IS CESAREAN SECTION RATE A REASONABLE QUALITY MEASURE?

PQCNC Learning Session - June 7 2011

OVERALL CS RATE

- Traditional measure was overall CS rate
  - Easily measured
  - Low rates associated with better maternal outcomes
  - Last 30 years, improved maternal outcomes overall with increased emphasis on neonatal outcomes

OVERALL CS RATES

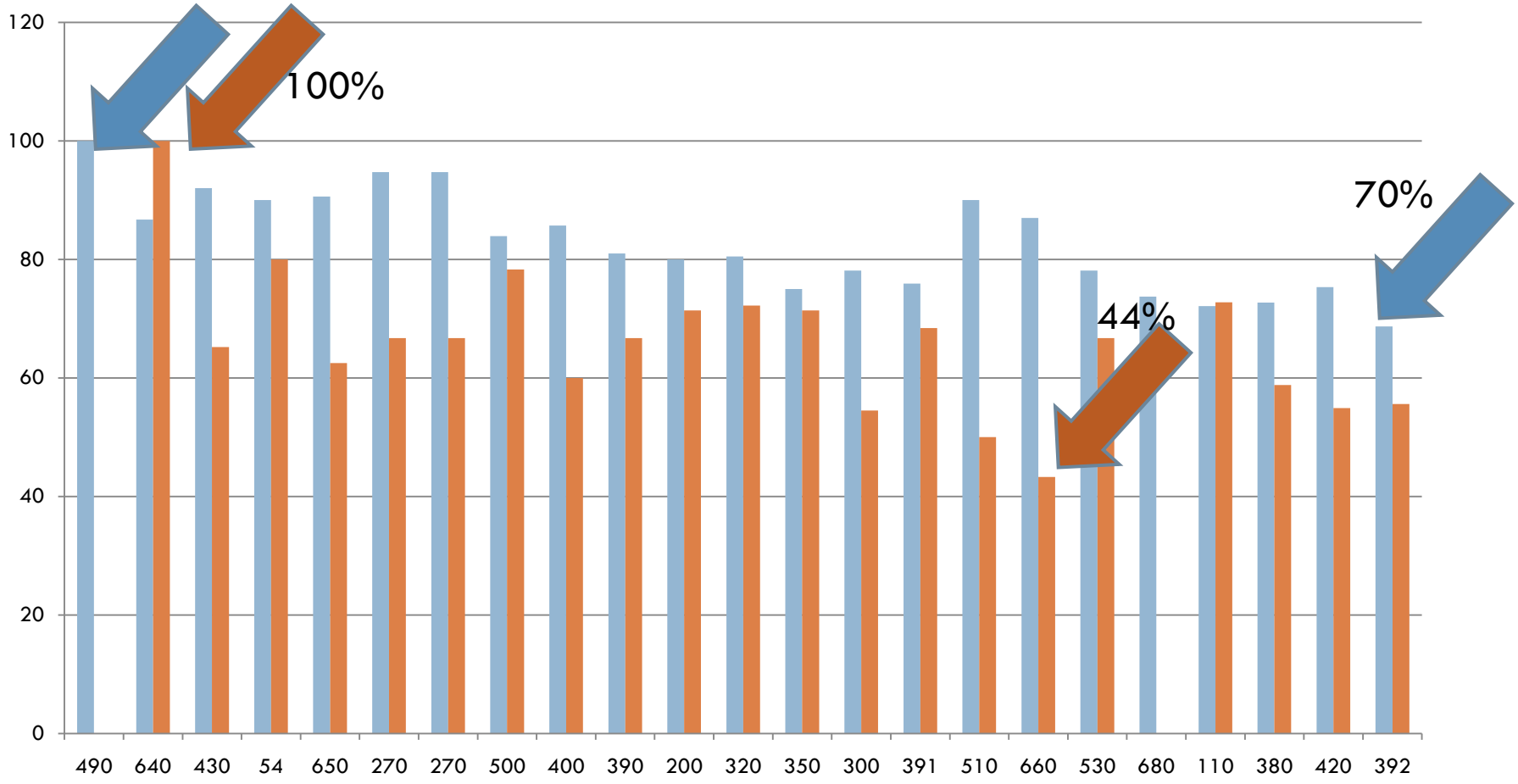
- Highly influenced by repeat CS
- Maternal choice CS
- Highly influenced by patient population
  - Age, payer mix, parity, weight, type of hospital
- Vaginal breeches essentially no longer done
- Diminishing rates of operative vaginal births
- Risk-adjusting is difficult

NTSV Data: PQCNC

- 2.27 fold difference between highest and lowest rates of vaginal births in our low risk women
- 1.42 fold difference for high risk women
- Based on February and March Data
- What accounts for this variation?

Vaginal Birth Rates for Low Risk and High Risk Patients

High Risk: Hypertension, IUGR, Diabetes, AMA. Macrosomia



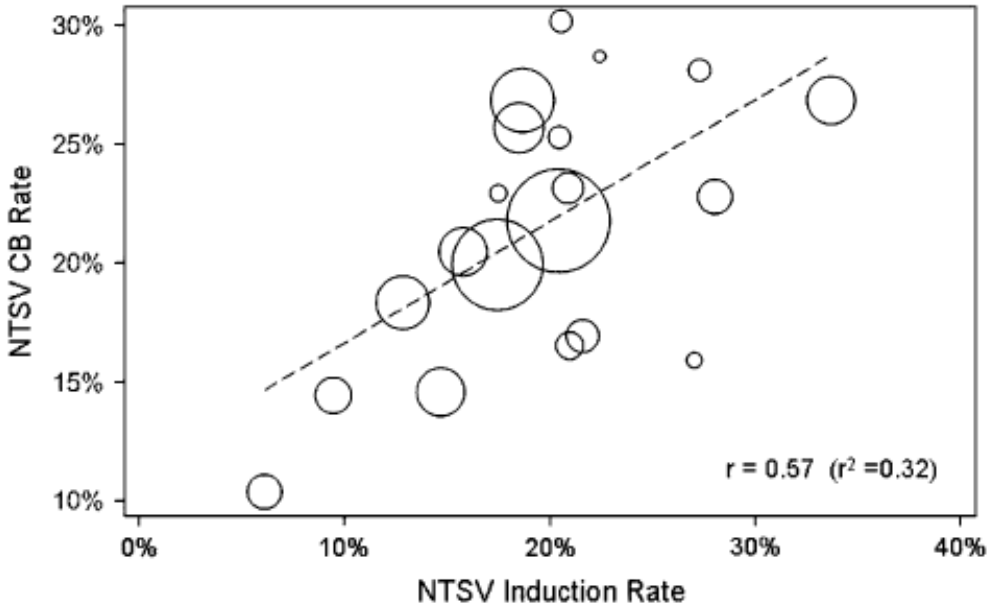
Coonrod **Nulliparous term singleton vertex cesarean delivery rates: institutional and individual level predictors** *American Journal of Obstetrics and Gynecology*. Volume 198, Issue 6 (June 2008)

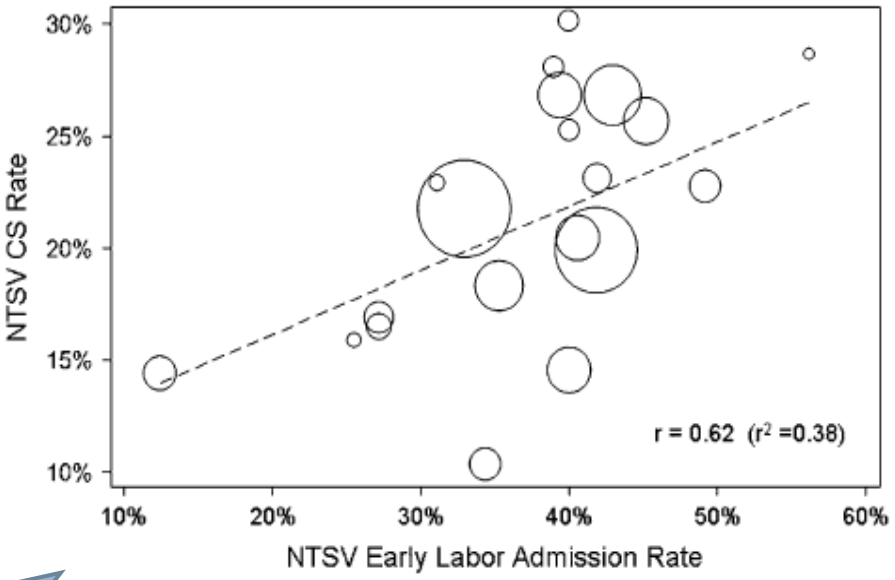
- 2005: 97,294 overall births
- 31.7% were NTSV
- CS rate of 22%
- Clinical variables predict only about 65% of NTSV CS rate
- Non-clinical variables contribute about 35% and may be most amenable to process improvement
- Physician factors
  - Malpractice experience, competing pressure of practice v. lifestyle
- Induction rates
- Institutional factors
  - In-house anesthesia, Level III nursery, OB-GYN residency, payer rates, MFM

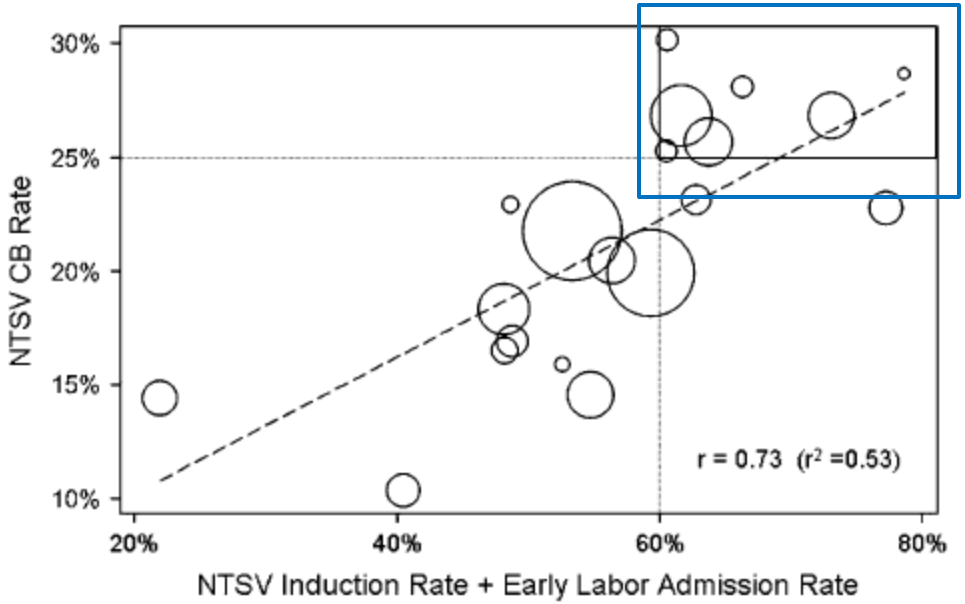
Main: *Is* there a useful cesarean birth measure? Assessment of the nulliparous term singleton vertex cesarean birth rate as a tool for obstetric quality improvement

American Journal of Obstetrics and Gynecology. Volume 194, Issue 6 (June 2006)

- For women who choose to labor, are there obstetric practices that handicap their chances for successful vaginal delivery and result in an avoidably higher CB rate?

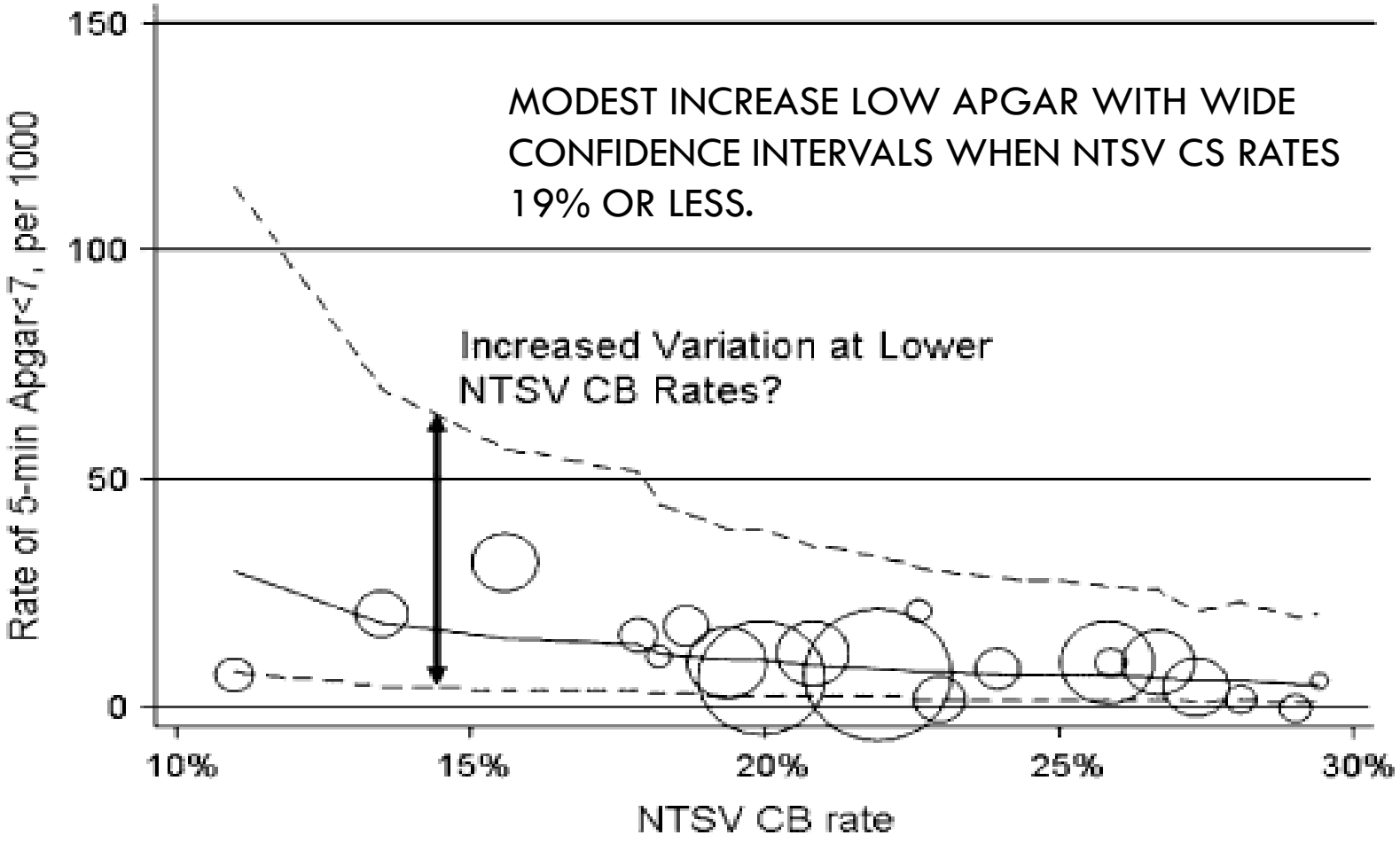


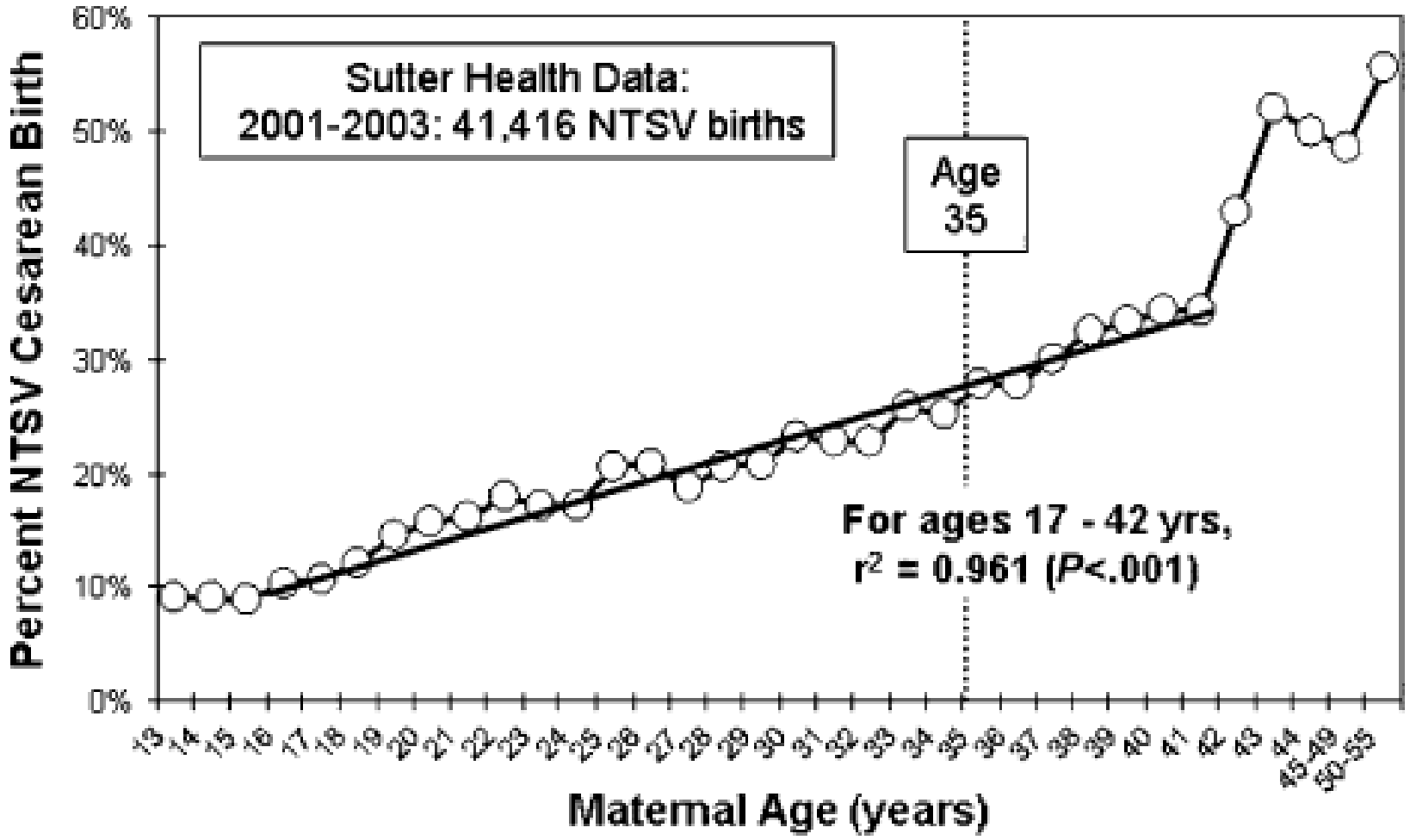




All hospitals with NTSV CS rate ≥25% had ≥60% induced or latent phase admission. 53% of variation among hospitals based on induction, latent phase admissions.

APGAR SCORE


MODEST INCREASE LOW APGAR WITH WIDE CONFIDENCE INTERVALS WHEN NTSV CS RATES 19% OR LESS.
Increased Variation at Lower NTSV CB Rates?
Rate of 5-min Apgar<7, per 1000
150
100
50
0
10%
15%
20%
25%
30%
NTSV CB rate


Sutter Health Data:
2001-2003: 41,416 NTSV births
Age 35
For ages 17 - 42 yrs,
r² = 0.961 (P<.001)
Percent NTSV Cesarean Birth
60%
50%
40%
30%
20%
10%
0%
Maternal Age (years)
45-49
50-55

IOL POLICIES

- No electives before 39 weeks
- No electives with unripe cvx
- Use of cervical ripening for indicated, unripe cvx
- What kind of documentation required pre-induction
- Functional definitions: Labor, prodrome, failure to progress, failed induction

IOL PROCEDURES

- Cervical ripening orders, methods
- Pitocin protocols
- Labor support
- Use of analgesia, anesthesia
- AROM use

LABOR and DELIVERY CULTURE

- Is there a will to improve this at your unit?
- Are all doctors, CNM's, and nurses committed?
- Do you have a communication issue on your unit?
- Are patients educated in general about expectations, processes?

NTSV CS rates: a reasonable measure of the quality of care we deliver

- Term, vertex, singleton women:
  - Nulliparous vs. multiparous with no prior CS
  - 4-10X risk of CS
- High intervention hospitals may be associated with higher rates of CS in NTSV

NTSV

- 30-39% of most hospital's births
- Great variation in rates of vaginal birth (44-100% (high risk); 70-100% (low risk)
- Interventions that affect course of labor are common (inductions, prodromal labor admissions, augmentation)
- Definitions of "dystocia" and "failure to progress" highly variable
- Reduction in CS is feasible in most cases without harming neonatal outcomes
- Greatly affected by provider practices and modifiable institutional culture (Lack of documentation of labor support correlated with increased CS rates)
- Major secondary impact as reducing the rate of primary CB results in reducing the rate of repeat CB.

MAIN

"If we are to undertake labor we should manage it optimally and have quality measures that reflect how well we have accomplished that challenge."