

# **What is the Mission of OPQC?**

## **Reducing prematurity-related poor outcomes for babies in Ohio**

### **Goal:**

**Through collaborative use of improvement science methods, Reduce preterm births and improve outcomes of preterm newborns in Ohio as quickly as possible.**



**OPQC Is A Voluntary Organization of Ohio Stakeholders Who Care About Fetal & Infant Health**



# Key Facts: The Epidemiology of Preterm Birth

- **PTB = Leading Cause of Infant Mortality**
  - **75% of Infant Mortality in 1<sup>st</sup> Month of Life**
  - **75% of PTBs occur between 34-36 weeks**
    - They can have life long health problems
  - **75% of Perinatal Mortality occurs in babies born before 32 weeks' gestation**



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# OPQC History & Membership

**2007: Ohio's Infant Mortality Rates Are Terrible !**

## 2008 - 2011

- 20 Charter Member Maternity Hospitals
- 24 Charter Member Neonatal Intensive Care Units

## 2012 - 2013

- Expanded Membership to Include 85 More Ohio Maternity Hospitals → Almost All in Ohio

## 2013 and Beyond

- Expanding Membership to Include Ohio Mothers, Fathers, and Families



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# The OPQC Charter Teams {24 Neo + 20 OB}

## Toledo

- Promedica Toledo Children's Hospital (NEO)
- Promedica Toledo Hospital (OB)
- St. Vincent Mercy Medical Center (NEO & OB)

## Cleveland

- Cleveland Clinic (NEO)
- Fairview Hospital (NEO & OB)
- Hillcrest Hospital (NEO & OB)
- MetroHealth Medical Center (NEO & OB)
- University Hospital – MacDonald Women's Hospital (OB)
- University Hospital – Cleveland – Rainbow Babies (NEO)

## Akron

- Akron Children's Hospital (NEO & OB)
- Akron General Medical Center (OB)
- Summa Health System (NEO & OB)

## Youngstown

- St. Elizabeth Health Center (NEO)

## Dayton

- Dayton Children's Medical Center (NEO)
- Miami Valley Hospital (OB)

## Canton

- Aultman Hospital (NEO & OB)

## Columbus

- Mount Carmel East (NEO & OB)
- Mount Carmel St. Ann's (NEO & OB)
- Mount Carmel West (NEO & OB)
- Nationwide Children's Hospital (NEO)
- Doctor's Hospital (Nationwide NEO)
- Grant Hospital (Nationwide NEO)
- Riverside Methodist Hospital (OB+ Nationwide NEO)
- The Ohio State University Medical Center (NEO & OB)

## Cincinnati

- Cincinnati Children's Hospital Medical Center (NEO)
- Good Samaritan Hospital (NEO & OB)
- Mercy Anderson Hospital (OB)
- University Hospital – Cincinnati (NEO & OB)

~ HALF OF OHIO BIRTHS OCCUR IN THESE 20 OB CENTERS

# OPQC Maternity Hospitals 2013

★ Charter sites   ★ Pilot sites   ★ Wave 1 sites   ★ Wave 2 sites   ★ Wave 3 sites



# The Ohio Perinatal Quality Collaborative



## Obstetrics

## Neonatal

39-Week Scheduled Deliveries without medical indication

Steroids for women at risk for preterm birth (24<sup>0/7</sup> - 33<sup>6/7</sup>)  
Done → Transition to BC Surveillance

Blood Stream Infections:  
High reliability of line maintenance bundle

Use of human milk in infants 22-29 weeks GA

2013 - 15

An OPQC NAS Project ?

OCHA Pilot NAS in 6 children's hospitals

Increase Birth Data Accuracy & Online modules

Spread to all maternity hospitals in Ohio

Progesterone for Preterm Birth Risk

# How Does OPQC Get Results?

## *The IHI Model for Improvement*

- Select A Common Project
- **PLAN** a “Change Package” and share with OPQC Teams:
  - Recommended best practices
  - Ideas/interventions for improvement
  - Outcomes to measure/track
- Define how we will know if a change = improvement
- **DO** the Change, **STUDY** the results, and then **ACT**
- Teams join monthly webinars to share lessons learned, discuss results, and identify new ideas to “test”, & examine aggregate data/outcomes
- Teams meet face-to-face at at least twice per year

**P-D-S-A  
Cycles**



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Stakeholders Who Care About Fetal & Infant Health**



# Ohio Perinatal Quality Collaborative

## Criteria for Choosing Projects

- ✓ Prematurity related
- ✓ Variation in practice
- ✓ Existing benchmark
- ✓ Measurable outcome
- ✓ Population impact
- ✓ Prior success
- ✓ Participant enthusiasm
- ✓ Public enthusiasm

- ✓ March of Dimes
- ✓ Ohio ACOG & AAP
- ✓ CDC

- ✓ **39 Weeks**
- ✓ **Antenatal Steroids**
- ✓ **Blood Stream Infection**
- ✓ **Breast Milk = Medicine**
- **MgSO4 Neuro Rx**
- **LBW Hypothermia**
- **Late Preterm 34-36**
- **Opioid Dependence**
- ★ **Progesterone**



# *Neonatologists Improve Care of Tiniest Babies*

## Initial Project

### Reducing Bloodstream Infections in Premature Infants

- Babies born at 22-29 weeks (11+ weeks early)
  - High Risk for Infection
  - 24 Level 3 NICUs, Working Together
  - To Reduce infections



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# The Initial OPQC Neo Project

## A Series of Interventions = a **BUNDLE**

- **Central Line Insertion Bundle**
- **Central Line Maintenance Bundle**
- **Earlier Start of Feedings**
- **Encouraging and Supporting Moms to Pump Their Own Milk**
- **Use Donor Milk if Mom's Milk Not Available.**
- **Mother's Milk Is Medicine !**

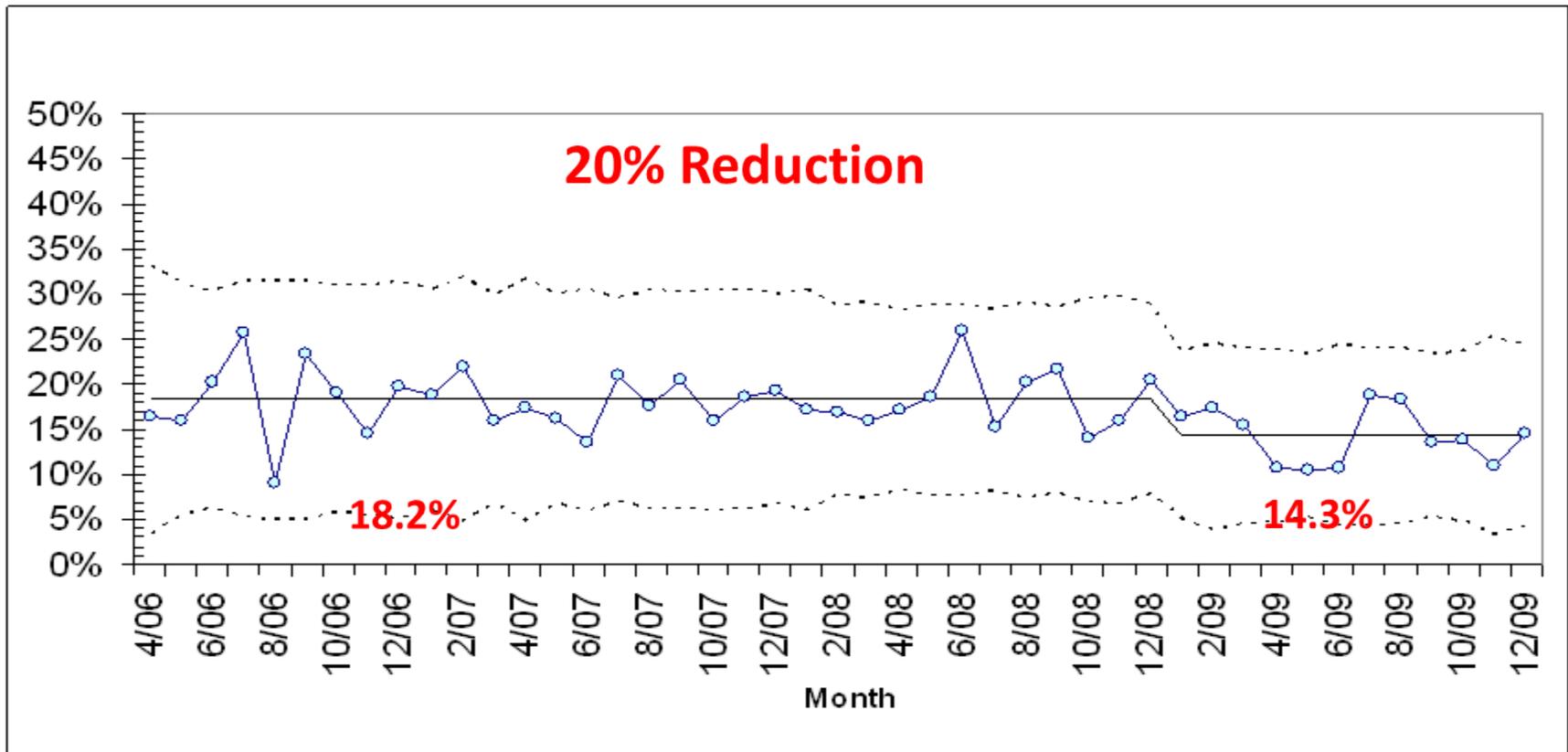


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# 24 Ohio NICUs

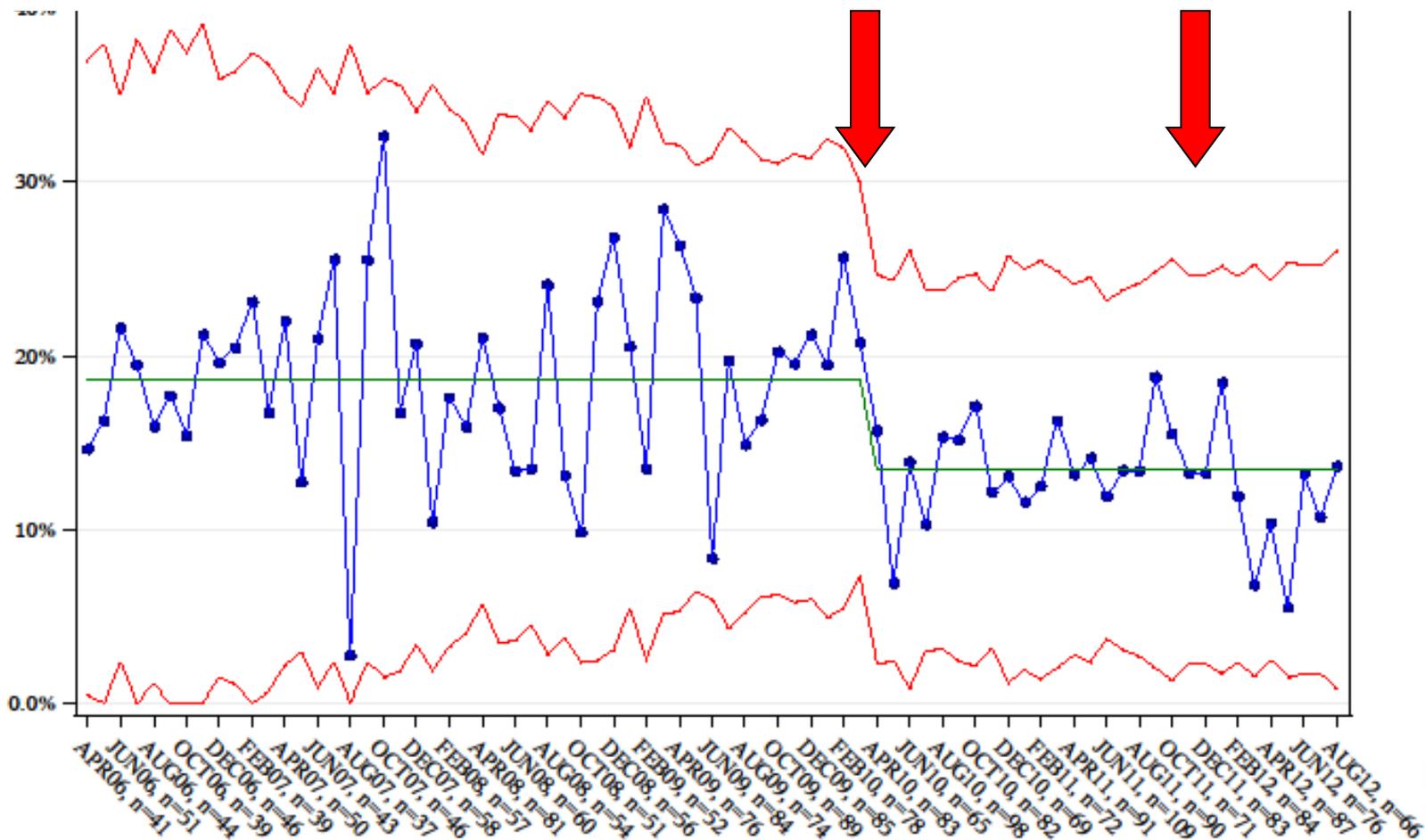
## Proportion of Infants 22-29 Weeks Gestation Discharged with at least 1 Nosocomial Infection



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# Growth Failure - Weight < 3% at Discharge Infants Born at 22-29 Weeks' Gestation



# The OPQC Neo BSI Project

- Prevented 600 Infections
- Saved 75 Babies' Lives

**Together We Saved Enough Babies to Fill  
TWO School Buses!**

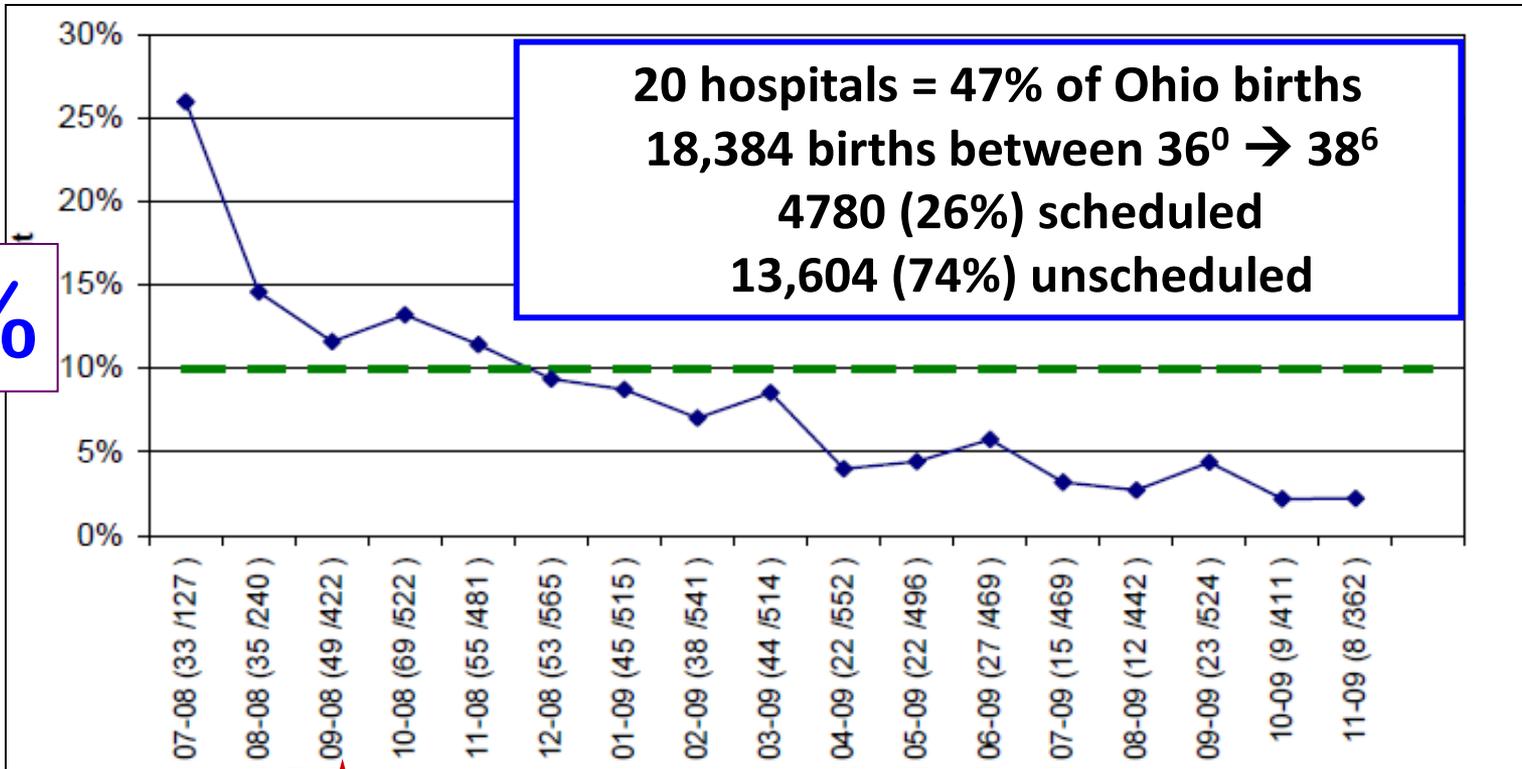


OBSTETRICS

# A statewide initiative to reduce inappropriate scheduled births at 36<sup>0/7</sup>–38<sup>6/7</sup> weeks' gestation

The Ohio Perinatal Quality Collaborative Writing Committee

AJOG 2010



%

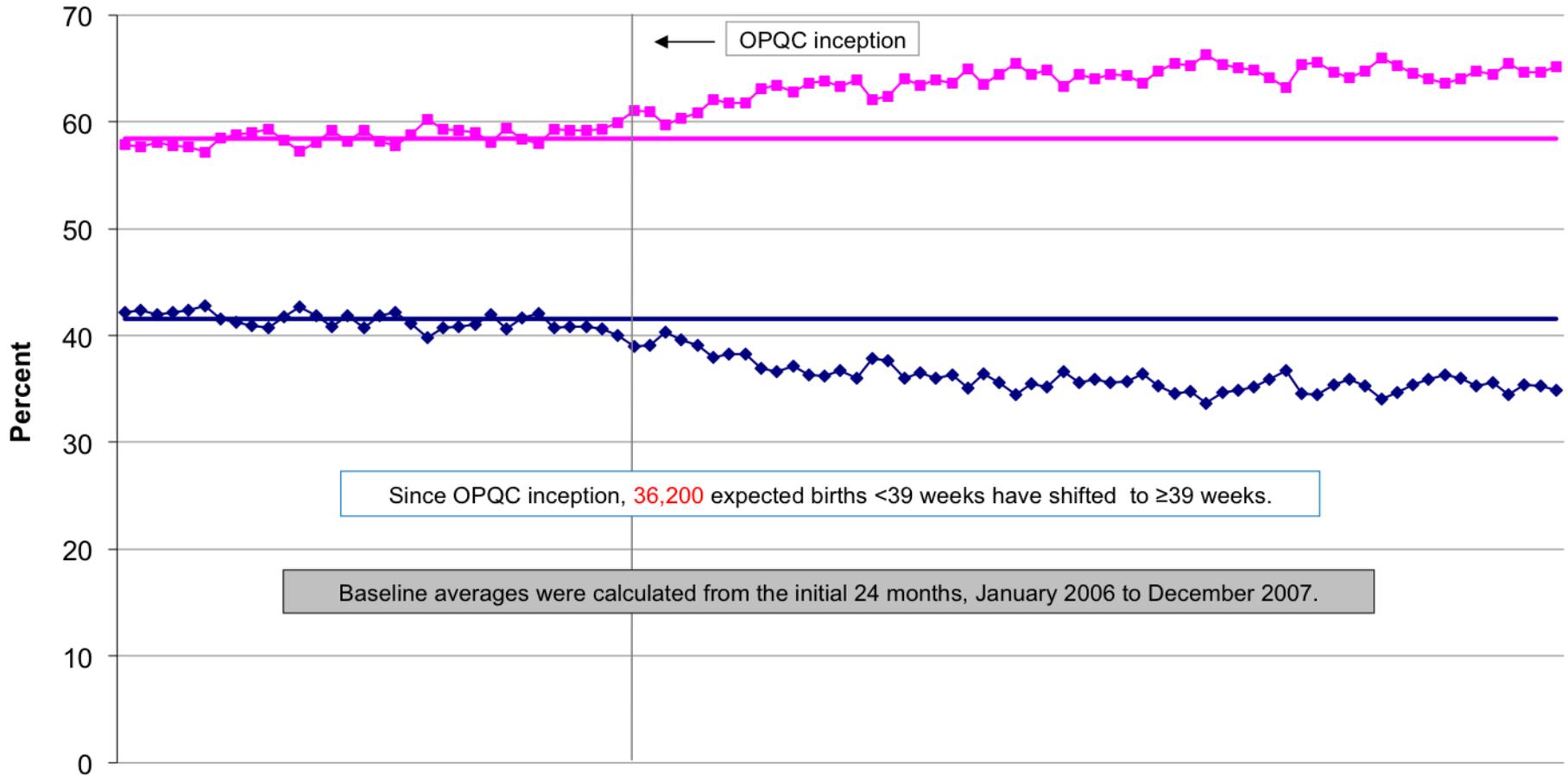
20 hospitals = 47% of Ohio births  
 18,384 births between 36<sup>0</sup> → 38<sup>6</sup>  
 4780 (26%) scheduled  
 13,604 (74%) unscheduled

Observe  
 X 2 Months

Project data 9-1-08 → → 11-30-09



# Distribution of Ohio Births By Gestational Age And Month January 2006 → July 2013



**PINK = 39 -41 Weeks**    **BLUE = 37 + 38 Weeks**

# Effects of the Initial OPQC 39 Week Scheduled Birth Project September 2008 → July 2013

- 36,200 births moved from 37-38 to 39-41 wks
- Conservative estimate = 3% fewer “near term” NICU admissions: **N = 1086**
- 1086 x **\$20,000** per NICU Admission  
**\$ 21,720 million** savings in 5 years



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# Dissemination of The 39 Week Delivery Project

## Done in Waves

- Piloted in 15 Sites 2012
- 3 Subsequent Waves with Staggered Start Dates
  - Jan 2013 → Apr 2014
- Ohio Birth Registrars are excited to participate

## Different from Charters

- **Used Birth Registry data instead of hand collected**
- Site Visits by BEACON QI Coordinators
- Monthly Calls
- Periodic Learning Mtgs
- Collaboration w/ ODH + ODH Office of Vital Statistics + CDC



# Can't Change the Birth Certificate?

*Revise the Guide for the Birth Certificate Worksheet.*

Ohio.gov  
So much to Discover!

Ohio Department of HEALTH

Global Search Home Thursday, May 23, 2013

Go!

Home  
Announcements  
Birth Facility  
Births  
Contacts  
Coroner  
Deaths  
Disaster Recovery  
EDRS (Electronic Death Registration System)  
FAQ's

**WELCOME TO THE VITAL SUPPORT SITE!**

This site is maintained by the Office of Vital Statistics for business partners. Public customers needing certified copies should call (614)466-2531 or visit [www.odh.ohio.gov/ys](http://www.odh.ohio.gov/ys). Business partners should use this site for the registration of vital records. Should you experience a problem while navigating the Support Site, use the [Site Feedback](#) link at the bottom. Should you have a question about IPHIS-EDRS, call our HelpDesk at (614) 466-2531, option 3.

**REVISED GUIDE TO COMPLETING HOSPITAL BIRTH WORKSHEET**

**NEW! Birth facility staff:** [Click here to review the recently revised Guide to Completing the Facility Worksheet.](#) It does not contain new variables, but the definitions have been updated.

**CURRENT GUIDELINES RELATIVE TO DEATH CERTIFICATE EMAILING/PDF PRACTICE**

**REMINDER! All applicable persons processing or accepting death certificates:** In regards to the known and occurring practice of emailing saved PDF death certificates to assigned certifiers or other applicable persons, please

Related Links

**NEW INFO**

- Ask Birth Registrars to Focus on Key Variables in Worksheet

- Provide New *Focus-Group-Tested* Definitions for Key Data



# Results of Phase 1

## 39 Week Dissemination Project

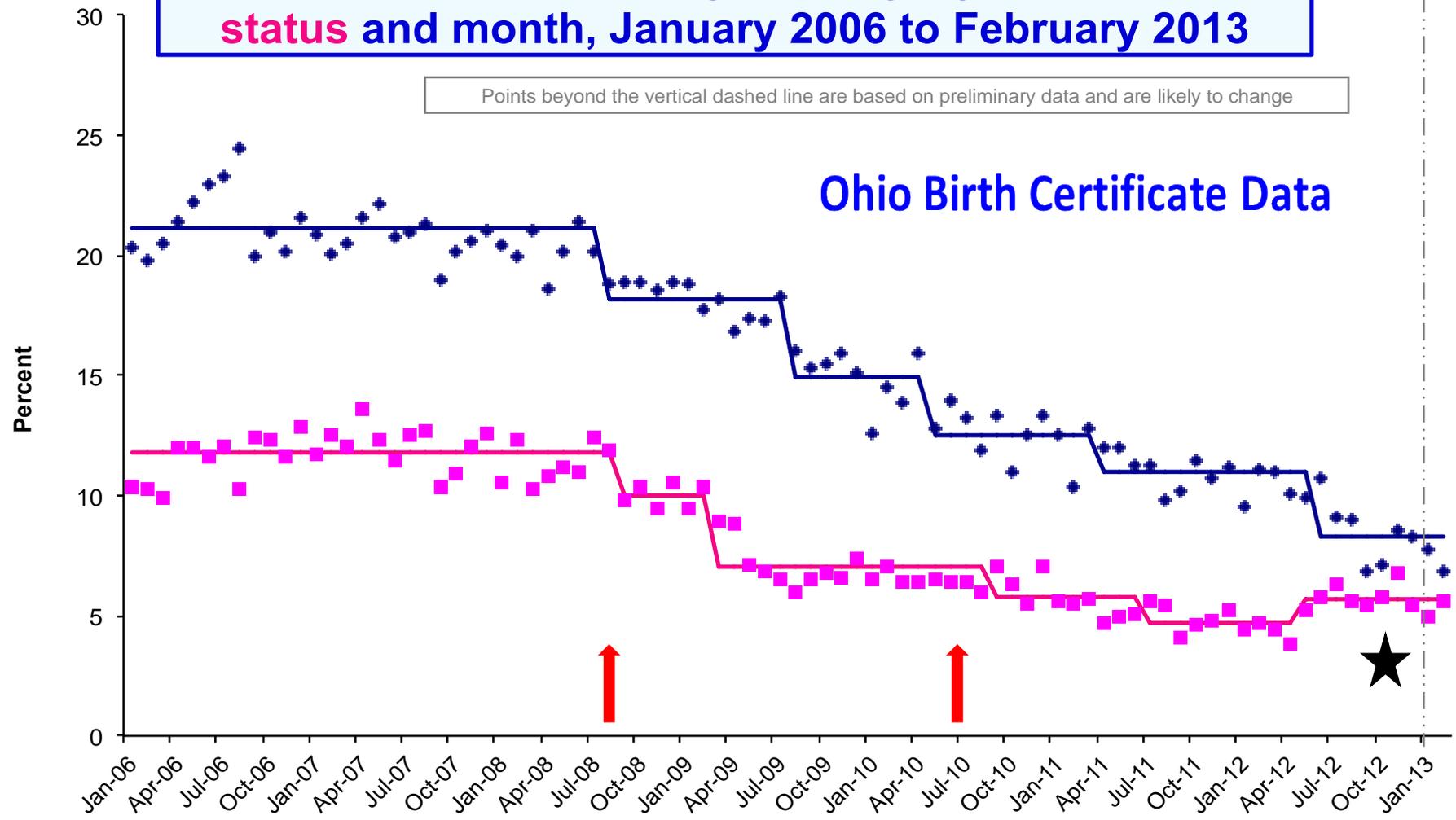
- ***Hospital Birth Certificate Staff Excited !!***
- ***Major Misunderstandings on Major Outcomes***
  - **Determination of Gestational Age - Rounding Up!**
  - **Definition of Preeclampsia**
  - **Recognition of Antenatal Steroid Rx**
  - **Definition of Breast Feeding at Discharge**
- **Aggregate Rate Declined Significantly**
- **Significant Improvement in 10 of 15 Sites**



Ohio births induced at **37-38** weeks with no apparent medical indication for early delivery, by **OPQC member status** and month, January 2006 to February 2013

Points beyond the vertical dashed line are based on preliminary data and are likely to change

Ohio Birth Certificate Data



◆ Non-OPQC    — Average, Non-OPQC    ■ OPQC    — Average, OPQC

**Global Aim: Assure that all infants born between 24<sup>0/7</sup> and 33<sup>6/7</sup> weeks' gestation receive appropriate antenatal corticosteroid treatment to reduce perinatal morbidity and mortality.**

# OPQC ANTENATAL STEROIDS 2011 → 2013

## Interventions

### Key Drivers

Documentation System

Identification of Appropriate ANCS Candidate

Identification of Appropriate Time for ANCS Administration

Optimal and Efficient Administration of ANCS

Awareness of Benefits and Risks

- Create an integrated system of recording ANCS administration among prenatal care sites and delivery sites encompassing all levels and acuity of care.
- Standardize birth certificate documentation of ANCS administration

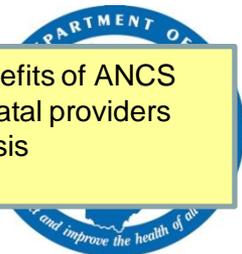
- CHOOSE an ANCS Strategy or Guideline for your site

- Promote consistent use of common algorithm of ANCS administration for Betamethasone & Dexamethasone
  - Practitioners
    - Prescribing
    - Care Giving / Administering
  - Hospitals
    - Link to maternal transfer & tocolysis
  - Pharmacies
  - Distributors
  - Pharmaceutical Manufacturers

- Promote public awareness of benefits of ANCS
- Education of parents & non-perinatal providers
- Link to maternal transfer & tocolysis
- General risks and benefits

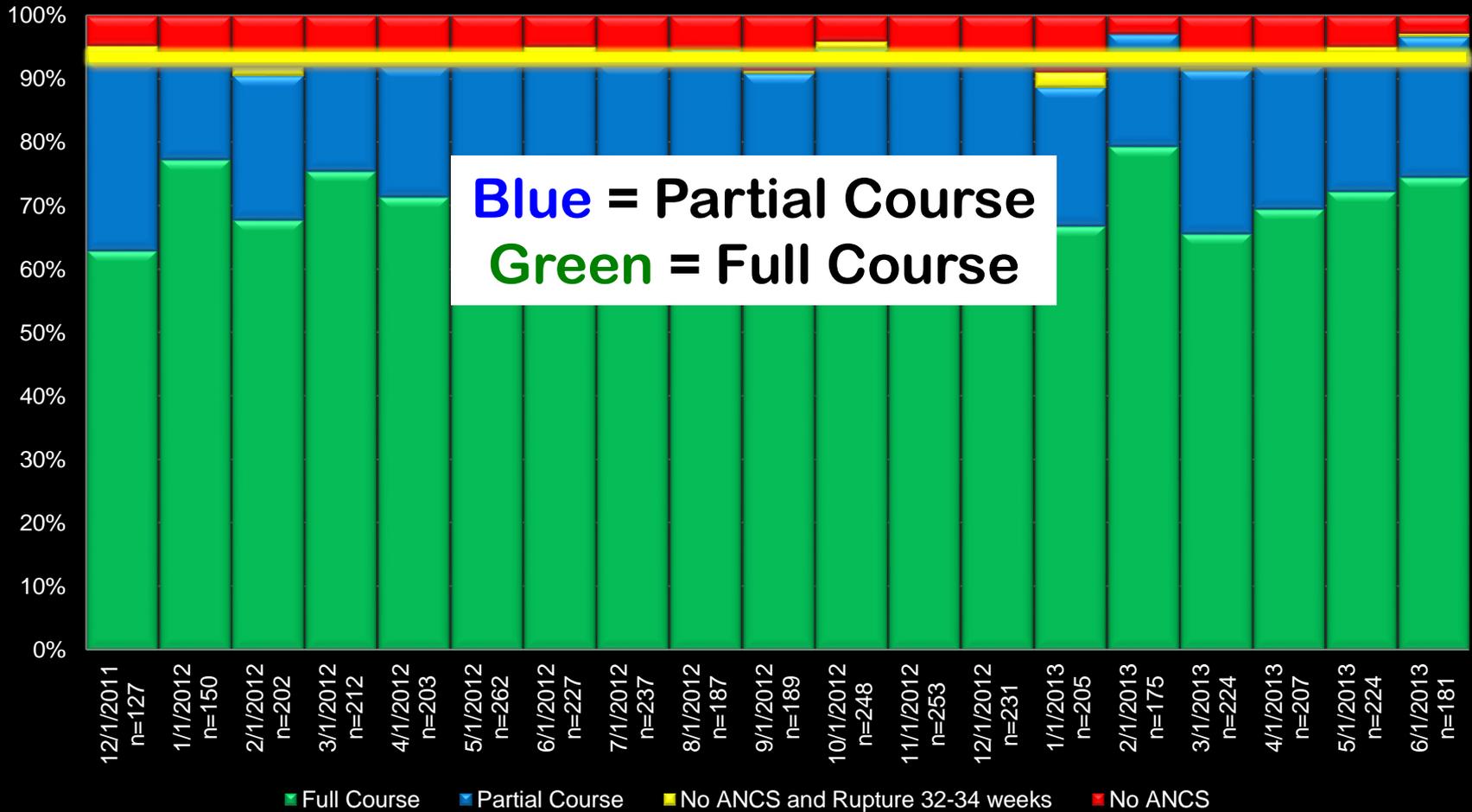
### SMART AIM

To increase the percentage of infants born in Ohio at 24<sup>0/7</sup> to 33<sup>6/7</sup> weeks' gestation who receive pre-delivery ANCS to > 90%, by June 2013



# FINAL Aggregate Report of the OPQC Project to Improve Documentation of Antenatal Corticosteroid Use 2011 → 2013

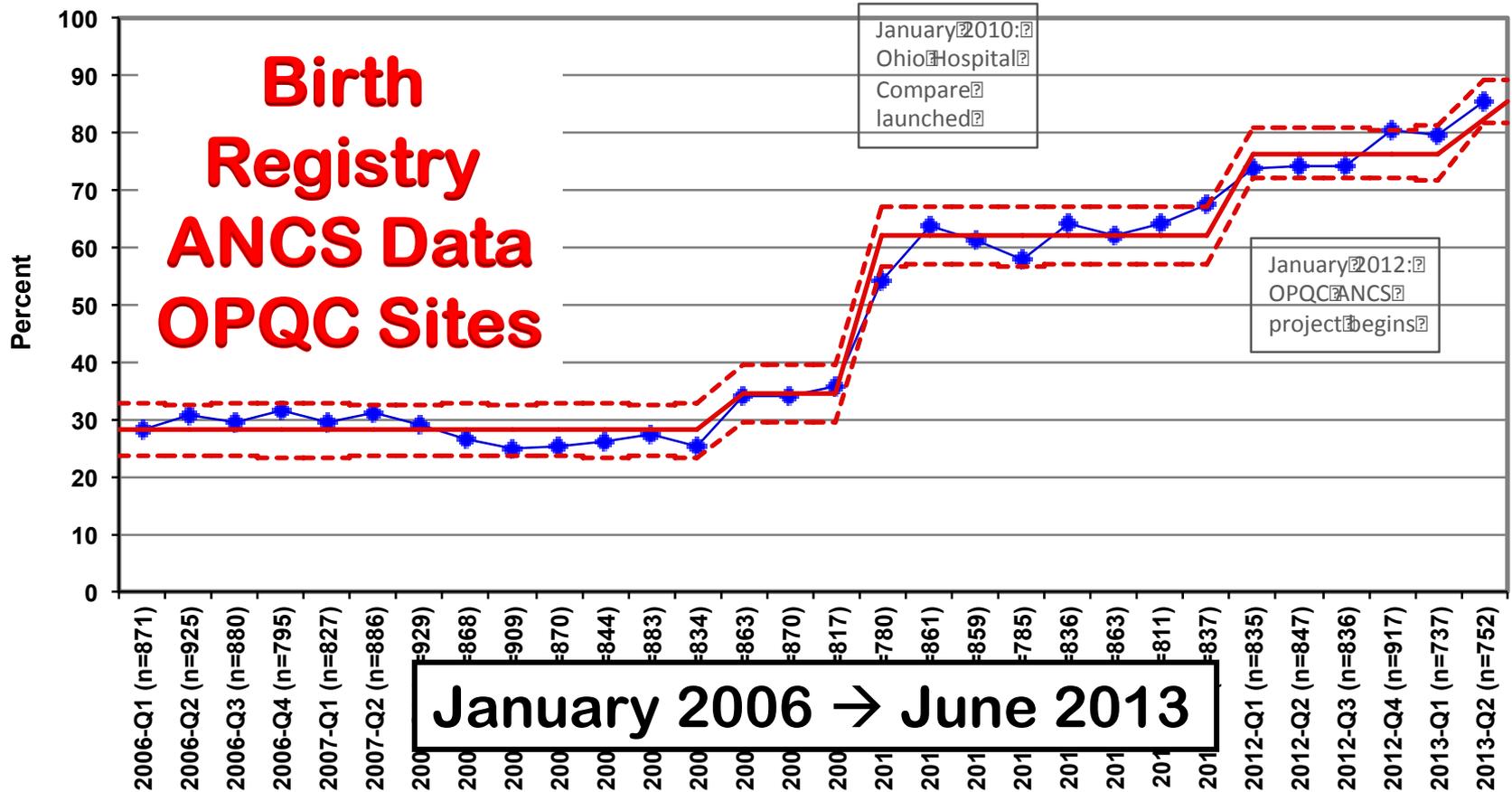
## ANCS Administration - Aggregate Data



**OPQC HAND COLLECTED DATA on 3954 Infants 24 → 33+6 wks**



Births at 24-33 completed weeks receiving any antenatal steroids, by quarter, Aggregate results for 20 OPQC charter sites



Source: Ohio Department of Health, Vital Statistics

◆ Quarterly Percent

— Baseline Average Percent

- - - Control Limits



**A STATEWIDE QUALITY IMPROVEMENT PROJECT TO  
REDUCE OHIO PRETERM BIRTHS BEFORE 37, (35),  
AND 32 WEEKS' GESTATION BY IDENTIFYING AND  
TREATING PREGNANT WOMEN ELIGIBLE FOR  
PROGESTERONE SUPPLEMENTATION**

**GLOBAL  
AIM:  
TO REDUCE  
INFANT  
MORTALITY  
IN OHIO  
BY REDUCING  
PRETERM  
BIRTH**

**SMART AIM: By July 1,  
2015, Decrease the Rate of  
Preterm Birth before 37  
Weeks' from 10.6% to  
9.7%, and before 32  
weeks' from 2.1% to  
1.9%.**

# Key Drivers

- Identify Women with Prior Preterm Birth
- Identify Women with Short Cervix  $\leq 20$  mm
- Prescribe Progesterone to Eligible Women
- Remove Administrative Barriers to Receiving Progesterone Supplementation
- Track Outcomes in Participant Sites and in Ohio



## Key Driver:



# Identify Women with Prior Preterm Birth

- **Identify Risk at 1<sup>st</sup> Contact or Prenatal Visit**
  - Accelerated 1<sup>st</sup> Appointment if Hx sPTB
- **Define Prior Spontaneous Preterm Birth**
  - Preterm Labor and P-PROM
  - Advanced Cervical Dilation
  - Anything Spontaneous at 16 → 36 Weeks
  - Born Alive or Stillborn

## Key Driver:

### Identify Women with Short Cervix $\leq 20$ mm

- Sites Choose a Cx Sono Screening Algorithm
  - Selective Screen **In** = Women with Risk Factors
  - Selective Screen **Out** = Women w/o Risk Factors
  - **Universal** – Screen All at 18-22 weeks
- Algorithm for Rx and Follow Up
- Credentialed Sonographers to Measure Cervix
  - **CLEAR** or **FMF** or **Prior NICHD Study** Credentialed

## Key Driver:

# Prescribe Progesterone to Eligible Women

## ■ Initiate Progesterone ASAP for Hx SPTB

- Accelerated 1<sup>st</sup> Prenatal Visit
- Presumptive Eligibility for Antenatal Care

## ■ Adopt a Management Protocol

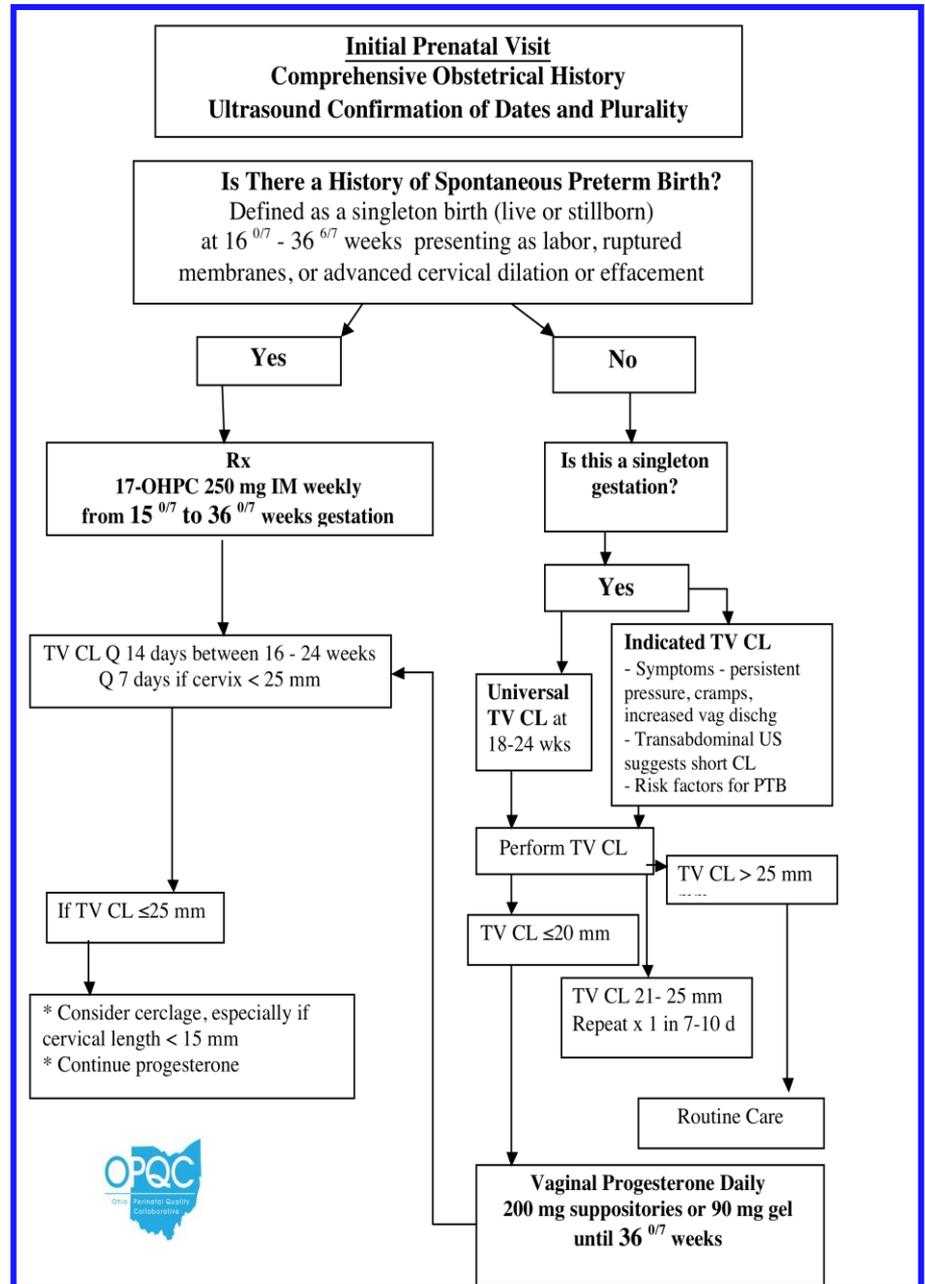
- For Hx SPTB
- For Short Cervix

## ■ Make “Screen for PTB Risk” ≈ GBS, Rh, GDM



# Sample Protocol to Identify Candidates for Progesterone Prophylaxis of Preterm Birth Using OB History and Transvaginal Cervical Ultrasound

Based on SMFM & ACOG 2012



## Key Driver:

# Remove Administrative Barriers to Receiving Progesterone Supplementation



- Pharmacy Coordination
- Insurance Coverage & Protocols
- Delivery and Administration of 17  $\alpha$ - OHPC
- Use of Vaginal Formulations
- Designate a Progesterone Coordinator
- Convene Participants to Assure Rx Received

## Progesterone Prophylaxis

### A Systems Approach To Expanded Rx

#### Plan – Do – Study – Act Cycles for Progesterone

- **Roll Out to The Original Big 20**
- **Disseminate to 6 Major Metropolitan Areas**
  - Start with 1 or 2 Hospital Affiliated Clinics
  - Private Drs. via Ohio ACOG, ABFP + Journals + Text
- **Disseminate to Regions → Roll Out as in 39 Wk**
  - e.g., SE & NE Ohio via Partners for Kids
- **Regional Rates of PTB < 32, 35, 37 weeks**
- **Birth Registry and Hand Collected Data**
- **Medicaid Managed Care PTB Rates**



# The Ohio Progesterone Project



## PLUS

- **Strong Support in Ohio**
  - Vital Statistics
  - Ohio Dept Health
  - OCPIM
- **OPQC Track Record**
- **Collaborative  
Midwestern Spirit**

## MINUS

- **New Intervention**
- **No Hx QI Project for P4**
- **Primarily Outpatient**
- **Initiators Remote from  
Adverse Outcomes**
- **Long Interval from  
Initiation to Outcomes**



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# The Ohio Progesterone Project

- **Goal: Reduce Ohio PTB & Related Infant Mortality**
- **Expand Use of Cervical Sonography**
  - Expand and Train the Workforce
  - Create and Pay for Protocols
- **Make it Easy to Get Progesterone**
  - Create and Pay for Protocols
- **Outcome Measures**
  - Hand Collected Data
  - Medicaid and Private Insurers
  - Birth Registry Data – Births < 32, 35, 37 Weeks
  - **Infant Mortality Rate !**

