



# Delivering Babies “Right on Time”

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# Disclaimers

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- I am a Neonatologist, not an Obstetrician!
- I work with great Obstetricians in the Florida Perinatal Quality Collaborative (FPQC) at the Chiles Center for Healthy Mothers and Babies – I am at the “right time in the right place” in this project nationally.
- My current effort for the EED Project which we call “Preventing NMID $\leq$ 39 Weeks” is funded by the March of Dimes and the Florida Departments of Health and the Agency for Health Care Administration
- I do not have any vendor or commercial support.



# Objectives Today

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- Review techniques to reduce the frequency of EED (Early Elective Deliveries) by review and sharing experiences within the HRET Network
- Discuss the role of the “hard stop” in limiting requests for EED
- Describe the adaptive and active learning strategies to overcome objections and implement a “hard stop” with appropriate clinical and leadership support for compliance

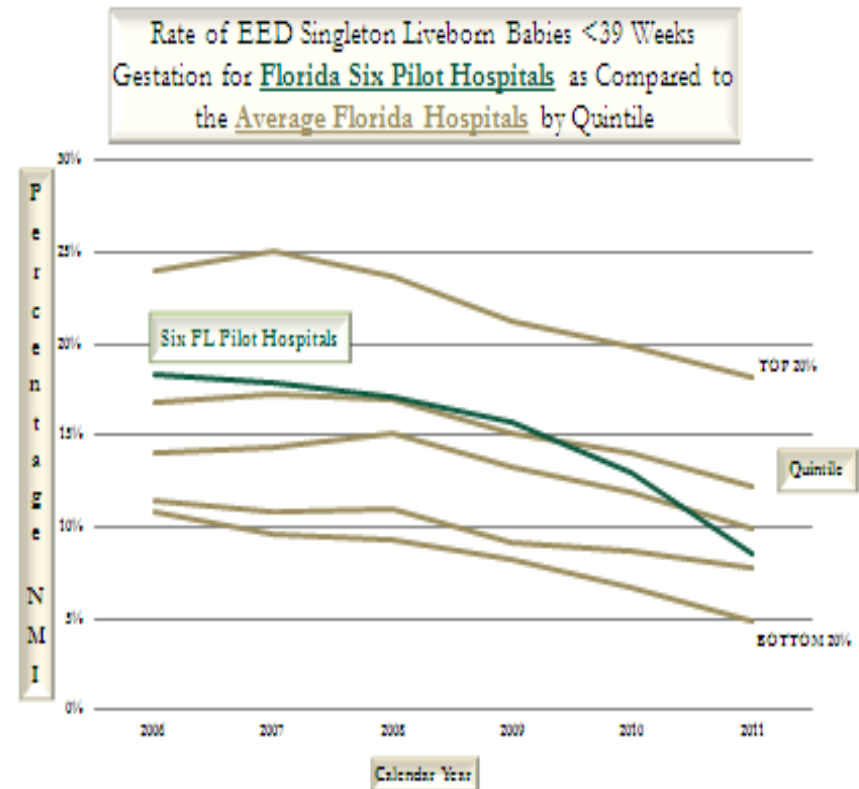


# Definitions

## Early Elective Delivery

- Deliveries not medically indicated between 37/0 and 38/6 weeks (*Early Term Deliveries*)
- Medically indicated estimated to be <5%
- Deliveries late preterm lead to increased neonatal morbidity (respiratory, transition, feeding and jaundice)
- Increased cost and NICU Level II utilization

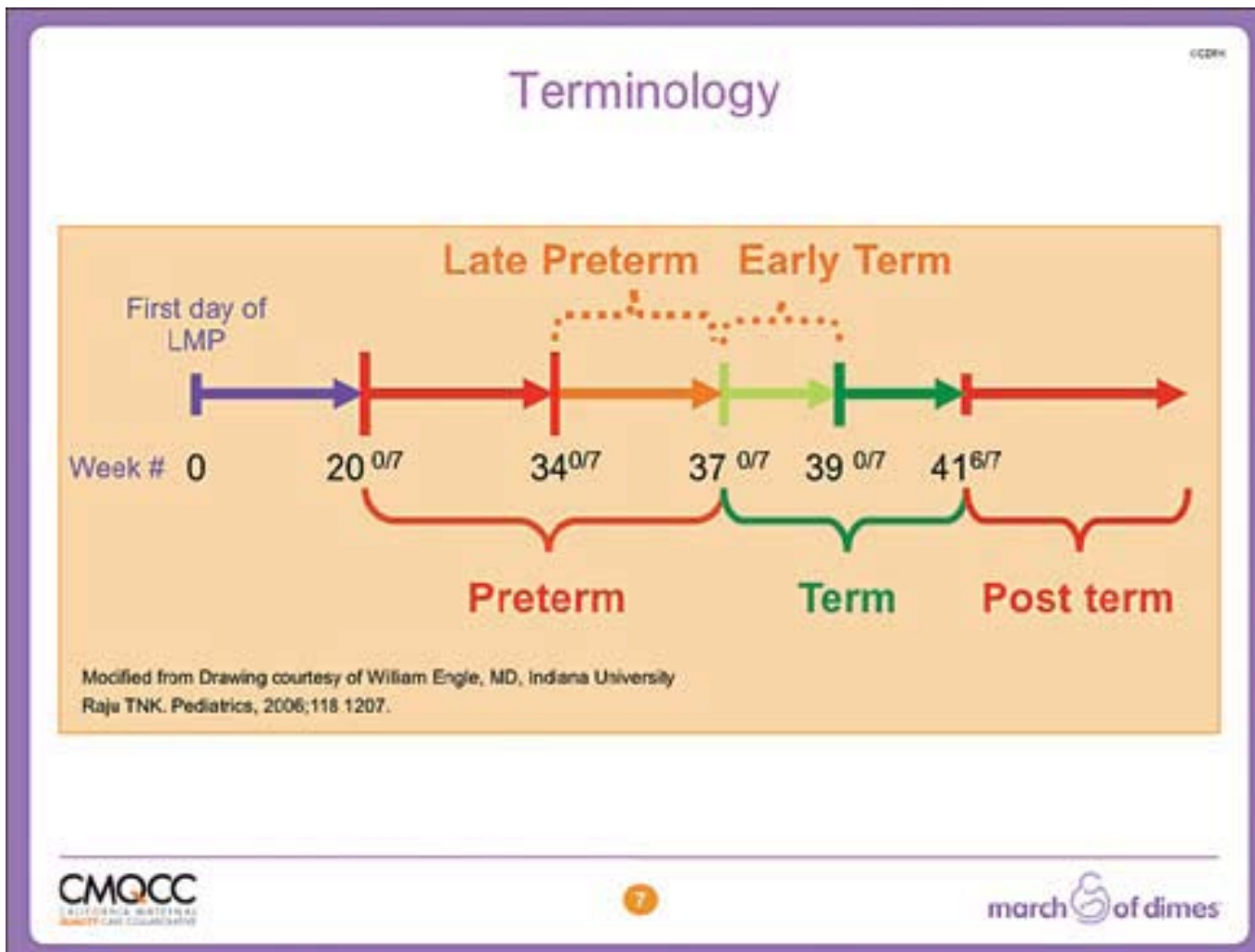
## Florida 6 Year Data as Prototype



Data Source: Florida Live Birth Certificate Data

# Visual Definition

with Permission MOD Toolkit



# The Scientific Rationale

with permission – MOD Toolkit

## Timing of Fetal Brain Development

©CDPH

- Cortex volume increases by 50% between 34 and 40 weeks gestation. (Adams Chapman, 2008)
- Brain volume increases at rate of 15 mL/week between 29 and 41 weeks gestation.
- A 5-fold increase in myelinated white matter occurs between 35-41 wks gestation.
- Frontal lobes are the last to develop, therefore the most vulnerable.  
(Huttenlocher, 1984; Yakovlev, Lecours, 1967; Schade, 1961; Volpe, 2001).

A baby's brain at 35 weeks weighs only two-thirds of what it will weigh at 39 to 40 weeks.



35 weeks



39 to 40 weeks

© Bruce W. Anderson, 2007



# Florida 2011 Pilot Project

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- Six Pilot Hospitals (MOD)
  - Used the California (CMQCC) Toolkit: Elimination of Non-medically Indicated Deliveries <39 Weeks GA
  - Calendar Year 2011
  - OB Champions (Drs. Hill, Harris, and Yelverton) with site visits
  - Data Portal for On line data reporting
  - Prompt analysis and reports monthly

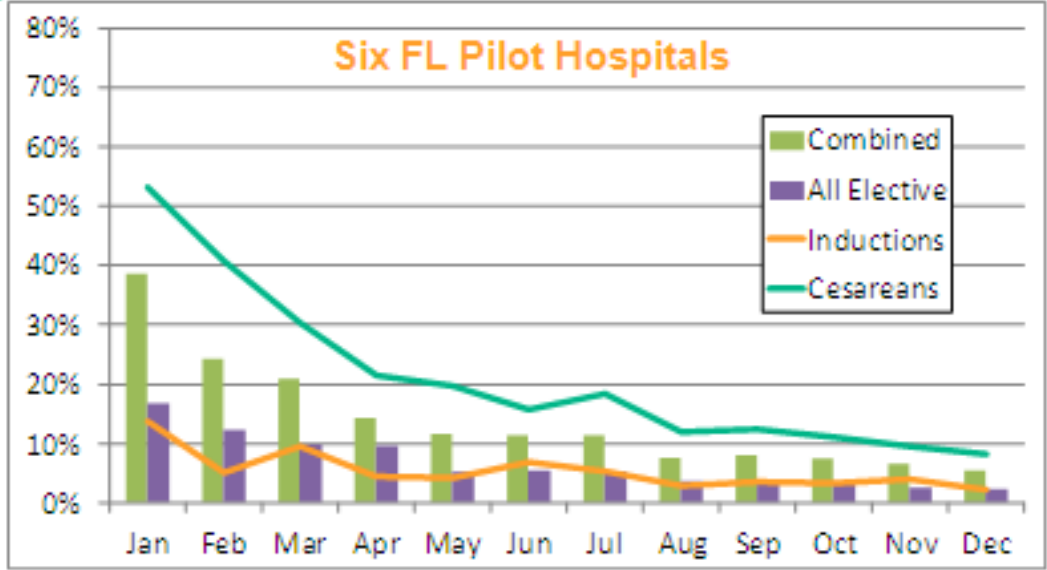


# Florida 2011 Pilot Project

- Provisional Results

Percent of NMI Deliveries <39 Weeks Gestation by Delivery Type

Provisional



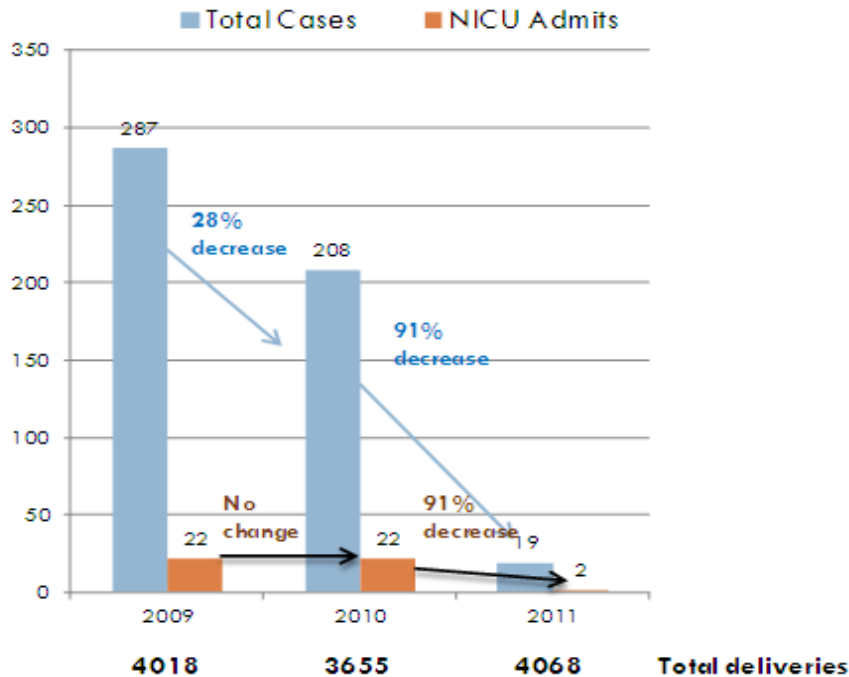


# NICU Admissions

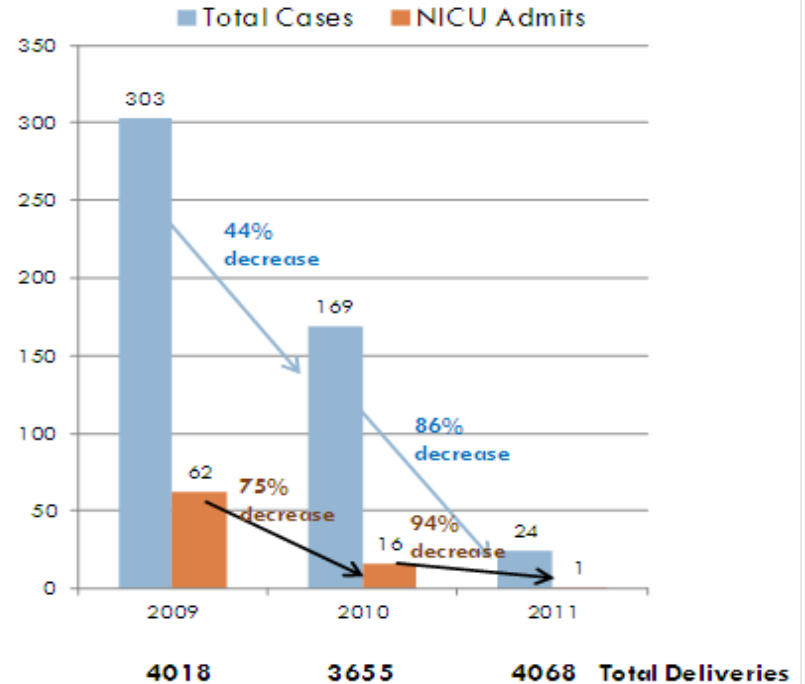
Unpublished – Attribution Withheld

## Quality and Safety – NICU Admissions

### Elective Induction < 39 Weeks Gestation/ NICU Admit



### Elective C/S < 39 Weeks Gestation/ NICU Admit





# Notable Successes (*Published*)

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- Intermountain Health Care System – Utah standardization
- Magee Women’s Hospital - Pittsburgh
- Hospital Corporation of America (HCA)
- Ohio Perinatal Collaborative



## Interest in Prevention of EED's - Extramural

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- Joint Commission (JCAHO) Perinatal Bundle
- National Quality Forum
- Leapfrog Group
- Governmental Payers
- Commercial Payers
- Consumer groups
- Patient Advocacy and Quality Groups



# Challenges and Learning Opportunities

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- Education since 1979 - ACOG Bulletins have not been systemically effective with passive education
- Patient and practitioner expectations and convenience
- Perception of hospital environment as “safe”
- Life style issues in society and medical practice
- Creation of Buy-In is not easy
- Role of Early Adopters – Development of “Champions” in an almost medieval sense – may be helpful
- Empowerment of Ob Delivery TEAM
- Results of recent Florida Ob Gyn Society /FPQC survey even with its flaws has many shared perceptions



# FOGS Survey 2011

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- Emailed link to online survey to 913 OBs
- 189 responded (21% response rate)
- Question areas:
  - Knowledge of issue
  - Practice approach
  - Organizational factors and barriers



# FOGS Survey 2011 (2)

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- 80% calculate gestational age by 1<sup>st</sup> trimester ultrasound
- 84% do **not** perform NMID<39 weeks
- 90% do **not** present the option of induction or c-section <39 weeks
- 91% think it is safe to delay scheduled deliveries until after 39 completed weeks



# FOGS Survey 2011 (3)

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## CONCERNS EXPRESSED

- Risk of labor in previous c-sections
- After hours staffing inadequate for emergencies
- Improved dating techniques → safer deliveries at 38 weeks
- Patient comfort and anxiety
- Usurps physician autonomy/expertise



# The Big Challenges

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- Gaining physician support for policy changes
- Handling patient preferences on delivery type and timing
- Generally, leads to the “hard stop” with a committed experienced respected member of the OB medical staff (OB or MFM) to take the lead and commit to being accessible for consultation and exception.
- Experience has shown after initial grumbling that an enlightened protocol with appropriate data elements with the scheduler and backup by experienced L and D Head Nurse supported by policy and administration is generally sufficient except for a very limited number of difficult judgment calls once the expectation of justification has been established. (“Avoid run arounds to the top”)



# Implementation Steps

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1. Mobilize a QI Team
2. Assess the Situation in your hospital
3. Plan Change Strategies for your Environment
4. Implement your Strategy in your environment
5. Track your progress
6. Assess – PDSA type of cycles

Commentary Follows



# Techniques (1)

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- Engagement with a state or regional perinatal quality collaborative such as HRET with state hospital association
- Target a needs analysis using statistical analysis to identify current performance and opportunity for improvement, when appropriate
- Use an evidence based tool kit and forms such as the MOD/California package
- Change the hospital culture through “CUSP” type engagement to empower hospital staff and physician medical staff members in a “collaborative systems approach”



# Techniques (2)

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- Develop local “Champions” or gain access to regional “Champions”
- Provide access to site visits by obstetric leaders in organized medicine to serve as role models
- Develop and implement and enforce “hard stop” policies for scheduling
- Administrative buy-in is essential and must be consistent
- Network with others in your state or region via the collaboratives



# Techniques (3)

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- Accept that there will be non conformers/slow adopters and utilize a combination of education, counsel, and use medical staff QI enforcement judiciously and when necessary
- Accept that an occasional Ob Physician may move practice
- Market your successes to the public
- Engage PR for your successes, publicize the “right practices”, highlight success and message consistently to your internal team.



# Lessons Learned

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- Need for Hospital Policy
- Need for consensus scheduling guidelines
- Implement “Hard Stop” process
- Empower the Nurses and L and D team/support
- Administrative Overt Support
- Continuous data collection is superior in quality to intermittent assessment – designate a “key” person invested in project, train, access network to share
- Implement patient education in hospital and outreach to physician offices and community
- Market achievements!



# Public Perceptions

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- Since a pregnancy is 9 months, that means 36 weeks. Right? Education required
- Delivery in hospital is so safe now and with an NICU there it is OK to have a baby early when you are uncomfortable, Right?
- My doctor says it is OK to deliver a few weeks early since that is the only time grandmom can visit, Right?
- My husband is a Marine and is heading to Afghanistan in 3 weeks, can I have my baby now? Hard one.....

# Sample Scheduling Form

Sample Scheduling Form

CCDH

**BEST MEDICAL CENTER**  
**SAMPLE SCHEDULING FORM FOR INDUCTIONS AND CESAREAN SECTIONS**  
 Call (XXX) XXX-XXXX or Fax (XXX) XXX-XXXX

Name \_\_\_\_\_ Phone \_\_\_\_\_  
 OB Provider \_\_\_\_\_ GP \_\_\_\_\_  
 Type of Delivery Planned  Induction,  C/S Desired Date/Time \_\_\_\_\_

**DATING**  
 EDC: \_\_\_\_\_ Gestational Age at date of induction or C/S: \_\_\_\_\_ (mm/dd/yyyy)  
 EDC Based on:  US 10-20 weeks,  Doppler FHT+ for 20 weeks,  MCG for 28 weeks  
 Other dating criteria: \_\_\_\_\_ (date/s)  
Use notes that a routine test may not be the optimal test when a recommendation for individualized delivery.  
 Fetal Lung Maturity test result: \_\_\_\_\_ Date: \_\_\_\_\_

**INDICATIONS**  
**Obstetric and Medical Conditions (ON at 38 weeks)**  
 (need to deliver <38 weeks dependent on severity of condition)

<input type="checkbox"/> Abrupton	<input type="checkbox"/> Heart disease	<b>Scheduled C/S (38 wks)</b>
<input type="checkbox"/> Preeclampsia	<input type="checkbox"/> Liver disease (e.g. cholestasis of preg.)	
<input type="checkbox"/> Gestational HTN	<input type="checkbox"/> Chronic HTN	<input type="checkbox"/> Prior C/S
<input type="checkbox"/> GDM with Insulin	<input type="checkbox"/> Diabetes (Type I or II)	<input type="checkbox"/> Prior classical C/S
<input type="checkbox"/> IHD <10 weeks	<input type="checkbox"/> Renal disease	<input type="checkbox"/> Prior myomectomy (may be enter with fetal lung maturity test)
<input type="checkbox"/> PRCA	<input type="checkbox"/> Coag. Thrombophilia	<input type="checkbox"/> Breech presentation
<input type="checkbox"/> Fetal Demise (current)	<input type="checkbox"/> Pulmonary disease	<input type="checkbox"/> Other malpresentation
<input type="checkbox"/> Fetal Demise (prior)	<input type="checkbox"/> HIV infection	<input type="checkbox"/> Patient choice
<input type="checkbox"/> Oligohydramnios	<input type="checkbox"/> Other _____	<input type="checkbox"/> Other _____
<input type="checkbox"/> Polyhydramnios		<input type="checkbox"/> Twin with complication (or 3rd wks)
<input type="checkbox"/> IUGR		<b>Elective Induction</b>
<input type="checkbox"/> Non-reassuring fetal status	<input type="checkbox"/> Fetus/obstetric consult obtained and agreed with plan.	<b>Indications</b>
<input type="checkbox"/> Incompetent cervix		<input type="checkbox"/> Fetus obstructed
<input type="checkbox"/> Fetal malformation		<input type="checkbox"/> Macrosomia
<input type="checkbox"/> Twin with complication		<input type="checkbox"/> Distress
		<input type="checkbox"/> Other _____

**Description/Details:**

**CERVICAL EXAM (for inductions)**  
 Date of Exam: \_\_\_\_\_ (within 7 days of date of induction)

**Biophysical Profile:** circle each element of the exam below and add score.

Score	Color	Amniotic Fluid	Station	Capitulum	Fetus	Respiratory	Reactive
1	Green	8-20%	-2	_____	_____	_____	_____
2	1-2	40-80%	-2	Medium	Midposition	_____	_____
3	1-4	80-100%	-1, 0	Soft	Anterior	_____	_____
4	1-4	80%	+1, +2	_____	_____	_____	_____

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

This section is used only to assist in appropriate timing of scheduled cesarean sections for scheduling induction.

**SCHEDULING OFFICE USE** Procedure NOT Scheduled:   
 Scheduled?  by: \_\_\_\_\_ Confirmed Date/Time: \_\_\_\_\_  
 Referred to Dept. Chair?  Prenatal Record presented?  Yes



# Adaptive Strategies (1)

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- Development of EED Policy
  - Establish standards that follow ACOG/Ntl Quality Criteria
  - Establish policy for approving medically indicated exceptions documented on Scheduling Form – Hard Stop/strong physician leadership
  - Establish policies that provide clear direction to nursing and scheduling staff
  - Be consistent.....



# Adaptive Strategies (2)

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- Forms (Evidence Based)
  - Establish standard forms for scheduling similar to the MOD Toolkit document
  - Refer all exceptions to physician leadership per policy
- Establish Medical Staff “ownership” for process
  - Approve all exceptions after “Hard Stop”
  - Establish an Ob Quality Committee if there is not one and provide objective periodic data for review in order to do PDSA
  - Choose members of QI committee wisely and educate in process; even consider CUSP Training



# Adoptive Strategies (1)

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- Data Collection and Trend Analysis from Inputs
  - Scheduling form
  - Data Collection form(s)
  - Log books if necessary/EHR reports
  - Fetal Monitor System reports
  - EHR's
  - Monitor admissions to NICU at 37/0 to 38/6 weeks of gestation for medically indicated delivery and morbidity
- Be adaptable to changes in process as problems/defects are noted