Dissemination of An Obstetrical Quality Improvement Initiative Using the Ohio Birth Certificate

Carole Lannon MD MPH
Quality Improvement Lead, Ohio Perinatal Quality Collaborative (OPQC)
For Jay Iams, MD OB Clinical Lead, the clinical teams, project staff, faculty and colleagues of OPQC

Disclosures: None
No Commercial Affiliations, Grants, Speaker’s Bureaus, Consultancies, Stock etc
Taking Dissemination of An Obstetrical Quality Improvement Initiative To Scale, Using the Ohio Birth Certificate

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The Ohio Perinatal Quality Collaborative

Conceived in 2007, took first breaths with CMS Transformation grant 2008

- 20 Ohio Maternity Hospitals (47% births in Ohio)
- 24 Ohio level III Neonatal Units (all)

Key partners:
- Ohio Medicaid
- Ohio Department of Health
- Ohio chapters of American College Obstetrics and Gynecology, American Academy of Pediatrics
- March of Dimes

“OPQC Central”
- Project Management and QI Support, Anderson Center for Health Systems Excellence, Cincinnati Children’s Hospital Medical Center
- & Secure Central De-identified Data Processing.
The Ohio Perinatal Quality Collaborative (OPQC)

Mission:

Through collaborative use of improvement science methods, reduce preterm births and improve outcomes of preterm newborns in Ohio as quickly as possible.
The Ohio Perinatal Quality Collaborative

Obstetrics
- 39-Week Scheduled Deliveries without medical indication
  - Increase Birth Data Accuracy & Online modules
  - Spread to every maternity hospital in Ohio

ANCS for women at risk for preterm birth (24-33 6/7s)

Neonatal
- BSI: High reliability of line maintenance bundle
  - Use of human milk in infants 22-29 weeks GA
- Progesterone for preterm birth risk
- Pilot NAS 6 children's hospitals
Ohio’s 39-Week Project
Collaborating to Deliver Quality Care & Healthy Babies
Rate of Scheduled Births Without Documented Indication at 360 – 386 Weeks’ In The Initial OPQC 39 Week Project

Hand Collected Data 2008 → 2010

Percent of Scheduled Deliveries 36^{0/7}th to 38^{6/7}th Weeks Without Medical or Obstetrical Indication Documented

Clarification of Scheduled Delivery Form 3-09

<table>
<thead>
<tr>
<th>Percent</th>
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<tbody>
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Data from 2008 to 2010
Percent of Births at 36\textsuperscript{0/7th} to 38\textsuperscript{6/7th} Weeks Induced Without Medical or Obstetric Indication

Data from ODH Birth Certificate Records
Baseline: January, 2006 through December, 2007

The denominator is the number of births at 36\textsuperscript{0/7th} to 38\textsuperscript{6/7th} weeks for the specified month. The numerator is the number of inductions of labor without indication at 36\textsuperscript{0/7th} to 38\textsuperscript{6/7th} weeks gestation for that month.
39-Week Project: Full Term Gains

Impact: About 28,000 more babies born full-term and ~1400 NICU admissions avoided.
Rates of labor induction without medical indication are overestimated when derived from birth certificate data

Jennifer L. Bailit, MD, MPH; for the Ohio Perinatal Quality Collaborative

“The focus of healthcare for women and infants over the next century depends on the quality of the data collected by those who fill out the birth certificates”.

Bill Callaghan, MD MPH
Centers for Disease Control and Prevention
December 1, 2011
Ohio births induced at 36-38 weeks with no apparent medical indication for early delivery, by OPQC member status, January 2006 to January 2012

Points beyond the vertical dashed line are based on preliminary data and are likely to change.
Charge: scale to remaining 95 maternity hospitals in ~two years
Infants born 36-38 weeks w/o medical indication

Birth Data Accuracy (enables use of birth certificate as QI tool)

OPQC OB Key Driver Diagram: 39 week scheduled delivery project

Goal: Ensure that all initiation of labor or cesarean sections on women who are not in labor occur only when obstetrically or medically indicated [site ACOG]

Key Drivers

- Inform consumers of risk/benefits of deliveries < 36 weeks
- Communicate to patients/cyto/hospital ultrasound results
- Promote need for early dating to practitioners and consumers
- Public awareness campaign

- Empower nurses/schedulers to require dating criteria
- Identify a specific contract for authentication dispute resolution
- Provide patient with hard copy results of ultrasound

Key Drivers

- Empower nurses/schedulers to require dating criteria
- Document rationale and risk/benefit for scheduled deliveries at 36-36.5 weeks gestation
- Document discussion with patient about the above
- Build patient and MD sign a written statement for scheduled delivery between 36.0 and 36.5 weeks
- Physician awareness campaign: what are the reasons for scheduled delivery?
- Maximize access to Delivery and OR for optimal scheduling
- Facilitate scheduling process that respect ACOG criteria

Key Drivers

- Prenatal caregivers receive feedback from postnatal caregivers about neonatal outcomes of scheduled deliveries
- Ensure complete and accurate handoffs OB/IB and OB/Peds
- Document discussion with patient about risk/benefit of near-term delivery
- Promote need for early dating to practitioners and consumers

Key Drivers

- Continuous monitoring of data and discussion of this effort in staff/department meetings
- Project outcomes posted on units and websites
- Develop ways to include staff and physician input about communications and handoffs
- Connect with organizational initiatives on safety and use existing approach as possible
- Empower nurses/schedulers to require data criteria

Key Drivers

- Ensure that all initiation of labor or cesarean sections on women who are not in labor occur only when obstetrically or medically indicated [site ACOG]

Key Drivers

- Strong communication between clinical team and birth data staff
- Site uses training plan for data collectors
- Implementation site data verification process
- Use of site audit process for data quality
- IPHS (EB) fields include essential and specific information/definitions
- Identification and spread of best practices for data entry and verification

Interventions

- Identify key clinical contact for birth data team. Identify all sources of birth data. Clarify needs/process with practices
- Develop and use training materials. Plan for training of new staff (if turnover)
- ODH and OPQC modules (TBD)
- Coaching/reinforcement by OPQC and state quality coordinators
- Use ODH quality feedback to identify gaps
- Clarify definitions and instructions
- Collaborative/Site visits by state quality coordinators to identify key changes

Aim

By Dec 2012, improve birth certificate accuracy and timeliness so that key variables will be transmitted accurately in 95% of records within 10 days of birth (**gestational age, induction, anesthetics use and breastfeeding at discharge**).
• Methods:
  – Recruitment by ODH Vital Statistics and respected OB colleague
  – Site visits to each hospital
    • ODH Vital Statistics staff and QI coach meet with both birth data and clinical staff
      – Process flow diagram
      – Review of three state birth certificate records with medical record
      – Focus on 13 key variables in birth certificate (e.g. gestational age)
  – Adapted Breakthrough Series
    • Face-to-face Learning Session
    • Monthly webinars with data feedback
    • Coaching support
Rates of Scheduled Birth Without Medical Indication in 15 Pilot Sites

Births induced at 36-38 weeks with no apparent medical indication for early delivery, by quarter, 2006-2012

Aggregate results for 15 pilot sites

Percent with no medical indication

Quarterly Percent  Baseline Average Percent  Control Limits

Special cause

March 2012
Births induced at 36-38 weeks with no apparent medical indication for early delivery, by quarter, 2006-2012  Hospital A

Births induced at 36-38 weeks with no apparent medical indication for early delivery, by quarter, 2006-2012  Hospital B

Teams that achieved the greatest success had:

- Engaged leadership from both obstetricians and hospital administration
- Close communication between birth data and clinical staff.
Births at 24-33 completed weeks receiving any antenatal steroids, by quarter

Ohio

Source: Ohio Department of Health birth certificate file.
Note: Some data points may be suppressed per ODH disclosure limitation standard.
Ohio’s 39-Week Project
Collaborating to Deliver Quality Care & Healthy Babies

• Reaching the 75 remaining maternity hospitals:
  – Recruit teams by ODH and OPQC Ob
  – Replace site visit with webinars/coaching
  – Build community with face-to-face learning session, monthly webinars
  – Encourage regular birth data and clinical staff meetings
  – Use audit form to compare birth record with medical record
  – ODH to develop online modules for training re: birth data collection and entry
Ohio’s 39-Week Project
Collaborating to Deliver Quality Care & Healthy Babies

the remaining ~75 maternity hospitals

**STEP WEDGE DESIGN** (3-month lag)

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0= Baseline, X= Intervention, S= Sustain

Heather Kaplan, MD MSce
CERTs project PI
Agency for Healthcare Research and Quality
Sites of current Ohio maternity hospitals in 39 week project
OPQC
Working together to improve outcomes for women and newborns in Ohio
Births induced at 36-38 weeks with no apparent medical indication for early delivery, by month, 2006-2012
OPQC Aggregate

Source: Ohio Department of Health, Vital Statistics

Sep. 2008: 39-Week project begins
Births induced at 36-38 weeks with no apparent medical indication for early delivery, by quarter, 2006-2012
Aggregate results for 15 pilot sites

Source: Ohio Department of Health, Vital Statistics

- March 2012: Learning Session for 15 pilot sites
- Sep. 2008: 39-Week project begins
Births induced at 36-38 weeks with no apparent medical indication for early delivery, by month, 2006-2012
Aggregate results for 15 pilot sites

Source: Ohio Department of Health, Vital Statistics

Sep. 2008: 39-Week project begins