Optimizing birth certificate data collection

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The Ohio Perinatal Quality Collaborative

Obstetrics

- 39-Week Scheduled Deliveries without medical indication
  - INCREASE BIRTH DATA ACCURACY & Online modules
- Steroids for women at risk for preterm birth ($24^{0/7}$ - $33\ ^{6/7}$)
  - Done → Transition to BC Surveillance
- Spread to all maternity hospitals in Ohio
- 2014: Progesterone to Reduce Preterm Birth Risk

Neonatal

- Blood Stream Infections:
  - High reliability of line maintenance bundle
- Use of human milk in infants 22-29 weeks GA
- 2014: Neonatal Abstinence Syndrome
  - OCHA NAS in 6 CH's

Charter Sites – 39 Week Delivery Project

- First OB OPQC Project
- Used hand collected data
- Baseline Data Collection July 2008→ August 2008 / Project Begun 9-1-08
- Gestational Age measure was 36.0 – 38.6 weeks

Charter Hospitals

- Large teaching Hospitals in the state
- History of previous QI Project work or Research Participation
- These 20 hospitals represented 49% of all births in Ohio

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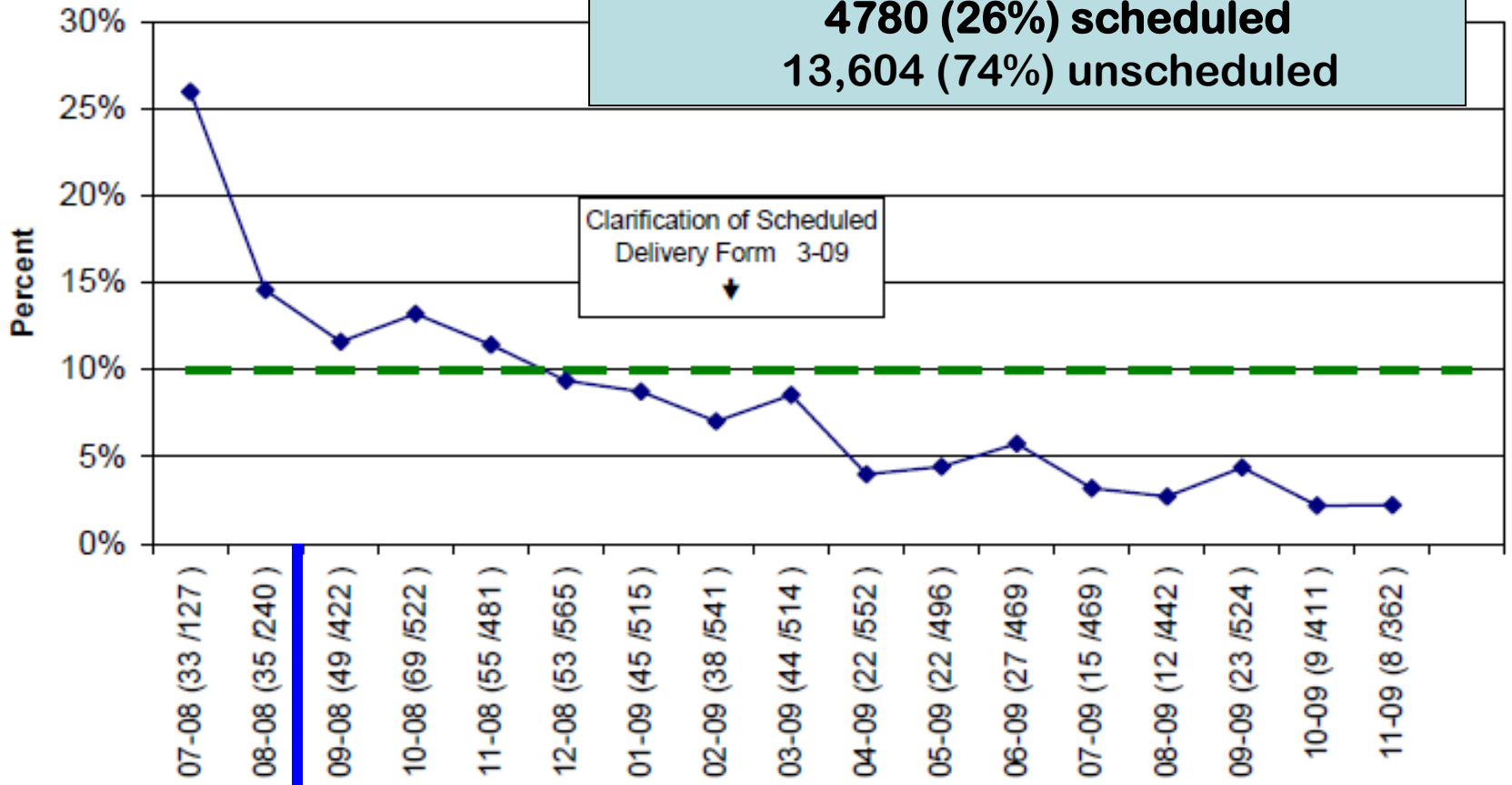
Rate of Scheduled Births at 36^0 - 38^6 Weeks' Without Documented Indication

Based on hospital HAND COLLECTED data

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

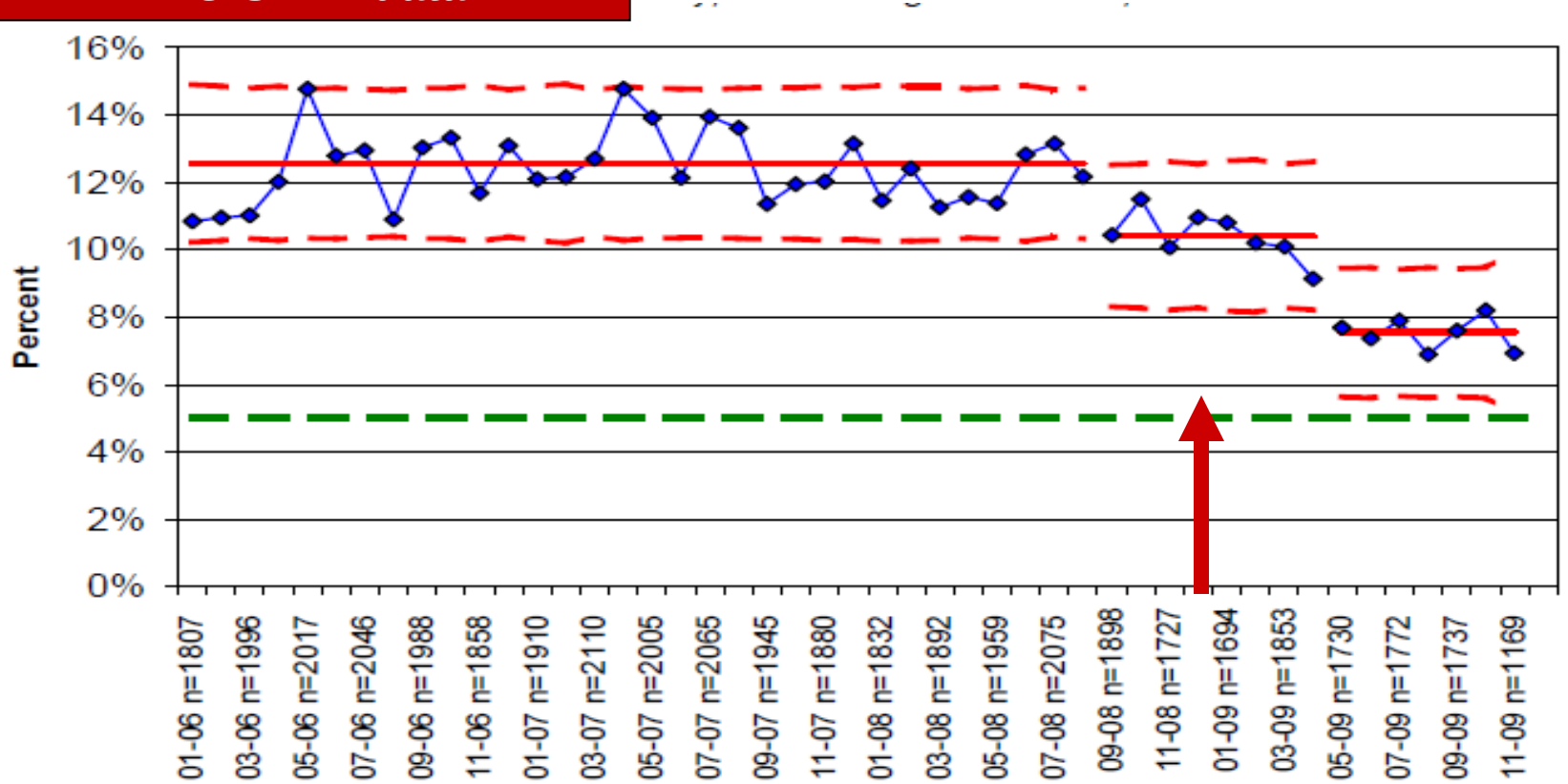


Observe X 2 Months

Project begun 9-1-08 → 11-30-09

Scheduled Inductions at 36^0 - 38^6 Weeks' Without Documented Indication January 2006 – November 2009

Based on OHIO BIRTH REGISTRY data



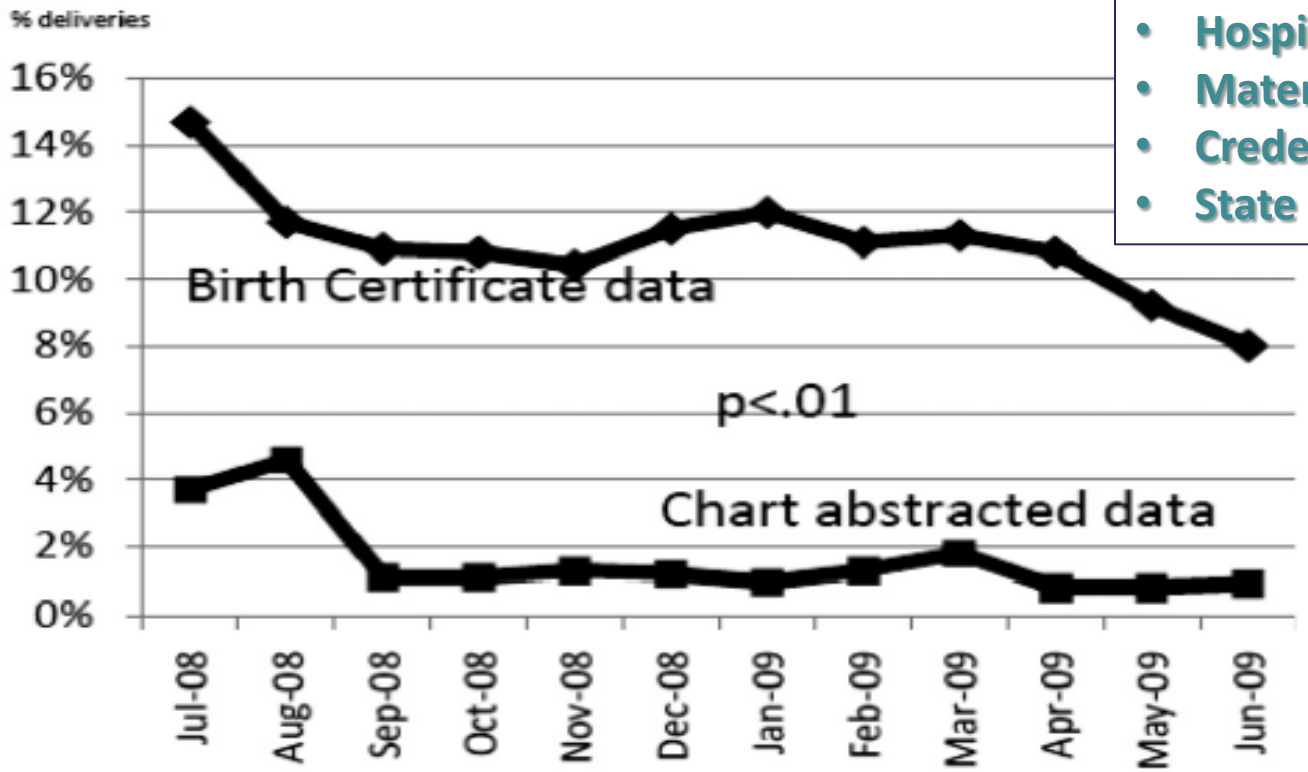
Baseline Jan 2006 → Aug 2008 / Project Begun 9-1-08

Note: Ohio Birth Registry data tracks scheduled inductions, not C/S

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

FIGURE
Rates of nonmedically indicated induction of labor that were calculated by birth certificate data vs chart abstracted data



Bailit. Induction rates derived from birth certificate data. Am J Obstet Gynecol 2010.

BC Data Varies By:
- Hospital
- Maternal Dis
- Credentials
- State

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Bill Callaghan, MD MPH
Centers for Disease Control and Prevention
December 1, 2011

"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."

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15 Pilot Sites – 39 Week Delivery Project

- March 2012 thru December 2012
- Used Birth Registry IPHIS data instead of hand collection
- 2nd "prong" of project involved increasing accuracy of hospital's Birth Registry/IPHIS submissions

Differences from Charter Hospitals

- Data used from Ohio Birth Registry/IPHIS
- More active role of collaboration with the Ohio Department of Health – Office of Vital Statistics

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Remaining 74 Ohio Maternity Hospitals

Reached 105 out of 107 maternity hospitals in Ohio

- **January 2013 - April 2014**
- **Divided into three separate "Waves" with staggered start dates**
- **Monthly calls with one in person Wave specific Learning Session; no site visits**

Differences from Charter and Pilot Sites

- **Updated the report of allowed medical indications from Birth Registry/IPHIS data**
- ***Change in measure from 36.0 - 38.6 weeks to 37.0-38.6 weeks gestation; more in harmony with Joint Commission, Leap Frog and Ohio Hospital Care**

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OPQC: Decreasing births < 39 weeks gestation without medical indication and improving birth registry accuracy project

Aim

In 9 months, improve birth registry accuracy so that focused variables** will be transmitted accurately in 95% of records

(** Pre-pregnancy and Gestational Diabetes; Pre-pregnancy and Gestational hypertension; Induction of Labor; ANCS; OB estimate of GA)

Key Drivers

- **Strong communication between clinical team and birth data staff**
- **Trained clinical and birth data teams**
- **Audit Process for data verification**
- **Appreciation of the Importance of the Birth Registry information**
- **IPHIS (BR) fields include essential and specific information/definitions**
- **Identification and spread of best practices for data entry and verification**

Interventions

- Identify a key clinical contact for birth data team
- Identify all sources of birth data
- Identify process for flow of data into the birth registry (IPHIS) system
- Ensure birth data team has access to necessary clinical data

- Utilize ODH and OPQC online education modules for training of birth data and nursing staff
- Ensure clear understanding of birth registry variables
- Ensure clear understanding by birth data team of medical terminology related to birth registry variables

- Coaching/reinforcement by OPQC and state quality coordinators

- Use medical record to IPHIS quality review feedback to identify gaps
- Continuous monitoring of Birth Registry data reports

- Clarify IPHIS definitions and instructions

- Group and individual webinars and 1:1 support by state quality coordinators to identify key changes

Revised: 1.31.13

Collaboration with ODH-Vital Statistics

- Our data charts are pulled from the birth certificate submissions.
- All deliveries from 37.0-38.6 that were inductions but DID NOT have any one or more of the following variables were "fall-outs"

- Pre-Pregnancy Diabetes
- Gestational Diabetes
- Pre-pregnancy hypertension
- Gestational Hypertension
- Hypertension Eclampsia
- Poor pregnancy outcomes
- Premature rupture of membranes
- Chorioamnionitis
- Hydraminos/Oligohydraminos
- In utero infection (TORCHS)
- Abruption Placenta
- Placenta Previa

- Non-vertex presentation
- Plurality >1
- Anencephaly
- Meningomyelocele/Spina Bifida
- Cyanotic congenital heart defect
- Omphalocele
- Gastroschisis
- Limb Reduction Defect
- Down Syndrome
- Suspected Chromosomal Defect
- Hydrocephalus w/o Spina Bifida
- Encephalocele
- Microcephalus

Site Visits to Hospitals

OPQC & ODH met with Hospital's Clinical and Data Teams for half day covering:

- **Importance of the birth certificate data**
- **Process flow map detailing Abstraction of Birth Data into IPHIS**

- **5-8 "audits" of previously submitted Birth Certificates compared with the Patient Chart**

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Team Take Aways

- **Better understanding from Clinicians regarding requirements for birth certificate data collection**
- **Numerous areas documented throughout the patient chart for several of the variables; documentation not always consistent**
- **Data personnel did not always have a clear understanding of variables; often had difficulty finding the data in the patient chart**

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Top Key Variables in IPHIS

Variable	IPHIS Tab
1. Total number of Prenatal visits	Prenatal
2. Pregnancy Risk Factors: pre-pregnancy and gestational diabetes	Pregnancy
3. Pregnancy Risk Factors: pre-pregnancy and gestational hypertension	Pregnancy
4. History of prior preterm birth	Pregnancy
5. Induction of Labor	Labor & Delivery
6. Augmentation of Labor	Labor & Delivery
7. Antenatal corticosteroids (ANCS)	Labor & Delivery
8. Antibiotics received by the mother during delivery	Labor & Delivery
9. Birth weight	Newborn
10. Obstetrical estimate of gestational age	Newborn
11. Abnormal conditions of the newborn: Assisted ventilation after delivery and NICU admission	Newborn
12. Congenital abnormalities of the Newborn	Newborn
13. Breast feeding at discharge	Newborn

First Step: Getting Data into Medical Record for correct GA

- Make sure ***everyone agrees on standard process*** to determine best OB estimate of GA and EDD

Second Step: Entering/Submitting Data correctly into the system

- Make sure everyone agrees where to find best OB estimate of GA and EDD within the patient chart

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Two reasons for inaccurate gestational age entry

1. Sometimes the gestational age is “rounded up” in IPHIS.
   - Gestational age is **NEVER TO BE ROUNDED UP**; it is recorded in completed weeks.
   - For example, 38 weeks, and 5 days is properly termed 38 weeks.
2. Often there is no agreement re: where in the medical record gestational age should be recorded; in addition, varying gestational ages are found in the medical record.
   - **Consistent agreement** regarding where in the medical record the IPHIS variable for gestational age is found **will greatly increase your accuracy.**

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Variable of the Month:

- **Breastfeeding at Discharge**

- **Is the infant being breast-fed before discharge from the hospital?**
  - "Breast-fed" is the action of breast- feeding or pumping (expressing) milk.
  - **Exclusive breast feeding is not required to check "yes". Infant may be intermittently fed both breast milk and formula at discharge.

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***It is NOT the *intent* or plan to breast- feed**

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POLL:
Breastfeeding at Discharge?

- **RN obtains history from mom on admission to L&D. Mom states “breast” when asked if breast or bottle feeding.**

- **Mom nurses when infant is rooming in. Sends baby to nursery at night so he can get formula supplementation while she sleeps.**

- **Infant is in the Special Care Nursery and is on NG feeds. Mom is pumping her breasts to supply milk for her baby.**

☐ **Breastfeeding at discharge** ☐ **Not breastfeeding at discharge**

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Birth Certificate to Patient Medical Record Comparison

- **Review 5 patient medical records for accuracy of information submitted into IPHIS. 5 different variables are listed on the tool.**

- **You are verifying that the information entered into IPHIS is supported by or matches documentation found in the patient's medical records.**

- **If there is a blank or an unknown value in IPHIS, you are checking whether it is also unknown or not documented in the patient medical record.**

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IPHIS tab	Variable	Definitions/Tips
Pregnancy tab: Risk Factors	**Pre-pregnancy and gestational diabetes**	If diabetes is present **prior to** becoming pregnant, check pre-pregnancy diabetes, NOT gestational. If diabetes is present **only during** this pregnancy, check gestational diabetes NOT pre-pregnancy. **Do not check both.**
Pregnancy tab: Risk Factors	**Pre-pregnancy and gestational hypertension**	If hypertension was present **prior to** this pregnancy, check pre-pregnancy NOT gestational hypertension. If hypertension is present **only during** this pregnancy, check gestational NOT pre-pregnancy or chronic hypertension. **Do not check both.**
Labor & Delivery tab: Characteristics of Labor & Delivery	**Induction of labor**	Initiation of uterine contractions by medical and/or surgical means for the purpose of delivery **before the spontaneous onset of labor.** Some of the same medications that are used to induce labor are also the same as those used to augment labor. Examples are Pitocin (oxytocin) and artificial rupture of membranes (AROM). Check whether labor has begun before deciding which IPHIS category is correct.
Labor & Delivery tab: Characteristics of Labor & Delivery	**Antenatal corticosteroids (ANCS)**	Steroids (glucocorticoids) or antenatal corticosteroids (ANCS) for fetal lung maturation received by the mother before delivery. Thoroughly check the patient chart. This medication also could have been given at a physician office or at another hospital **prior to arrival at your facility**.
Newborn tab: Other	**OB estimate of gestational age**	Enter the obstetric estimate of the infant's gestation in completed weeks based on the birth attendant's final estimate of gestation. **DO NOT round up.** (37.5 weeks would be 37 completed weeks, **not** 38.)

IPHIS to Patient Medical Record Checklist

Hospital: _____ Month: _____

IPHIS	Variable		Chart 1 Y N	Chart 2 Y N	Chart 3 Y N	Chart 4 Y N	Chart 5 Y N	Total Y	Total N	Total Y+N
Pregnancy tab: Risk Factors	Pre-pregnancy and Gestational diabetes	Does the data documented in IPHIS match the data found in the patient records?	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐			
IPHIS	**Variable**		**Chart 1 Y N**	**Chart 2 Y N**	**Chart 3 Y N**	**Chart 4 Y N**	**Chart 5 Y N**	**Total Y**	**Total N**	**Total Y+N**
Pregnancy tab: Risk Factors	Pre-pregnancy and Gestational hypertension	Does the data documented in IPHIS match the data found in the patient records?	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐			
IPHIS	**Variable**		**Chart 1 Y N**	**Chart 2 Y N**	**Chart 3 Y N**	**Chart 4 Y N**	**Chart 5 Y N**	**Total Y**	**Total N**	**Total Y+N**
Labor & Delivery tab: Characteristics of Labor & Delivery	Induction of Labor	Does the data documented in IPHIS match the data found in the patient records?	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐			
IPHIS	**Variable**		**Chart 1 Y N**	**Chart 2 Y N**	**Chart 3 Y N**	**Chart 4 Y N**	**Chart 5 Y N**	**Total Y**	**Total N**	**Total Y+N**
Labor & Delivery tab: Characteristics of Labor & Delivery	Antenatal cortical-steroids (ANCS)	Does the data documented in IPHIS match the data found in the patient records?	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐			
IPHIS	**Variable**		**Chart 1 Y N**	**Chart 2 Y N**	**Chart 3 Y N**	**Chart 4 Y N**	**Chart 5 Y N**	**Total Y**	**Total N**	**Total Y+N**
Newborn tab: Other	Obstetrical estimate of gestation at delivery	Does the data documented in IPHIS match the data found in the patient records?	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐			
								Total Y	**Total N**	**Total Y+N**
		Total "yes" responses divided by total "yes" + "no" responses=								%

When you and your team compare your IPHIS entries to medical records…

- Are you meeting regularly to complete quality reviews?
- What did you learn?
- Did you have gaps in accuracy?
- Which variables are most often inaccurate?
- Are you keeping track of your review results?


Image courtesy of imagerymajestic at FreeDigitalPhotos.net

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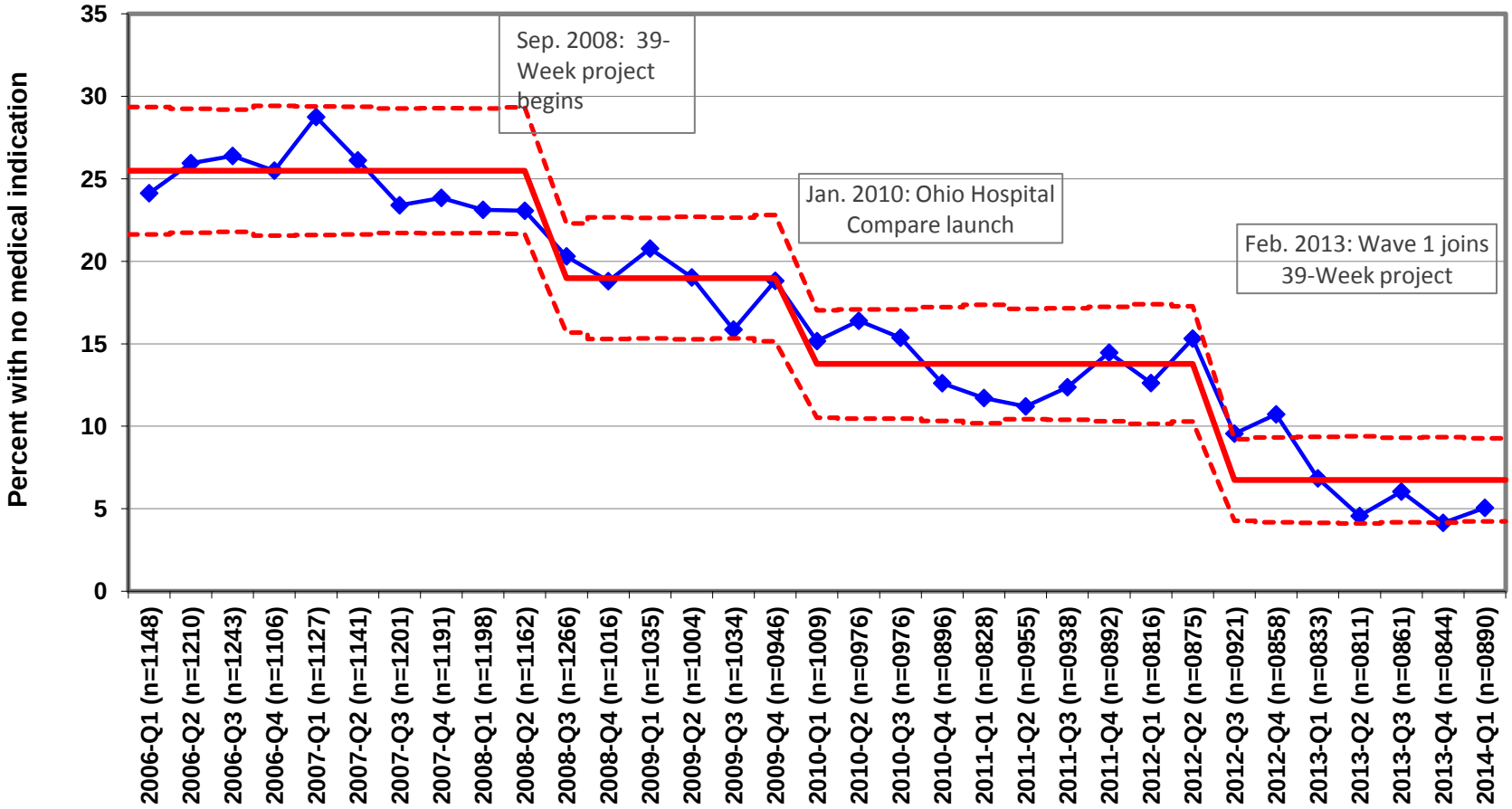
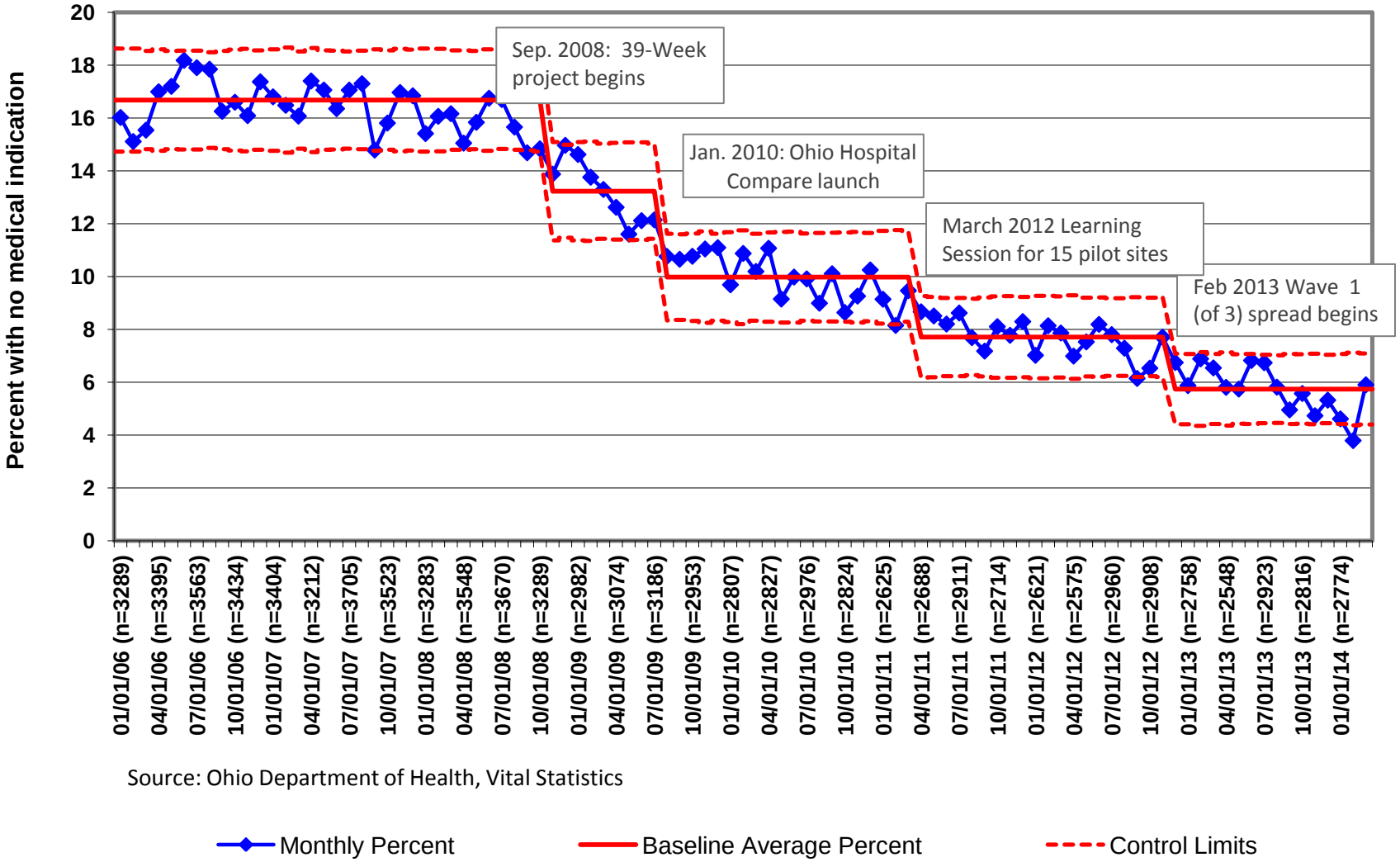
Births induced at 37-38 weeks with no apparent medical indication for early delivery, by quarter, 2006-2014
Aggregate of Wave 1 sites



Source: Ohio Department of Health, Vital Statistics

Quarterly Percent — Baseline Average Percent — Control Limits

Births induced at 37-38 weeks with no apparent medical indication for early delivery, by month, 2006-2014
Aggregate of Ohio maternity hospitals



Source: Ohio Department of Health, Vital Statistics

Suggestions to improve birth certificate data at YOUR hospital

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Start by constructing a team or task force that includes physicians, nurses and birth certificate abstractors…

- How many different sources are used in the abstraction process?
- Who abstracts the data or completes the Facility Worksheet?
- How much time is spent abstracting data from the patient medical record and then entering it electronically?
- Which variables are most difficult to find?
- Why are these the most challenging?

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Next steps for your team…

- Review the current process at your hospital regarding birth certificate abstraction and submission. **Complete a process flow map** as the process *currently exists*, not simply how it should be

- Review the Facility Worksheet; go over each variable
  - **Identify the source for each variable** in the Patient Chart
  - Identify a Clinical Contact for an abstractor to turn to for clarification of patient chart documentation and variables

- **Perform monthly chart reviews** on pre-chosen variables, comparing chart documentation to birth certificate submissions

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Questions?

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