

**Michael A. Krew, M.D.**

Obstetric Consultant OPQC

Clinical Professor of Obstetrics and Gynecology

Northeast Ohio Medical University

Aultman Hospital, Canton, Ohio

**PREVENTING EARLY ELECTIVE  
DELIVERY:  
A VIEW FROM THE FRONT LINE**







# 2007



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# Obstetric Quality 2007

- Maternal mortality
- Neonatal mortality
- Cesarean delivery
- VBAC
- Obstetric trauma
- AOI (adverse outcome index)
- NTSV

Baillit OG Survey 2007

# Obstetric Quality 2007

“ There are currently no uniformly accepted measures of obstetrical quality. Many traditional measures of obstetrical quality are flawed and newer measures are still undergoing necessary validation.”

- Jennifer L. Bailit, MD, MPH  
OBG Survey 2007



# National Quality Forum

- Multi-stakeholder, private and federal funding
- Sets PI goals
- Endorses Standards
- Rigorous process
- No data collection
- Measures deemed for CMS
- 14 perinatal care measures (2012)



NATIONAL  
QUALITY FORUM

# Early Elective Delivery

- NQF 0469
- The Joint Commission PC-01
- The Leapfrog Group
- CMS Hospital Compare
- PCPI: individual providers and groups
- State monitoring: Ohio Hospital Compare

Full Term: 39 0/7 – 40 6/7

Why?



The American College of  
Obstetricians and Gynecologists  
WOMEN'S HEALTH CARE PHYSICIANS



Society for  
Maternal-Fetal Medicine

# COMMITTEE OPINION

Number 579 • November 2013

**The American College of Obstetricians and Gynecologists Committee on Obstetric Practice  
Society for Maternal-Fetal Medicine**

*This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed.*

## Definition of Term Pregnancy

## Box 1. Recommended Classification of Deliveries From 37 Weeks of Gestation ←

- Early term: 37 0/7 weeks through 38 6/7 weeks
- Full term: 39 0/7 weeks through 40 6/7 weeks
- Late term: 41 0/7 weeks through 41 6/7 weeks
- Postterm: 42 0/7 weeks and beyond

Data from Spong CY. Defining “term” pregnancy: recommendations from the Defining “Term” Pregnancy Workgroup. [JAMA 2013;309:2445–6.](#)

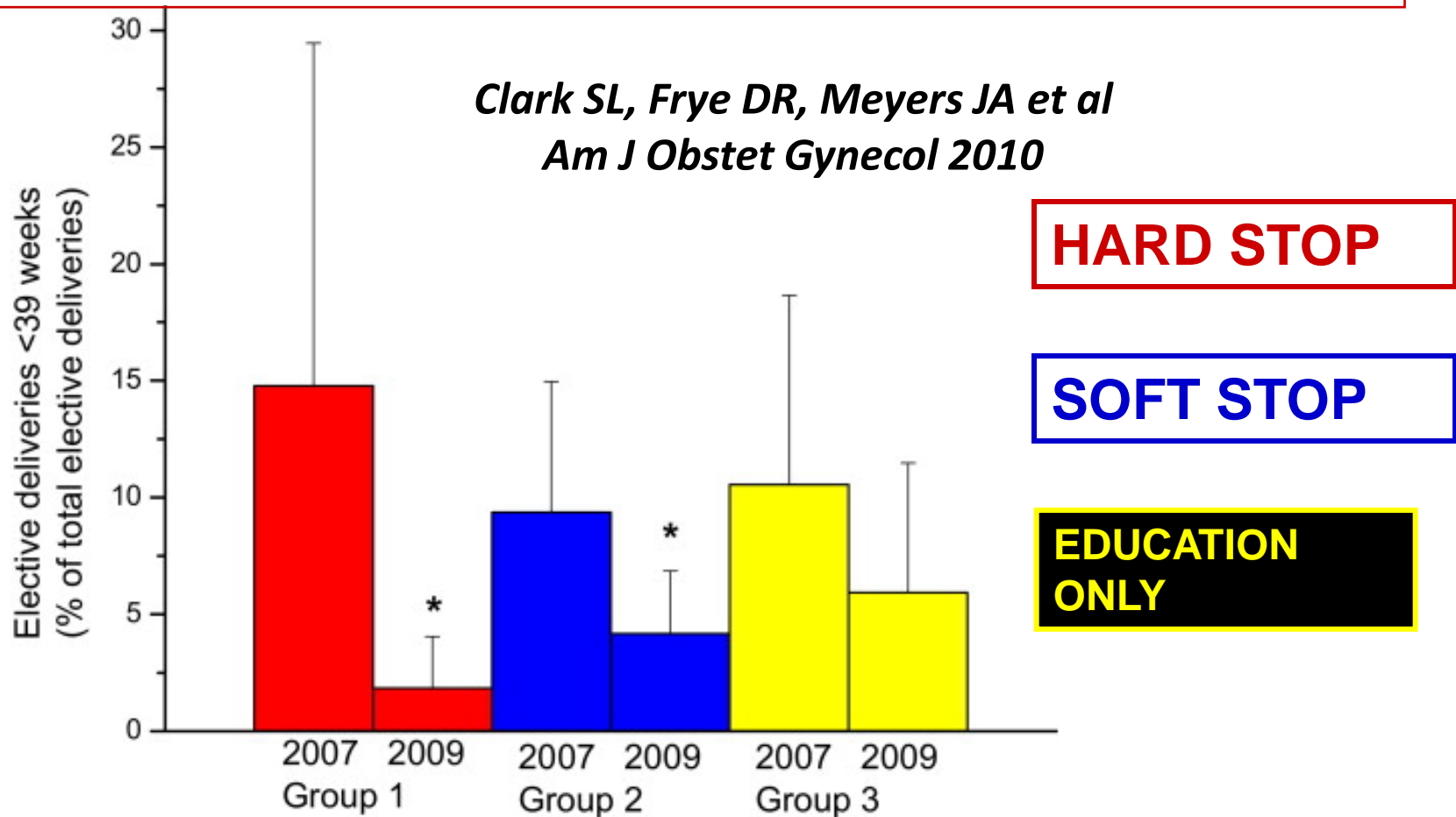
# Why is a Statewide Collaborative Project Needed?

- Joint Commission, CMS, etc: Summative
- Statewide Collaborative: Formative
  - Measurement alone is not enough
  - Rapid feedback: monthly or quarterly
    - Not yearly
  - Steal shamelessly, Share seamlessly
  - Multidisciplinary

# Process Stops

- **Hard Stop**
  - Staff empowered not to schedule EED
  - Chain of command establish to handle disputes
- **Soft Stop**
  - Self enforced by obstetrician
  - Retrospective peer review process
- **No Stop**
  - Education only

# Reduction in elective birth <39 weeks: 3 approaches to change





## Patient Safety Checklist ✓

Number 3 • December 2011

### SCHEDULING PLANNED CESAREAN DELIVERY

Date \_\_\_\_\_ Patient \_\_\_\_\_ Date of birth \_\_\_\_\_ MR # \_\_\_\_\_  
Physician or certified nurse-midwife \_\_\_\_\_ Last menstrual period \_\_\_\_\_  
Gravidity/Parity \_\_\_\_\_  
Estimated date of delivery \_\_\_\_\_ Best estimated gestational age (at admission) \_\_\_\_\_  
Proposed cesarean delivery date \_\_\_\_\_

#### Indication (choose one):

- Medically indicated: Diagnosis: \_\_\_\_\_
- Repeat cesarean delivery (choose one) (1, 2):
  - Trial of labor not appropriate: Reason: \_\_\_\_\_
  - Trial of labor offered
    - Yes
    - No: Reason: \_\_\_\_\_
  - Patient counseled about risks and benefits of cesarean delivery versus trial of labor and vaginal delivery (1, 3)
    - Consent form signed as required by the institution
    - Repeat cesarean delivery for logistical reasons: Circumstances: \_\_\_\_\_
- Elective primary cesarean delivery at maternal request (4):
  - Patient counseled about risks and benefits of cesarean delivery versus vaginal delivery (1, 3)
    - Consent form signed as requested by institution
  - Gestational age of 39 0/7 weeks or greater confirmed by either of the following criteria (5):
    - Ultrasound measurement at less than 20 weeks of gestation supports gestational age of 39 weeks or greater
    - Fetal heart tones have been documented as present for 30 weeks of gestation by Doppler ultrasonography

If this is an elective cesarean delivery and gestational age is 39 0/7 weeks or less, reason for variance: \_\_\_\_\_

- Results of amniocentesis (if performed): \_\_\_\_\_
- Preoperative and pertinent prenatal laboratory test results (eg, group B streptococci or hematocrit) available (2)
  - Special concerns (eg, allergies, medical problems, and special needs) \_\_\_\_\_
  - Pertinent comorbid risk factors (maternal and fetal) \_\_\_\_\_

#### To be completed by reviewer:

- Approved cesarean delivery for gestational age equal to or greater than 39 0/7 weeks by the aforementioned dating criteria
- Approved cesarean delivery before 39 0/7 weeks of gestation (medical indication)
- HARD STOP** – gestational age, indication, consent, or other issues prevent initiating planned cesarean delivery without further information or consultation with department chair

PATIENT LABEL

**AULTMAN**  
**BIRTH CENTER**  
**SCHEDULED DELIVERY CONSENT**  
FAX COMPLETED FORM TO 330-438-2909

Today's Date: \_\_\_\_\_ C-section/Induction Date: \_\_\_\_\_ Amniocentesis scheduled:  No  Yes Date: \_\_\_\_\_

Patient Name: \_\_\_\_\_ Patient Phone: \_\_\_\_\_ Birth Date: \_\_\_\_\_

Physician Name: \_\_\_\_\_ Physician Contact Number: \_\_\_\_\_

G: \_\_\_\_\_ P: \_\_\_\_\_ EDC: \_\_\_\_\_ GA @ scheduled delivery date: \_\_\_\_\_ GA determined by: \_\_\_\_\_

**REASON FOR DELIVERY**

**Medically Indicated Delivery**

This means inducing labor is helpful for the mother's or baby's health. Please state reason: \_\_\_\_\_

**Elective Delivery.** This means optional, not necessary for the mother's or baby's health. The American College of Obstetrics and Gynecology (ACOG) recommends that elective inductions are at least 39 wks when the induction starts.

**Select reason:**

- Term/favorable cervix
- Proximal/impending labor
- Distance from hospital
- Maternal discomfort
- Adoption/surrogacy
- Macrosomia
- History of fast labor
- Physician convenience
- Family in/out of town
- Anxiety or depression
- Previous 4<sup>th</sup> degree laceration
- Other: State Reason \_\_\_\_\_

The scheduling of inductions is based on indication. If increased activity in the Birth Center, you and your physician will be notified and the induction may be delayed

Bishop Score: (Please circle for each feature and total)

Score	0	1	2	3
<b>Feature</b>				
Dilatation(cm)	0	1-2	3-4	5-6
Effacement (%)	0-30	40-50	60-70	80
Station	-3	-2	-1, 0	+1
Consistency	Firm	Medium	Soft	
Position	Posterior	Middle	Anterior	

**Total Score** \_\_\_\_\_

If your Bishop Score is less than 8 and you have never had a baby before, there may be an increased rate of Cesarean Section. If the total score is greater than 8, the likelihood of vaginal delivery after labor induction is similar to spontaneous labor (ACOG Practice Bulletin #10).

**Patient Induction Consent:**

I have discussed the need, risks and benefits of induction with my doctor. I understand why my labor is being induced. I understand the Bishop Score. I have been advised of the reasonable alternatives, including consequences of remaining untreated. The risks and possible complications of each alternative, including death of myself and/or my baby have been explained to me. With induction, there is a potential for a longer labor and increased chance of Cesarean Section. I also understand that if I am electively induced at less than 39 weeks, my baby may be at a higher risk to need help breathing (ventilator) and/or a higher level of care (Neonatal Intensive Care). I understand the information that has been presented to me regarding induction of labor and all my questions have been answered.

Patient Signature: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Guardian Signature (if applicable): \_\_\_\_\_ Relationship: \_\_\_\_\_

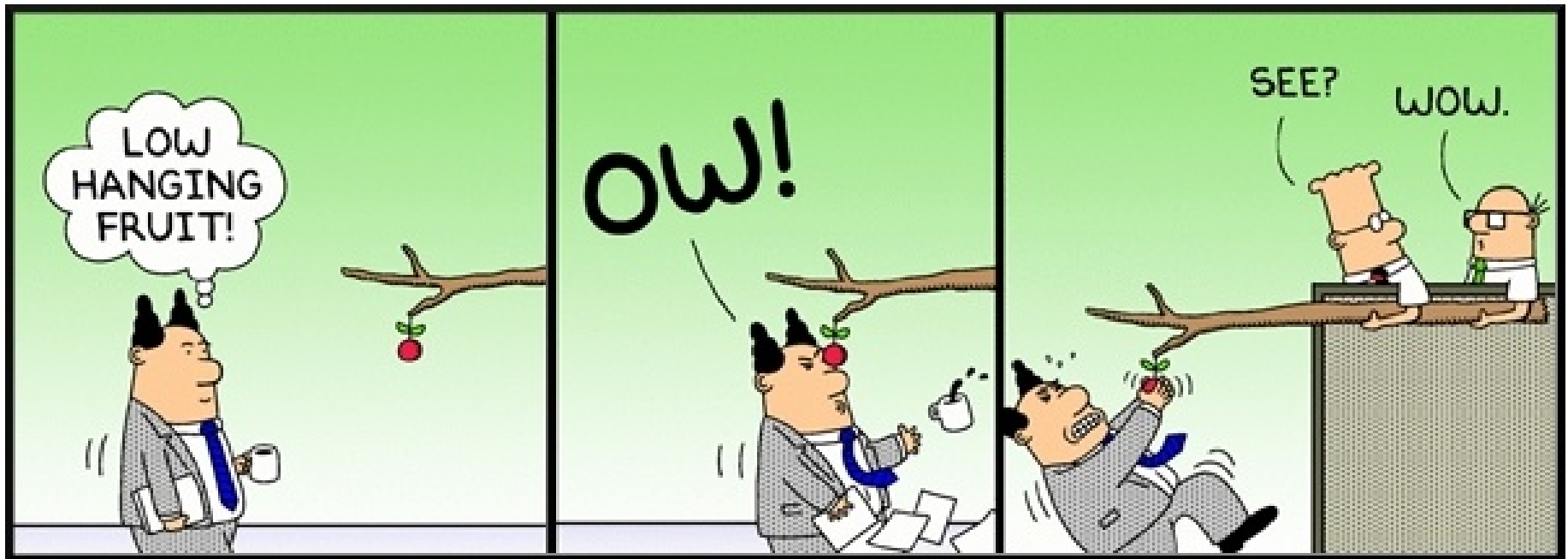
**Physician Attestation**

I affirm that I have discussed the risks and benefits of scheduled induction and all reasonable alternatives with this patient prior to performing this induction.

Date \_\_\_\_\_ Time \_\_\_\_\_ Physician Name (print): \_\_\_\_\_ Signature: \_\_\_\_\_



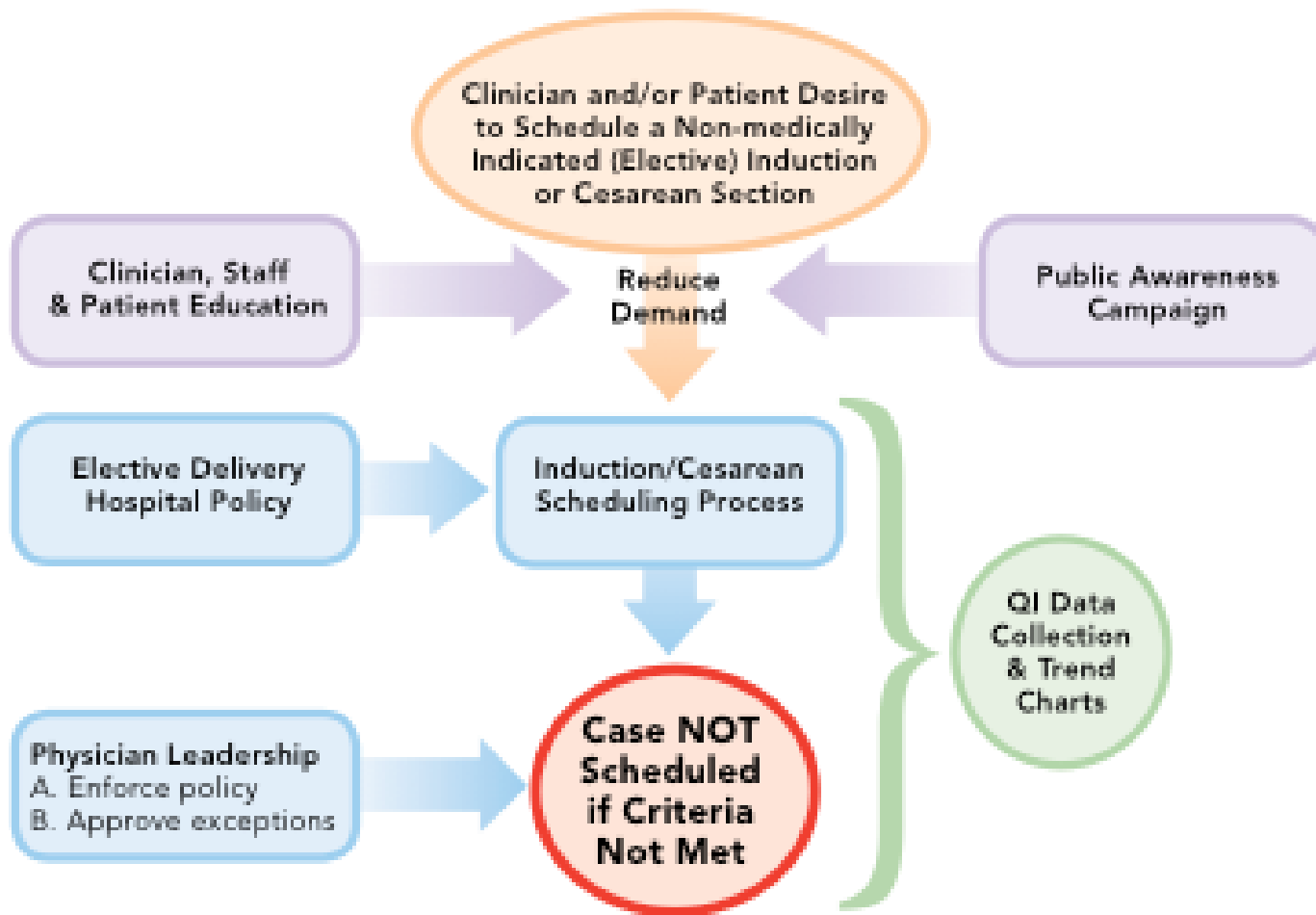
# Low Hanging Fruit?



# Scheduled Delivery Form

- Educate providers and staff
- Establish the review process
  - Regular hours
  - After hours
  - Slip through cases
- Establish chain of command
  - Hard stop is not an absolute stop
  - There are always exceptions
  - No algorithm can encompass all situations.

# Overview: Critical Elements for Successful Implementation



# Culture of Safety

- EED prevention process, when it works is empowering to front line staff.
  - They feel they make a difference
  - Spills over to other quality and safety efforts
- Conversely: Failure to back up delivery scheduling staff when they try to apply a policy is toxic

# *Christiana Medical Center, Nov 2011*

- Percent of Deliveries <39wks fell from 33.1 to 26.4% (p<0.0001)
- Term NICU Admissions fell from 9.3 to 8.5% (p=0.044)
- Term Macrosomia increased with an adjusted OR of 1.11 (95% CI: 1.01-1.22)
- Stillbirths at 37 and 39 weeks increased from 2.5 to 9.1 per 10,000 pregnancies (p=0.032)
- Many of the stillbirths were unexplained but 5/11 were in mothers with hypertension, diabetes or other significant maternal illness

# *Christiana Medical Center, Nov 2011*

- Baseline and post intervention period straddled the Great Recession
- Stillbirth analysis is difficult and requires very large sample size
- This study with ~12,000 per study period was small compared to the Intermountain Health ~122,000 per period and HCA ~60,000 per study period
- Ohio state statistics did not show any increase in stillbirths during their intervention period (indirect)
- Several California collaboratives have not seen any increase of stillbirths to date (unpublished from MoD)
- Fluctuations related to the relatively small sample size

# If your pregnancy is healthy, it's best if your baby is born at 40 weeks.

A baby's brain at 35 weeks weighs only two-thirds of what it will weigh at 40 weeks.



35 weeks



40 weeks

- In the last 6 weeks of pregnancy, your baby's brain adds connections needed for balance, coordination, learning and social functioning. During this time, the size of your baby's brain almost doubles.

- Babies born early have more learning and behavior problems in childhood than babies born at 40 weeks.

- Babies born early are more likely to have feeding problems because they can't coordinate sucking, swallowing and breathing as well as full-term babies.

- Babies born early are likely to have breathing problems, like apnea. Apnea is when a baby stops breathing.

- Babies born early are more likely to die of sudden infant death syndrome (SIDS). SIDS is when a baby dies suddenly and unexpectedly, often during sleep.

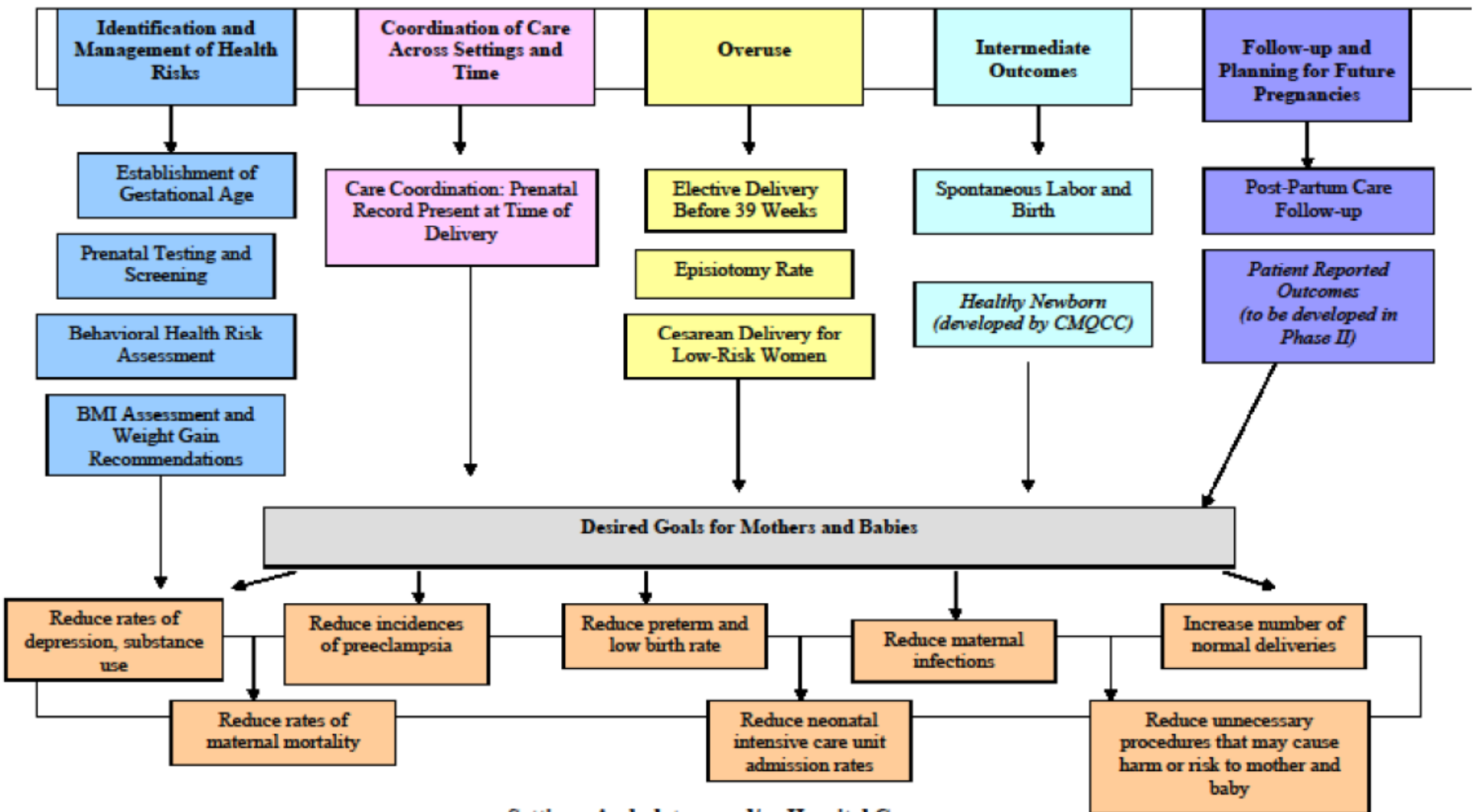
Processes ... that link to ... Improved Outcomes

**PREGNANCY**

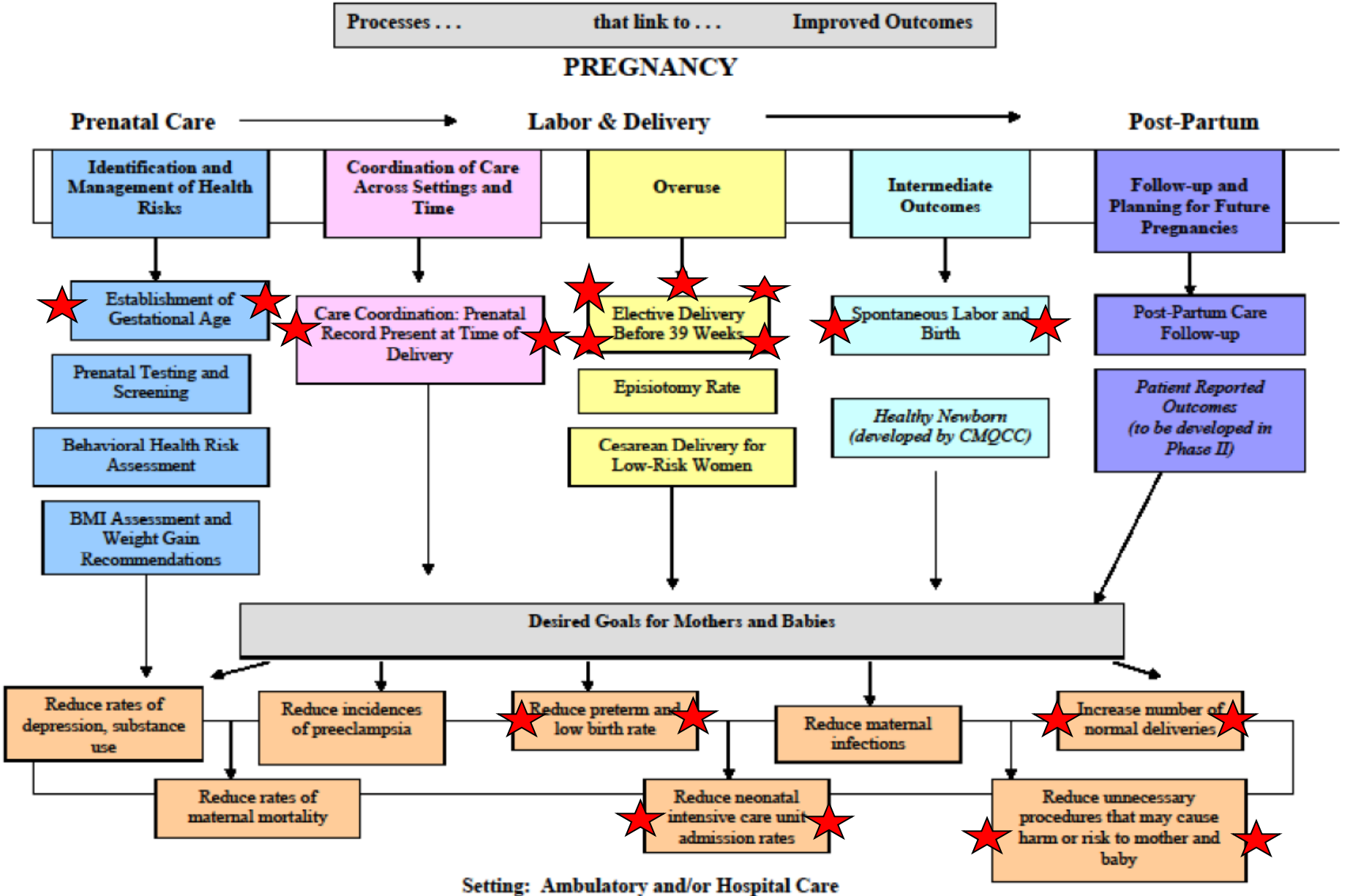
**Prenatal Care**

**Labor & Delivery**

**Post-Partum**



Setting: Ambulatory and/or Hospital Care



# The Ohio Perinatal Quality Collaborative 2013



## OBSTETRICS

## NEONATAL

**39-Week Scheduled Deliveries without medical indication**

**ANCS for women at risk for preterm birth (24<sup>0/7</sup> - 33<sup>6/7</sup>)**

**Blood Stream Infection Highly reliable line maintenance bundle**

**Use of human milk in infants 22-29 weeks GA**

**Increase Birth Data Accuracy & Online modules**

**Spread to all maternity hospitals in Ohio**

**Progesterone for Preterm Birth Risk**

**Pilot Neo Abstinence Syndrome 6 Children's Hospitals**

# Ohio Hospital Compare

- Infants under 1500 grams
- Antenatal steroids
- NTSV cesarean rate
- Early elective delivery
- Episiotomy
- Cesarean infection



# Ohio Hospital Compare

- Birth Registry (can be overridden)
  - Infants under 1500 grams
  - Antenatal steroids
  - NTSV cesarean rate
- TJC PC-01
  - Early elective delivery
- Chart review and surveillance
  - Cesarean infection
- ICD coding
  - Episiotomy

# Illinois Hospital Report Card

- Birth Trauma
- Obstetric Trauma - Instrument
- Obstetric Trauma - Without Instrument
- Cesarean Section Delivery
- Primary Cesarean Delivery
- Uncomplicated VBAC
- Total VBAC



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The **Ohio Perinatal Quality Collaborative** is a collaborative effort to make sure every Ohio mother and baby gets the best available care.



#### MISSION

Through collaborative use of improvement science methods, reduce preterm births & improve perinatal and preterm newborn outcomes in Ohio as quickly as possible.

#### OBSTETRICS PROJECTS

[Antenatal Corticosteroid Project \(ANCS\)](#)

[39-Weeks Delivery Charter Project \(2008\)](#)

[39-Week/Birth Registry Accuracy Project](#)

#### WELCOME TO OPQC

OPQC is a statewide, multi-stakeholder network dedicated to improving perinatal health in Ohio. OPQC employs a modified version of the Institute for Healthcare Improvement's (IHI) Breakthrough Series Model (BTS). OPQC brings teams together in face-to-face and webinar sessions to review individual and aggregate data, to learn from one another to making changes that achieve specific goals, and with expert guidance, to apply the IHI Model-for-Improvement to test specific strategies. The first projects were begun in 2008. OPQC's first prenatal project aimed to decrease scheduled deliveries between 36 and 39 weeks gestation in the 20 largest maternity units in Ohio. On the neonatal side, 24 Neonatal Intensive Care Unit teams chose a project to decrease catheter associated infection among infants born at 22-29 weeks gestation using a Blood Stream Infection (BSI) Maintenance Bundle.

[Frequently Asked Questions](#)

[Learn more about OPQC](#)

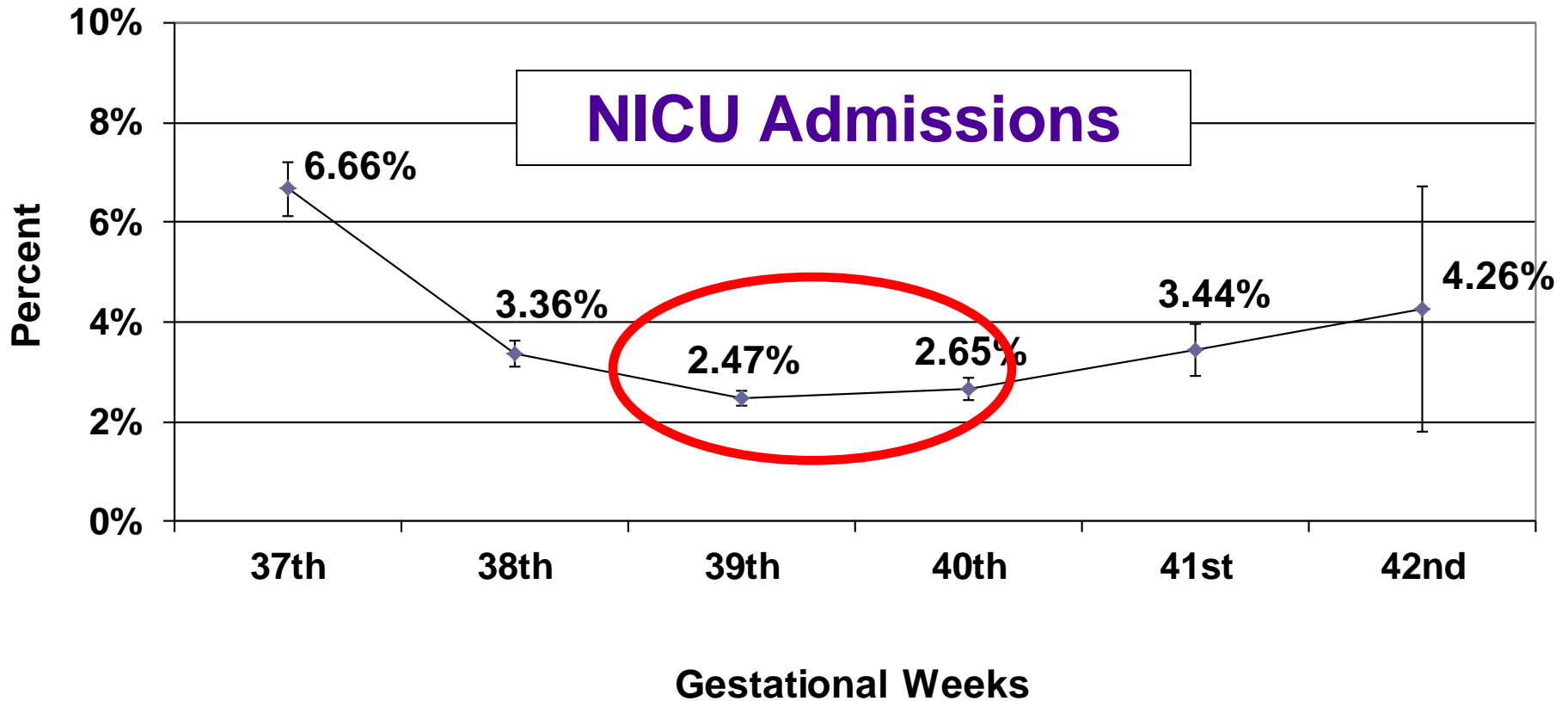


[www.OPQC.net](http://www.OPQC.net)

# Questions?



# NICU Admissions By Weeks Gestation Deliveries Without Complications, 2000-2003 (n=84,538)



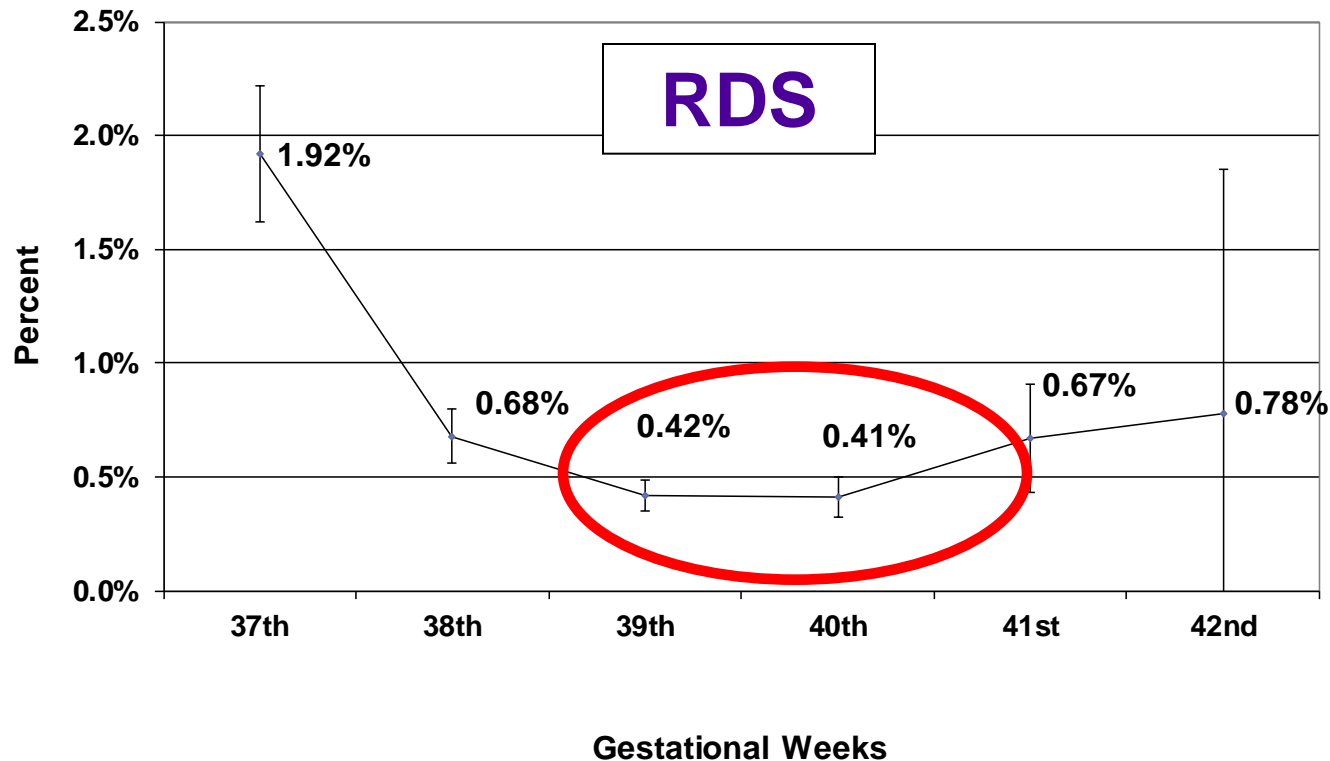
Oshiro et al. Obstet Gynecol 2009;113:804-811.

# Respiratory Distress Syndrome (RDS)

## By Weeks Gestation

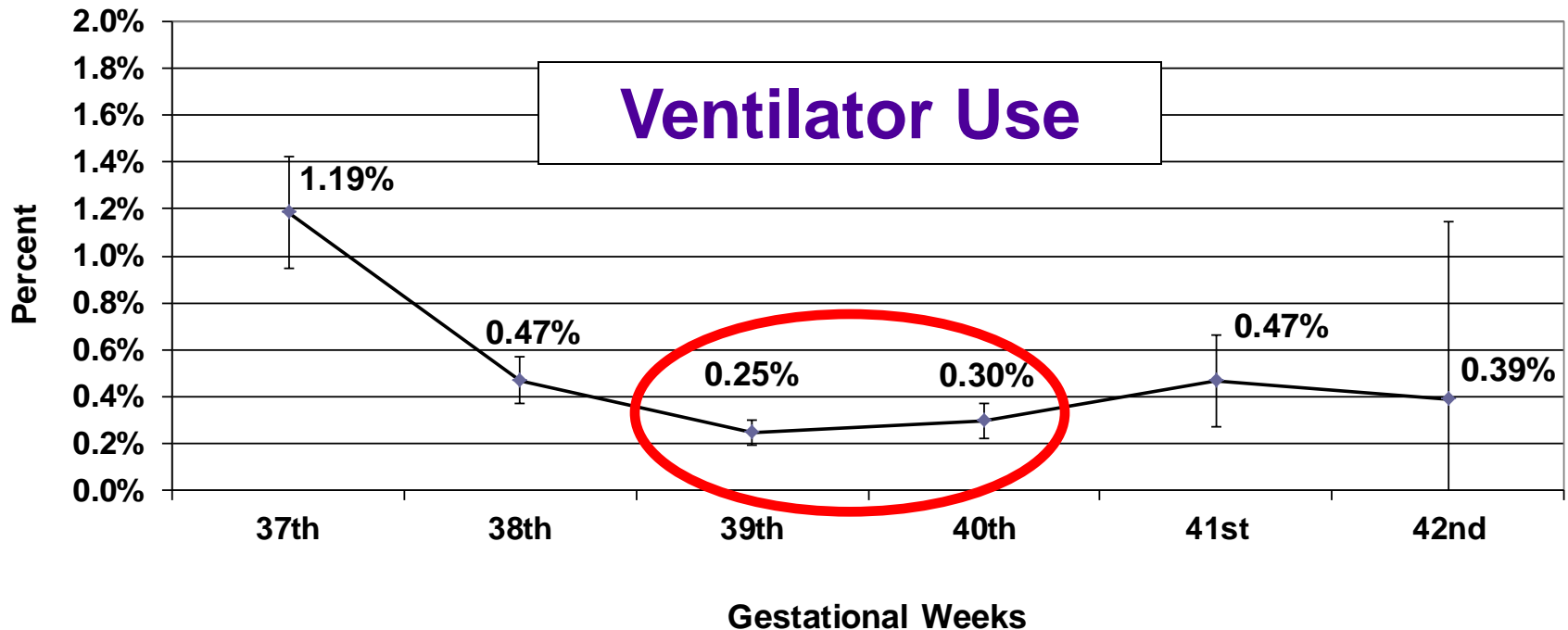
### Deliveries Without Complications, 2000-2003

(n=84,538)



Oshiro et al. Obstet Gynecol 2009;113:804-811.

# Ventilator Usage By Weeks Gestation Deliveries Without Complications, 2000-2003 (n=84,538)



Oshiro et al. Obstet Gynecol 2009;113:804-811.

# Stillbirths Before and After Implementation of Guidelines at Intermountain Healthcare

1999-2000				July 2001 to June 2006				
Weeks of Gestation	Stillbirths	Deliveries	%	Stillbirths	Deliveries	%	Odds Ratio	95% CI
37	17	4,117	0.41	22	13,077	0.17	0.406	0.22-0.77
38	19	9,954	0.19	21	28,209	0.07	0.390	0.21-0.72
39	10	13,752	0.07	28	51,721	0.05	0.744	0.36-1.53
40	10	7,925	0.13	14	24,140	0.06	0.459	0.20-1.03
41	2	1,938	0.10	3	5,571	0.05	0.522	0.09-3.12
All	58	37,686	0.15	88	122,718	0.07	0.466	0.33-0.65

Oshiro, B. et al. Obstet Gynecol 2009;113:804-811.

## Scheduling Algorithm

Request to schedule induction or cesarean delivery  
(either phone call or fax scheduling form)

EDD Verified  
(by criteria)

No

Indicated?  
(by criteria)

No

For patients with unconfirmed dates  
and without a medical/obstetric  
indication:

- Patient not scheduled and allowed to go into labor or
- If estimated gestational age >39wks, patient is tentatively scheduled for Cesarean Section pending results of lung maturity amniocentesis.
- Prenatal forms faxed.
- Final scheduling is contingent upon updated prenatal documentation and verification of fetal lung maturity.

Yes

≥39  
Wks?

No

Indicated?  
(by criteria)

No

Do not schedule.  
Refer to Charge RN  
to clarify clinical  
question or Medical  
Director if needed.

Yes

Yes

Yes

- Patient is tentatively scheduled.
- Prenatal forms faxed.
- Final scheduling is contingent upon updated prenatal documentation

# Overuse Measures

**Table.** Potential Unintended Consequences of Overuse Measurement

Potential Unintended Consequences of Overuse Measurement	Example
Underuse of the service when it is actually indicated	Measuring overuse of bone scanning for staging low-risk patients may unintentionally lead to underuse in higher-risk patients for whom a bone scan is indicated
Underuse of other related services	Measuring overuse of cervical cancer screening in low-risk women may unintentionally lead to underuse of other preventive services, such as screening mammography
Patient selection	Measuring overuse of spine imaging may unintentionally lead primary care physicians to avoid caring for patients with low back pain by referring them all to specialists
Care location shift	Measuring overuse of imaging in physicians' offices may unintentionally lead to physicians sending patients to the emergency room for imaging
Increasing use of alternate tests or treatments	Measuring overuse of lumbar spine radiographs may unintentionally lead to increased use of lumbar spine magnetic resonance imaging
Damage to the patient-physician relationship	Measuring overuse of antibiotics for bronchitis may unintentionally damage a physician's relationship with a patient because the physician did not order the treatment the patient desired
Clinician dissatisfaction with quality measurement	Excessive measurement burden (eg, additional documentation to confirm that service use is not overuse) may lead to clinician dissatisfaction with quality measurement on the front lines, gaming the system, or both, to improve performance on the measure without improving patient care
Adverse public health effects	Measuring overuse of blood cultures may unintentionally lead to decreased availability of data necessary to track antibiotic resistance over time; such difficult situations must be anticipated and addressed prior to implementation of overuse measures

Mathius & Baker, JAMA 2013

# What about 38 weeks + 4 to 6 days?

- Tita (NEJM 2009;360:111) (MFM Network)

- Examined 2,463 scheduled CS babies in this age range
- Respiratory outcomes worse than 39 weeks (RR=1.21 95% CI 1.04-1.4, p=0.01), similar to 38 weeks as a whole

- Wilminik (AJOG 2010;202:250.e1-8) (Netherlands)

- Examined 5,046 scheduled CS babies in this age range
- Respiratory outcomes worse than 39 weeks (RR=1.4 95% CI 1.1-1.8, p=0.01), similar to 38 weeks as a whole

# Obstetric Quality: NQF 2012

- 0304: Late Sepsis or Meningitis in Very Low Birth Weight (VLBW) Neonates (risk-adjusted) (Vermont Oxford Network)
- 0480: PC-05 Exclusive Breast Milk Feeding (Joint Commission)
- 0483: Proportion of Infants 22 to 29 Weeks Gestation Screened for Retinopathy of Prematurity (Vermont Oxford Network)

# Obstetric Quality: NQF 2012

- 0469: PC-01 Elective Delivery (Joint Commission)
- 0470: Incidence of Episiotomy (Christiana Care Health System)
- 0471: PC-02 Cesarean Section: NTSV (Joint Commission)
- 0472: Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision– Cesarean Section (Massachusetts General Hospital/Partners Health Care System)

# Obstetric Quality: NQF 2012

- 0473: Appropriate DVT Prophylaxis in Women Undergoing Cesarean Delivery (Hospital Corporation of America)
- 0475: Hepatitis B Vaccine Coverage Among All Live Newborn Infants Prior to Hospital or Birthing Facility Discharge (Centers for Disease Control and Prevention)
- 0476: PC-03 Antenatal Steroids (Joint Commission)

# Obstetric Quality: NQF 2012

- 1746: Intrapartum Antibiotic Prophylaxis for Group B Streptococcus (GBS) (Massachusetts General Hospital)
- 0477: Under 1500g infant Not Delivered at Appropriate Level of Care (California Maternal Quality Care Collaborative)
- 0478: Neonatal Blood Stream Infection Rate (NQI #3) (Agency for Healthcare Research and Quality)
- 1731: Health Care-Associated Bloodstream Infections in Newborns (Joint Commission)

# Mandujano AJOG 2013

- Pregnancy-related complications (gestational diabetes, abruption, preeclampsia) were not used to designate subjects as high risk for this analysis.
- Vital statistics data
- There are some births that should occur before 39 weeks.