

Pomona Valley Hospital Medical Center

Pomona, California

Case Study:

Reducing non-medically indicated (elective) deliveries prior to 39 weeks gestation

Background

Pomona Valley Hospital Medical Center is a 453 bed, nonprofit, teaching hospital that delivered 8,063 babies in 2007. Obstetric (OB) and Neonatology coverage is available 24/7 with immediate availability of maternal-fetal medicine specialists. Births have steadily decreased (6,848 in 2009), consistent with other delivering facilities locally and throughout the state. Medi-Cal provides reimbursement for 76% of patients.

In 2008, both medical and nursing leadership sought solutions for the increasing number of elective deliveries before term, resulting in longer Labor and Delivery stays, and a climbing Neonatal Intensive Care Unit (NICU) admission rate (13%). In 2007, the FDA listed oxytocin as a high-risk medication and the National Quality Forum (NQF) published 17 new perinatal quality measures including one that would monitor elective deliveries before 39 weeks; these two events reinforced the need for change.⁵⁸⁻⁶⁰

Using an Evidence-based Practice Model, a multidisciplinary quality improvement team examined national standards and available literature to draft tools, which were reviewed and amended by a core group of physicians and nurses. The ACOG guidelines, Association of Women's Health and Obstetric and Neonatal Nurses (AWHONN) Practice Monograph (Simpson, 2008) and a checklist-based method for the use of oxytocin (Clark, 2007) provided the evidence and outline for the needed changes.^{3, 10} The QI team developed new clinician guidelines, along with supporting consents and checklists to reduce elective inductions. Specifically, the guidelines focused on the applicability of written informed consent, safety, liability, productivity and reducing nurse/physician conflict. A new oxytocin protocol was formatted by nurse champions (Director, Clinical Nurse Specialist (CNS), Nurse Educator, front-line managers and staff RNs) and approved by the multidisciplinary Perinatal Committee in October 2008.

Implementation of the new protocol was announced and publicized well in advance for a selected kick-off date (April 1, 2009). Department meetings and other outreach and education measures facilitated initiation and

ongoing change (see Key Steps, below). Specific methods were used to ensure compliance, including communication with physician offices about missing patient documentation and follow-up visits to offices every two weeks to review and redistribute packets of required documents for scheduling an induction (see Key Steps, below). A data tracking system was developed to monitor the number of women with elective inductions who required a cesarean section and the number of infants admitted to the NICU. Outcome and compliance results were shared with individual physicians during one-on-one discussions or group meetings. Thus, all physicians were given feedback on their rate of conformity with the new protocols and the effect their behaviors had on patient outcomes. Additional feedback was provided to non-compliant physicians in a formal letter from the Medical Director, which outlined their areas of non-compliance with the national and local guidelines.

Key Steps

- Develop a multidisciplinary Quality Improvement (QI) team that includes physicians and nurses.
- Establish new policy and guidelines that require the following to schedule inductions:
 - Prenatal Record with gestational age documented per ACOG guidelines
 - Indication for induction
 - Documented Bishop Score
 - Prenatal Informed Consent for Augmentation
 - Informed Consent for Induction
 - OB H&P Short Form
 - Preprinted Physician Orders for Induction
- Educate stakeholders, and reinforce guidelines:
 - Joint Commission's Quality Measures were presented during OB Department meetings along with an algorithm to assist practitioners in identifying appropriate cases
 - Changes in the induction process and the new limitations for scheduling elective procedures was presented during a luncheon for physician office staff; sample packets and a checklist of forms were provided
 - The March of Dimes brochure "Why the Last Weeks of Pregnancy Count" was distributed to physician offices to promote patient education (brochures were available in English or Spanish)
 - Published articles in the OB department newsletter to reinforce guidelines
 - Reinforced changes through a self-study program for labor nurses including in-services and rounding by the nurse educator and CNS

Barrier and Solutions

Barrier:

The labor nurses and operating room (OR) scheduler encountered conflict from physicians when told they could not schedule elective procedures prior to 39 weeks.

Solutions:

1. **Involve leaders:** After all physicians were fully apprised of the new protocol for inductions, those who disagreed were referred to the Chief of OB and the Medical Director who were responsible for answering the physician's questions and determining if an exception was warranted.
2. **Support new roles:** Nurses and schedulers were obligated only to remind the physician about the new hospital policies and ensure that patients met the induction and cesarean section criteria prior to scheduling or assisting with these procedures. In addition, the staff was reminded it was not their responsibility to defend the policies or argue with the physicians over the new limitations for elective procedures. All disputes were to be referred to physician leadership for resolution.
3. **Reinforce policy through education:** Active communication via letters, fliers, meetings and memos clarified specific questions that arose during implementation of new policies and procedures

Outcomes

One year after implementation, there were no elective inductions performed before 39 completed weeks of gestation. Additionally, preliminary data revealed the total number of inductions fell by 17% and cesarean sections due to failed inductions decreased by 21%. This improvement in practice change was observed during the first quarter of 2010 compared with the same period in 2009.

Lessons Learned

- Gather support and involve all stakeholders early in the change process.
- Perform ongoing monitoring and follow-up with physicians; early support and involvement from physicians is essential.
- Provide continued support and active communication to clerical staff in physician offices and community clinics.

- Participate in a collaborative that provides a forum for hospital leaders to obtain expert and peer mentoring on the change strategies and tactics to increase implementation effectiveness and sustained improvements over time.
 - Pomona Valley Hospital leaders participate in the San Bernardino County Maternal Morbidity and Mortality Labor Induction Education Project (MMMLIEP) as members of the Advisory and the Stakeholders Council. Participation in MMMLIEP provides the leaders with collaborative support and recognition for their efforts. The MMMLIEP project is supported and led by San Bernardino County/Department of Public Health/Maternal and Child Health and has received funding through the California Department of Public Health, Maternal, Child and Adolescent Health Division, and technical assistance through California Maternal Quality Care Collaborative (CMQCC).

Future Plans

- Continue to support OB offices and community clinics adherence to scheduling guidelines by providing packets with required induction forms and educational information for patients.
- Develop improved QI tracking tool to monitor compliance.
- Involve Nursing Shared Governance Quality Council in ongoing audits to reinforce completion of all required documentation before starting inductions.
- Present outcome data to nurses and physicians; acknowledge magnitude of efforts and success with change process.
- Expand the project to other hospitals; develop and offer a professional educational package for Level I & II Outreach Hospitals in the community who contract for maternal transport services with Pomona Valley Hospital Medical Center. The initial offering will be “How to eliminate elective deliveries before 39 weeks.”

For more information about the Pomona Valley Hospital project or the MMMLIEP collaborative contact:

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Tallahassee Memorial Hospital

Tallahassee, Florida

Case Study:

Reducing non-medically indicated (elective) deliveries prior to 39 weeks gestation

Background

Tallahassee Memorial Hospital (TMH), a private not-for-profit community teaching hospital, has an average of 4,000 deliveries and 600-700 Neonatal Intensive Care Unit (NICU) admissions each year. In 2006, a Neonatologist voiced concern about the increasing number of infants admitted to the NICU at 36-38 weeks gestation. The Women and Children's Service Line administrator noted a corresponding increase in inductions, failed inductions and cesarean sections. The Tallahassee Memorial Hospital Performance Improvement (PI) team established an OB Performance Improvement (PI) team in May 2006 to address these clinical concerns.

To reduce non-medically indicated (elective) deliveries prior to 39 weeks, the OB PI team changed the policy around inductions and began educating physicians, certified nurse midwives (CNMs) and nurses about the increase in rates of inductions and NICU admissions. The OB PI team convened the OB Task Force, PI and department meetings to engage staff in discussion and actively involve them in developing new procedures and forms to improve safety and outcomes. With feedback from the collaborative meetings, the OB PI team rewrote hospital policy to include an induction/augmentation bundle criteria that outlined processes to reduce non-medically indicated (elective) deliveries before 39 weeks gestation (see Policy Change Section below). In order to induce labor electively at <39 weeks, a clinician needs both approval by an OB/GYN chairperson and L & D nurse manager. The benefits of these requirements were policy enforcement by the Chairperson instead of by the nursing and scheduling staff, and patient education about risks of inductions prior to 39 weeks gestation during the process of informed consent.

After initial meetings and document changes, the OB PI team continued presentations to educate physicians, CNMs and their office managers about increases in inductions and NICU admissions. Their presentations outlined the changes to both the policy itself and to associated documents, including preprinted order sets and

patient informed consent forms. Over the course of two years, the team held bi-monthly, 30-minute meetings for ongoing discussion. The team continued education and engagement with posters, bulletin boards and newsletters to maintain ongoing communication about change.

Key Steps

- Identify specific problem, create relevant change plan, set measurable goals
- Create multiple, ongoing forums for discussion and education; communicate reasons and methods for change in clear, precise language
- Convene collaborative interdisciplinary teams that include clinicians and administration
- Join external Quality Improvement initiatives (e.g., the Institute for Healthcare Improvement (IHI) Perinatal Improvement Initiative provided tools for our efforts)
- Implement “small tests of change” (e.g., start bundle criteria with one doctor; spread change to all physician groups.)

Barriers and Solutions

Barrier: Physicians and midwives were opposed to documenting Bishop Scores and estimated fetal weight (EFW).

Solutions:

1. **Involve Leaders:** Physician “champions” and the OB Department Chair supported the change and gave clinicians “friendly reminders” to document these measures. If providers remained non-compliant, the OB Department Chair sent a formal letter, which provided encouragement, ongoing education and policy reinforcement.
2. **Change Documents and Forms:** To ensure ongoing compliance with documentation, the OB PI team added a data entry field for the Bishop Score on the preprinted order sets for cervical ripening, induction of labor and labor admission.
3. **Consider Reasonable Compromises:** After discussion and negotiation about clinician resistance to documenting EFW, it was agreed that infants would be assessed for weight categories: Small for Gestational Age (SGA), Average for Gestational Age (AGA), or Large for Gestational Age (LGA). Data entry fields were added to the form for the EFW estimation categories.

Appendix B – Hospital Case Studies

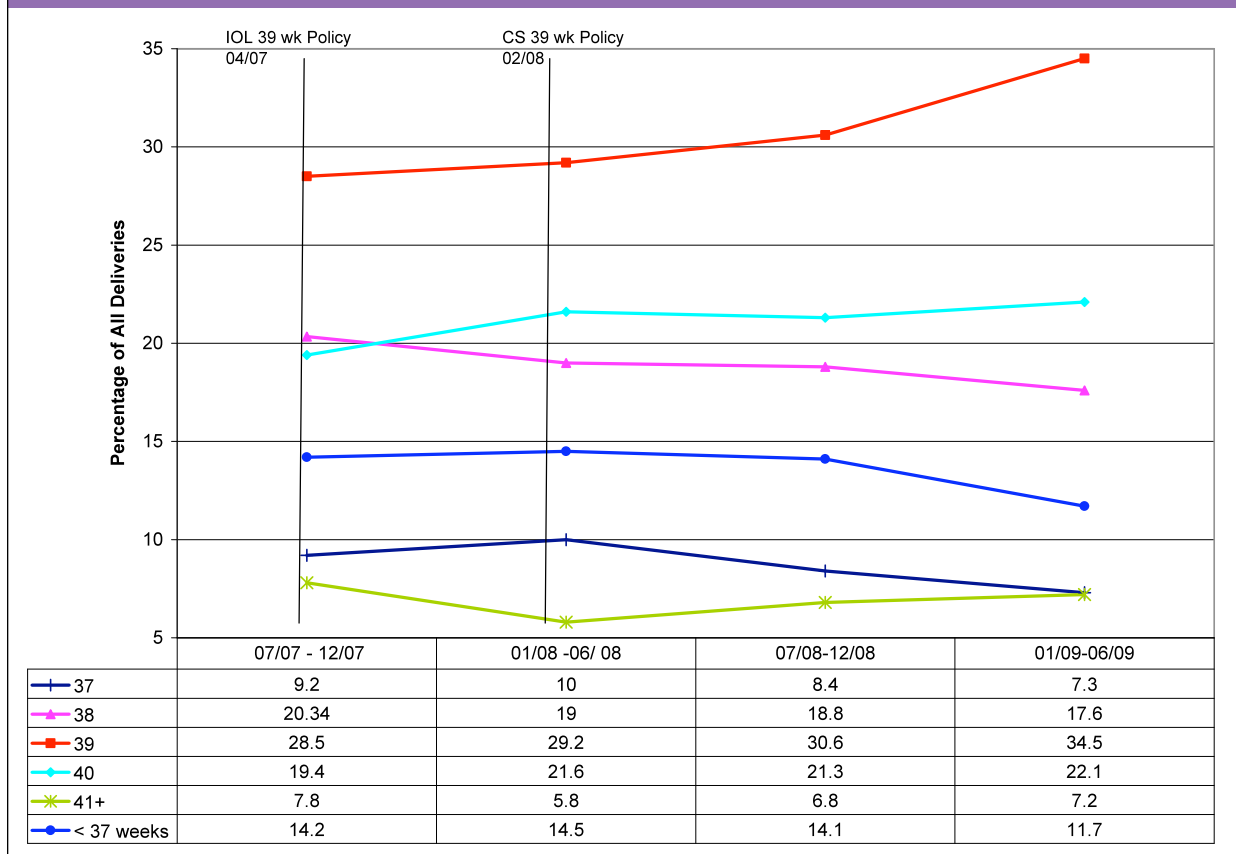
4. **Reward Teamwork, Foster Morale:** Leaders recognized and acknowledged that data collection was “labor intensive” and required additional time and staff resources. They overcame this barrier by scheduling “chart audit lunches” during which nursing staff, Clinical Nurse Specialist (CNS), and the PI advisor retrieved chart data.

Outcomes

After two years of participating in the Perinatal IHI initiative, the failed induction rate at TMH decreased from 22.6% to 15.6% and the primary c-section rate decreased from 21.5% to 17.5%. Additional successes included:

- Implementation of a scheduling policy whereby no elective inductions or cesarean sections can be scheduled before 39 weeks
- Informed consent process for all patients undergoing induction
- Mandatory nurse education that improved competency for identification of non-reassuring FHR pattern and management of tachysystole (hyperstimulation)

Figure 17: Percentage of Tallahassee Memorial Hospital Deliveries by Gestational Age



Permission to use is granted.

Policy Change:

Induction and Augmentation Bundle Criteria

1. Administration of oxytocin for elective labor induction can begin only after the following criteria are documented:
 - a. Gestational age is greater than 39 weeks, 0 days
 - b. Reassuring Fetal Heart Rate pattern (FHR) (Category I)
 - c. Cervical assessment (Bishop Score)
2. Administration of oxytocin for labor augmentation can begin only after the following criteria are documented:
 - a. Estimated Fetal Weight (EFW)
 - b. reassuring FHR (category I or category II)
 - c. cervical assessment (Bishop Score)

Clinicians: be prepared to identify and manage tachysystole during labor.

Lessons Learned

- Identify key staff and clinicians to act as “Performance Improvement Champions.”
- Keep team meetings frequent, short, and focused.
- Develop and implement a policy on induction of labor that sets clear guidelines and improves compliance among physicians and midwives.
- Communicate with physicians, midwives, nurses and staff frequently using multiple methods: posters, bulletin boards newsletters and regular meetings.
- Maintain consistent data monitoring and focus on “ownership” of data collecting, analysis and reporting by CNS, PI advisor and other OB PI team members.

The TMH nursing department... assesses current practices in order to develop quality improvement projects that follow our shared mission for achieving “World Class” medical care.

Future Plans

In May 2009, it was determined that the successes achieved in reducing inductions and NICU rates warranted continued, but less costly, monitoring and oversight. As a result, the OB PI initiative merged with the OB Task Force Committee (an OB Department subcommittee) and participation in the Institute for Healthcare Improvement collaborative was discontinued. The OB Task Force Committee continues to meet on a regular basis and includes representatives from each physician group. OB PI initiatives are consistently on the agenda for each meeting.

During the last quarter of 2009 the “failed induction rate” began to climb. More intensive data collection was reinstated to track compliance to the induction policies. Labor and Delivery Quality council members and the CNS began to perform the data collection and analysis for this issue. The TMH nursing department continues to implement the “Shared Governance” model, which encompasses nursing councils for each unit related to Practice, Quality, Education and Evidence Based Practice/

Research Advancement and assesses current practices in order to develop quality improvement projects that follow our shared mission for achieving “World Class” medical care.

For more information about the Tallahassee project, contact:

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