ISP APPLICATION   **03/13/2026**

Project Lead / Key Contact

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Why are you interested in the Improvement Scholars Program?

Our Labor and Delivery team is actively working to standardize induction of labor (IOL) care across providers and methods. Current policies for oxytocin, misoprostol, and cervical ripening exist separately and do not form a unified, evidence-based induction algorithm. The Improvement Scholars Program will support integration of these existing policies through structured care redesign into a single standardized IOL pathway aligned with ACOG, CMQCC, and AWHONN guidance. Participation in ISP will provide the methodology, coaching, and accountability needed to build a reliable, scalable system that improves safety, communication, and outcomes in a high-volume obstetric setting.

Problem Statement

Current induction of labor management relies on multiple separate policies, resulting in unwarranted variation in clinical practice. Nurses and providers must interpret independent medication, monitoring, and escalation guidelines without a unified algorithm, leading to inconsistent decision-making related to induction methods, oxytocin titration, tachysystole management, and criteria for failed induction. This problem occurs whenever patients are admitted for induction or augmentation of labor, particularly among high-volume populations such as term and post-dates inductions. From November 2024 through October 2025, 39% (1,603 of 4,123) of deliveries involved induction of labor. Given the frequency and number of clinicians involved, lack of standardization increases cognitive burden, variability, and risk in a high-stakes clinical process.

Importance and Evidence Base

Published guidance and peer-reviewed literature emphasize that standardized definitions and decision thresholds for labor management reduce unwarranted clinical variation and support safer decision-making. ACOG's Clinical Practice Guideline on First and Second Stage Labor Management provides standardized definitions for labor dystocia and recommendations regarding appropriate duration of latent and active labor prior to cesarean diagnosis. ACOG's Committee Statement on Quality Improvement Strategies for Safe Reduction of Primary Cesarean Birth highlights the importance of organized, team-based QI approaches that include standardized processes, measurement, and feedback loops to improve NTSV outcomes. Studies evaluating standardized induction and labor management pathways demonstrate improved reliability in tachysystole recognition and management, increased adherence to evidence-based escalation practices, and improved team communication around decision thresholds. Moving from medication-specific policies to an integrated, evidence-based clinical pathway reduces fragmentation and supports consistent application of standards across providers and settings. Standardization alone does not guarantee improved outcomes; therefore, this project integrates pathway implementation with measurement-for-improvement, continuous PDSA cycles, coaching, and transparent data review to ensure both fidelity and adaptability within the clinical environment.

Project Scope

In Scope:

• Inpatient obstetric patients undergoing induction or augmentation of labor

• Labor & Delivery units at UNC Health Rex (Raleigh and Holly Springs)

• Oxytocin, misoprostol, cervical ripening, fetal monitoring, escalation, and failed induction criteria

Out of Scope:

• Outpatient cervical ripening processes

• Postpartum care pathways

• Non-induction obstetric management

Measures

Measure Name	Measure Type	Measure Calculation	Measure Exclusion	Data Source	Baseline	Goal	Collection Frequency
Primary Cesarean Rate	Outcome	Number of primary cesarean births ÷ Total	Repeat cesarean deliveries	OB Statistics Annual Report (UNC Health	25.1% (Calendar Year 2025 Primary	10% relative reduction by	Monthly

Measure Name	Measure Type	Measure Calculation	Measure Exclusion	Data Source	Baseline	Goal	Collection Frequency
		births × 100		Rex)	Cesarean Rate)	December 2026 (Target: 22.6%)	
Standardized IOL Order Set Utilization	Process	Induced patients using standardized order set ÷ Total induced patients × 100	Emergent admissions bypassing order set	EPIC order utilization report	Baseline established during Month 1	≥90% reliability	Monthly
Oxytocin Titration Protocol Compliance	Process	Inductions meeting protocol titration parameters ÷ Total oxytocin inductions × 100	Provider-documented protocol deviation with rationale	Medication Administration Record (MAR) / EPIC report	Baseline established during Month 1	≥85% compliance	Monthly
Postpartum Hemorrhage Rate (Induced Patients)	Balancing	PPH events among induced patients ÷ Total induced births × 100	None	EPIC delivery summary; quantitative blood loss documentation	Baseline to be calculated using Nov 2024 – Oct 2025 data	No increase from baseline	Monthly

Note: NTSV stratification by induction status will be developed during Month 1 in collaboration with EPIC analytics to further refine outcome measurement and align with national benchmarks.

Root Cause Analysis

Although existing IOL-related policies are evidence-based, they are applied independently without a unified algorithm. This fragmentation contributes to practice variation, inconsistent escalation thresholds, increased cognitive load, and subjective determination of failed induction. Standardized definitions and escalation criteria are necessary to improve safety and reduce potentially preventable cesarean delivery.

Ideas for Improvement (Aim Statement)

By December 2026, we will implement a standardized, evidence-based Induction of Labor (IOL) clinical pathway to achieve the following aims among induced patients: reduce NTSV cesarean rate among induced patients by 10% relative from baseline; increase standardized IOL order set utilization to ≥90% reliability; and achieve ≥85% compliance with oxytocin

titration protocol and tachysystole management algorithm while maintaining patient safety and balancing measures.

Risks and Opportunities

Opportunities: Strong executive and physician sponsorship; alignment with national EBP; high IOL volume enabling rapid learning; Epic CDS capabilities.

Challenges: Achieving consistent and reliable adoption of a standardized clinical pathway among 70+ physicians and Certified Nurse Midwives across two campuses, while navigating change fatigue within a high-volume, high-acuity service line.

Mitigation: Multidisciplinary co-design; clinical judgment off-ramps; incremental testing.

Multidisciplinary Team Roles & Value

Role	Primary Contribution	Value to Initiative	Participant
Executive Sponsor	Strategic oversight and resource alignment	Ensures system alignment and barrier removal	Nicole Kolacz, DNP, MBA, RN, NEA-BC, CENP, FACHE
Project Co-Lead	Operational design and implementation	Integrates pathway into daily workflow and operations	Michelle Clements, MSN, RNC-NIC
Project Co-Lead	Clinical physician leadership	Aligns inpatient provider practice and escalation reliability	Tiffany Flanagan, MD, FACOG
Interim Director – Women's and Children's Services	Nursing Leadership	Aligns inpatient nursing practice	Christine Debnam, MSN, RNC-NIC, ACCNS-N
Data Lead	Measurement for improvement	Defines metrics and supports PDSA cycles	Arlene Redgate, MSN, RN
Pharmacy	Medication safety standardization	Ensures oxytocin and misoprostol safety parameters	Kara Bozik-Eidson, PharmD
Anesthesia	Perioperative	Reduces downstream delays	Erin Dengler, MD;

	readiness alignment	and supports escalation pathways	Keith Tomlin, CRNA
Epic Analyst	Clinical decision support build	Embeds standardization into order sets and documentation	Billie Lineberry, RN
Nursing Education	Competency & sustainment	Ensures onboarding and annual competency alignment	Lolita Bryant, DNP, RN

Impact on Quintuple Aim

Improved Health: Standardized induction management reduces unwarranted variation and supports evidence-based decision-making, contributing to reduced preventable primary cesarean birth and improved maternal outcomes.

Enhanced Patient Experience: Clear algorithms and structured shared decision-making improve transparency, communication, and patient confidence during induction.

Enhanced Clinician and Staff Experience: Standardized escalation criteria and communication tools reduce cognitive burden, ambiguity, and interprofessional conflict.

Health Equity: Reducing subjective variation in failed induction criteria and escalation thresholds promotes equitable care delivery across patient populations.

Reduced Costs: Decreasing avoidable primary cesarean births reduces downstream surgical costs, length of stay, and long-term morbidity.

Sustainment Plan

Long-term sustainment will be supported through Epic integration of standardized order sets and embedded clinical decision support; alignment of policies and competency validation; structured onboarding and annual education; and ongoing monitoring through QAPI dashboards.

Monthly review of outcome, process, and balancing measures will occur at the Women's Services Perinatal Quality meeting. Ongoing refinement through phased PDSA cycles will continue beyond the ISP period to ensure sustained reliability and adaptability as evidence evolves. Governance oversight from executive and physician leadership will ensure accountability and resource alignment for sustained performance.

Carolina Quality Tools

TeamSTEPPS huddles, structured debriefs following NTSV cesareans, SAFE reporting review, and visual management boards will support pathway implementation and sustainment. Tachysystole-triggered huddles and standardized escalation checklists will reinforce reliability and shared decision-making.

Supporting Evidence and References

American College of Obstetricians and Gynecologists (ACOG). First and Second Stage Labor Management. Clinical Practice Guideline No. 1. 2024.

ACOG. Quality Improvement Strategies for Safe Reduction of Primary Cesarean Birth. Committee Statement. 2025.

Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN). Guidelines for Oxytocin Administration. 2023.

California Maternal Quality Care Collaborative (CMQCC). Toolkit to Support Vaginal Birth and Reduce Primary Cesareans. 2022.

Simpson, K.R., & Miller, L.A. Trends in Labor Induction in the United States. MCN. 2022.

Vahratian, A., et al. Labor progression and induction outcomes in women with obesity. AJOG. 2019.

References:

Nicole Kolacz, DNP, MBA, RN, NEA-BC, CENP, FACHE

Sponsor Letter