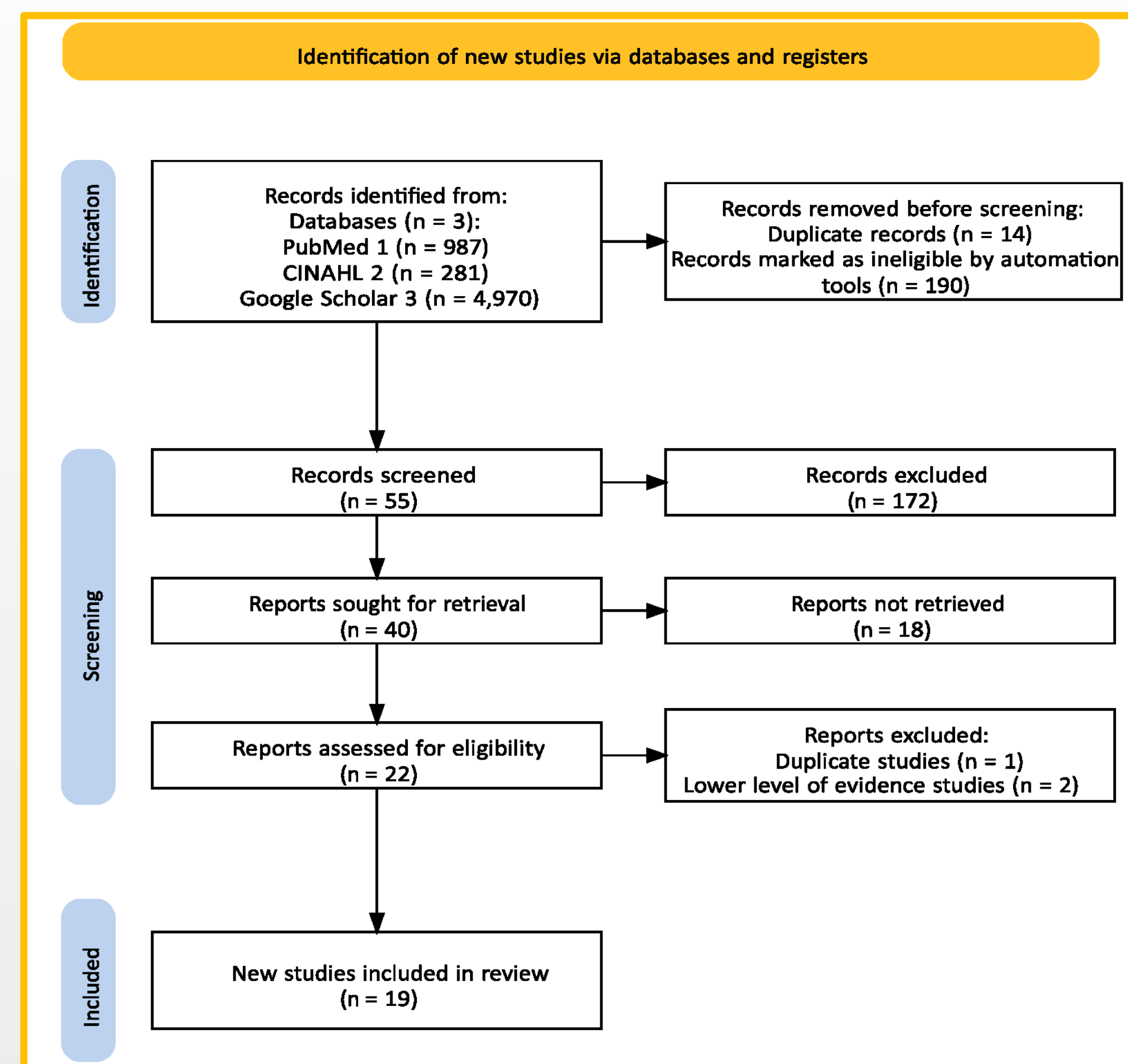


Figure 1. PRISMA Flow Diagram of Literature Search and Study Selection Process.

Synthesis Summary

- Multimodal preoperative optimization reduces modifiable surgical risk factors. ⁹
- CHG hygiene education supports infection prevention practices by reducing preoperative skin microbial burden. ^{2,3,9,11}
- ERAS guided workflow promotes standardized care, interdisciplinary coordination & workflow consistency. ^{9,11}
- Nurse-driven education and documentation tool strengthen implementation reliability in SDS.

Methods

Purpose : To standardize preoperative CHG hygiene education and documentation through a nurse-driven optimization bundle in SDS.

Design: Quality improvement project using a pre/post implementation evaluation design.

Project Site: SDS preoperative setting within a nonprofit Magnet designated hospital in Orange County, CA.

Participants: Preoperative/postoperative registered nurses (RNs) working in SDS.

Intervention

- Nurse-driven preoperative optimization bundle implemented in SDS.
- Standardized CHG hygiene education, Epic SmartPhrase documentation & preoperative workflow
- Laminated CHG infographics used as a tool for education.
- QR-linked digital toolkit provided to RNs training and patient education resources.

Scan for instant access



Implementation Approach: The Find, Organize, Clarify, Understand, Select methodology processed by Plan-Do-Study-Act (FOCUS-PDSA) framework guided bundle, implementation, staff education, weekly monitoring and refinement across the 4-week period. ¹

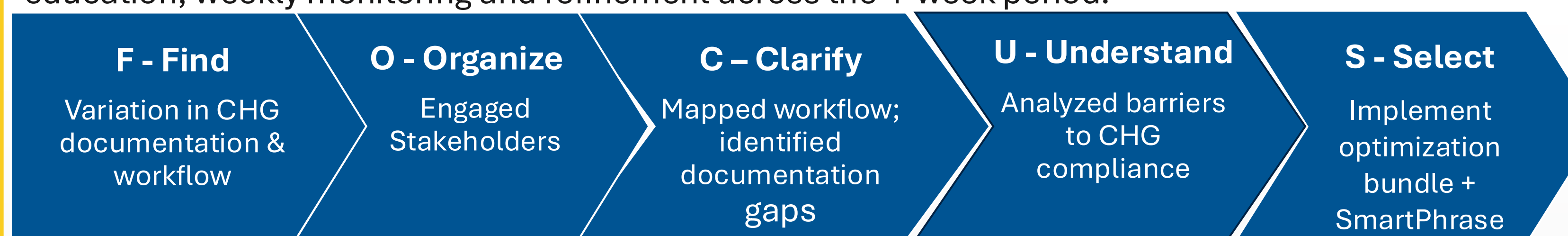


Figure 2. FOCUS-PDSA Implementation Approach

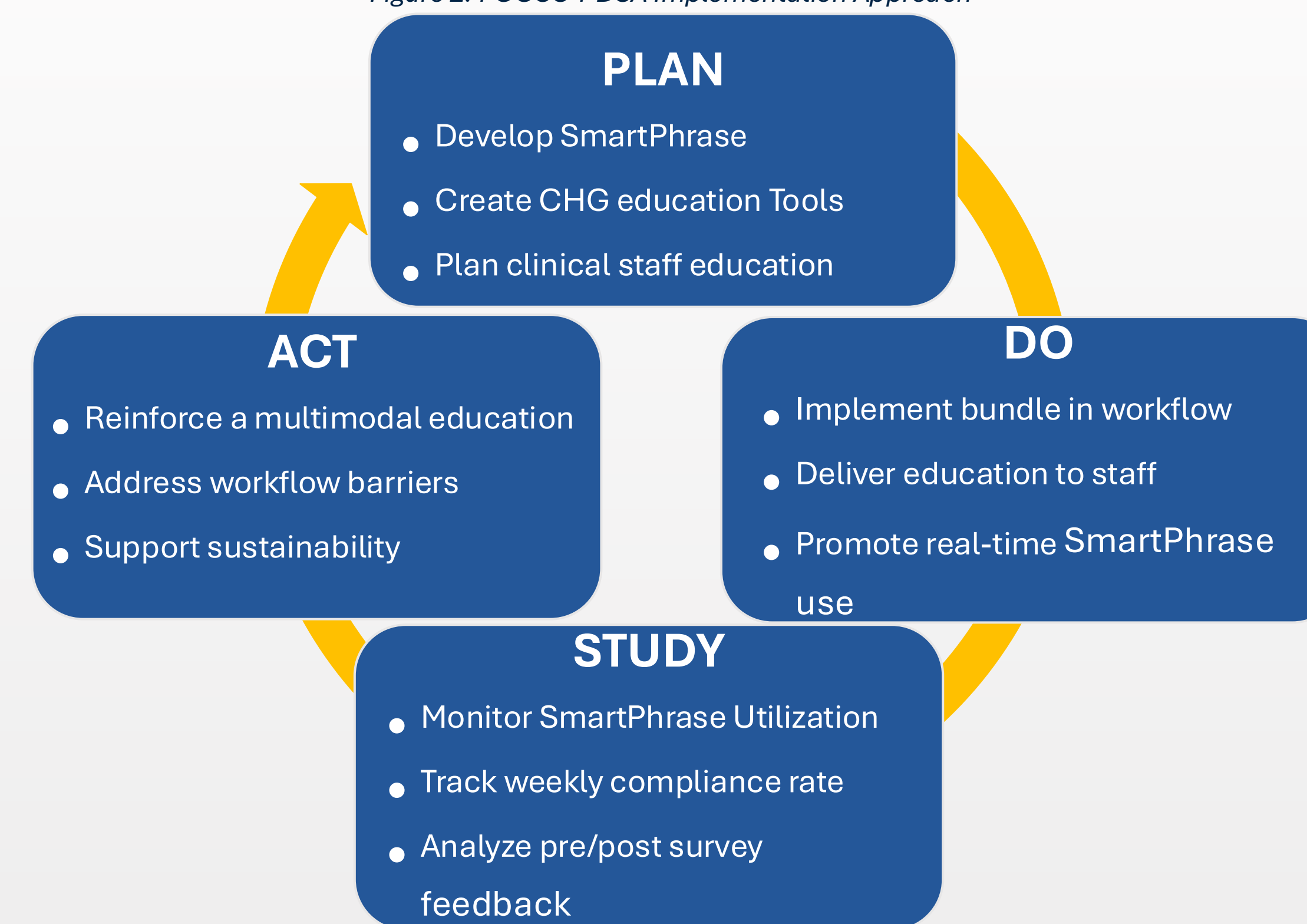


Figure 3. PDSA Cycle For Workflow Refinement

Outcome Measures: SmartPhrase use among eligible encounters; nurse reported workflow clarity & confidence.

- Primary Outcomes:** Epic utilization rate among eligible preoperative patients.
- Secondary Outcomes:** Perceived workflow standardization (Pre & Post survey). Nurse confidence & knowledge in CHG hygiene.

Data Collection: Aggregated EPIC documentation data & pre/post survey implementation nurse survey response were collected during a 4-week period.

Data Analysis: Descriptive statistics were used to summarize education reach, SmartPhrase utilization, survey response trends.

Results

Demographic Variable	Pre-Survey n=21	Post-Survey n=16
BSN	16 (76.2%)	13 (81.3%)
MSN	4 (19%)	3 (19%)
> 10 yrs. RN Experience	11(52.4%)	10 (62.5%)
4 to 6 yrs. Pre-op RN Experience	13 (62%)	9 (56.3%)
> 10 yrs. Pre-op RN Experience	6 (28.6%)	6 (37.5%)

Figure 4. Nurse Respondent Demographics

SmartPhrase Compliance Among Eligible Preoperative Patients		
Date Range	Compliance	Note
Week 1	19%	Implementation Begins
Week 2	33%	Continuous Education
Week 3	34%	Increased Adoption
Week 4	35%	Post-Survey Period

SmartPhrase Compliance Among Eligible Preoperative Patients

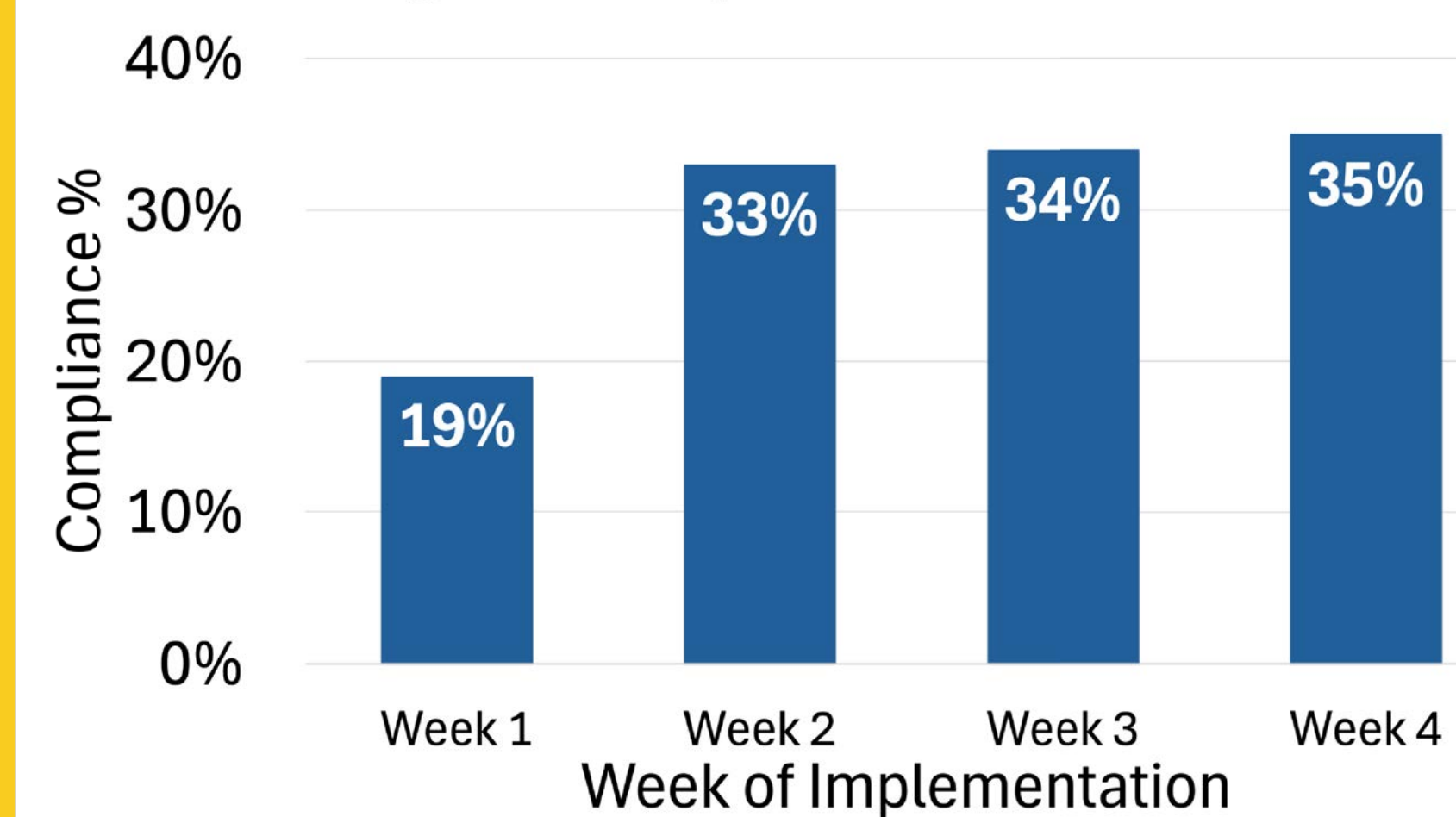


Figure 5. SmartPhrase Compliance increase over time.

Key Findings

- RN education reached: **81% (34/42)**
- Workflow clarity improved: **42% → 80%**
- Reported Workflow Standardization: **93%**
- SmartPhrase encounter utilization increased:
 - 19% → 34% over a 4-week period**

Conclusion

- Findings suggest the nurse-driven preoptimization bundle improved workflow clarity, documentation consistency & access to standardized CHG hygiene education.
- Epic SmartPhrase documentation & QR linked resources supported nurse-led sustainability of preoperative readiness in SDS.
- The 4-week implementation was feasible, supported early improvement in workflow clarity & documentation consistency. Continued monitoring is needed to sustain adoption & assess longer term impact.

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Scan for references