

Elimination of Non-medically Indicated (Elective) Deliveries Before 39 Weeks Gestational Age

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www.CMQCC.org

www.marchofdimes.com/medicalresources_39weeks.html

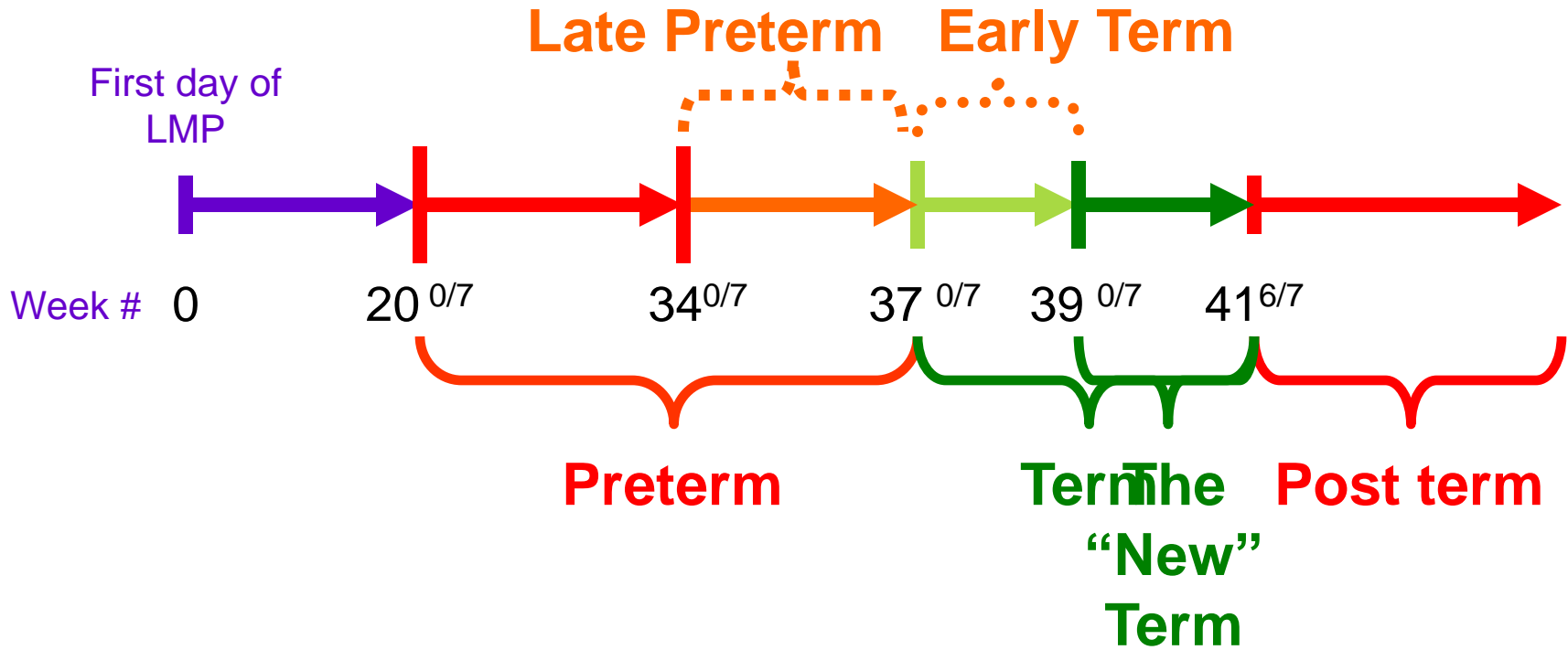
Objectives

- 1) Describe the increase in non-medically indicated (elective) deliveries before 39 weeks and identify the contributing factors.
- 2) Identify the risks of early term deliveries and the benefits of delaying delivery beyond 39 weeks gestation.
- 3) List and describe successful initiatives to reduce elective deliveries before 39 weeks at hospital, health system and statewide levels.
- 4) Describe a sample implementation plan for the prevention of elective deliveries before 39 weeks.

Key Points

- 1) Research has shown that early elective delivery without medical or obstetrical indication is linked to neonatal morbidities with no benefit to the mother or infant.
- 2) There are numerous maternal and fetal indications for deliveries PRIOR to 39 weeks gestation
- 3) In addition... this toolkit... is not meant to imply that elective deliveries AFTER 39 weeks have been proven to be without risks for mothers and infants.

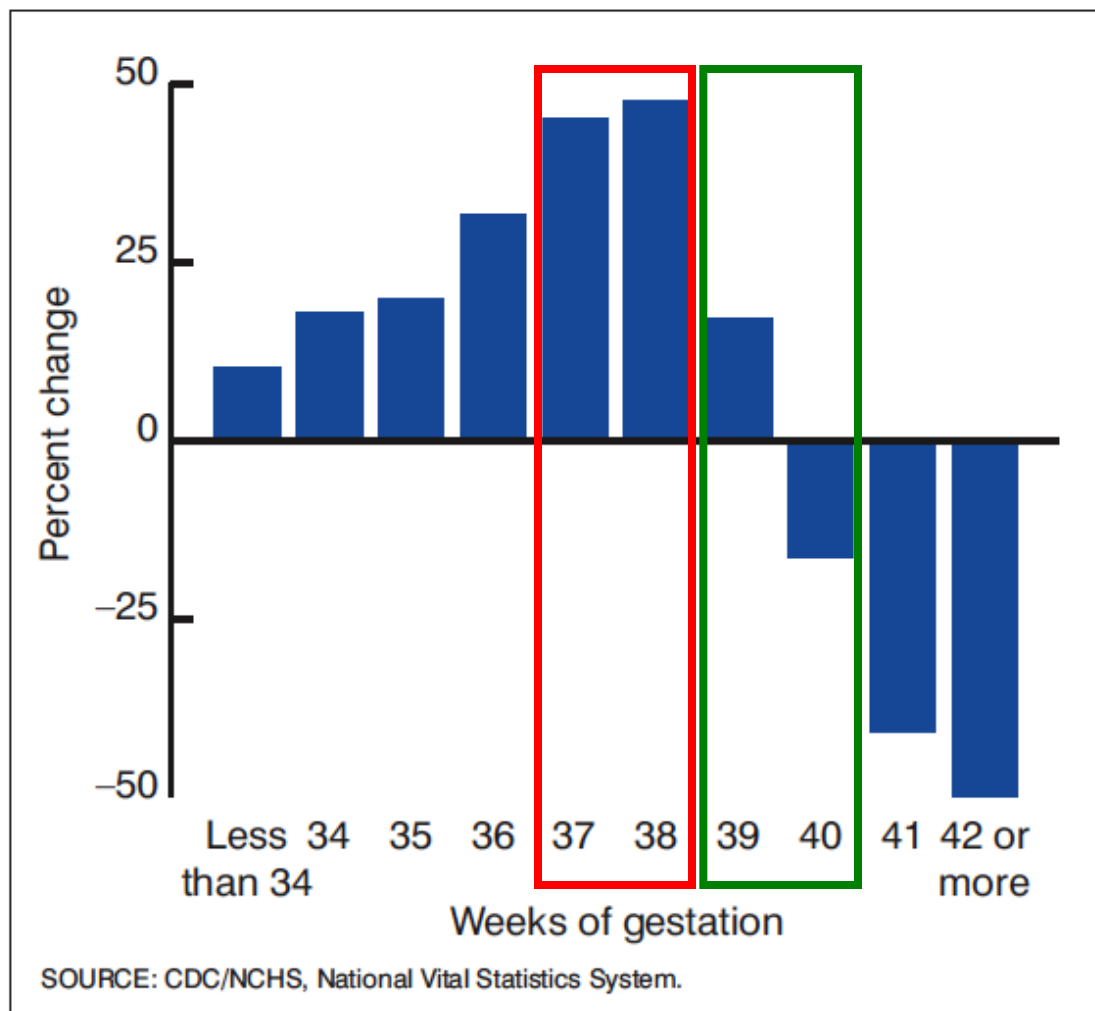
Terminology



Modified from Drawing courtesy of William Engle, MD, Indiana University

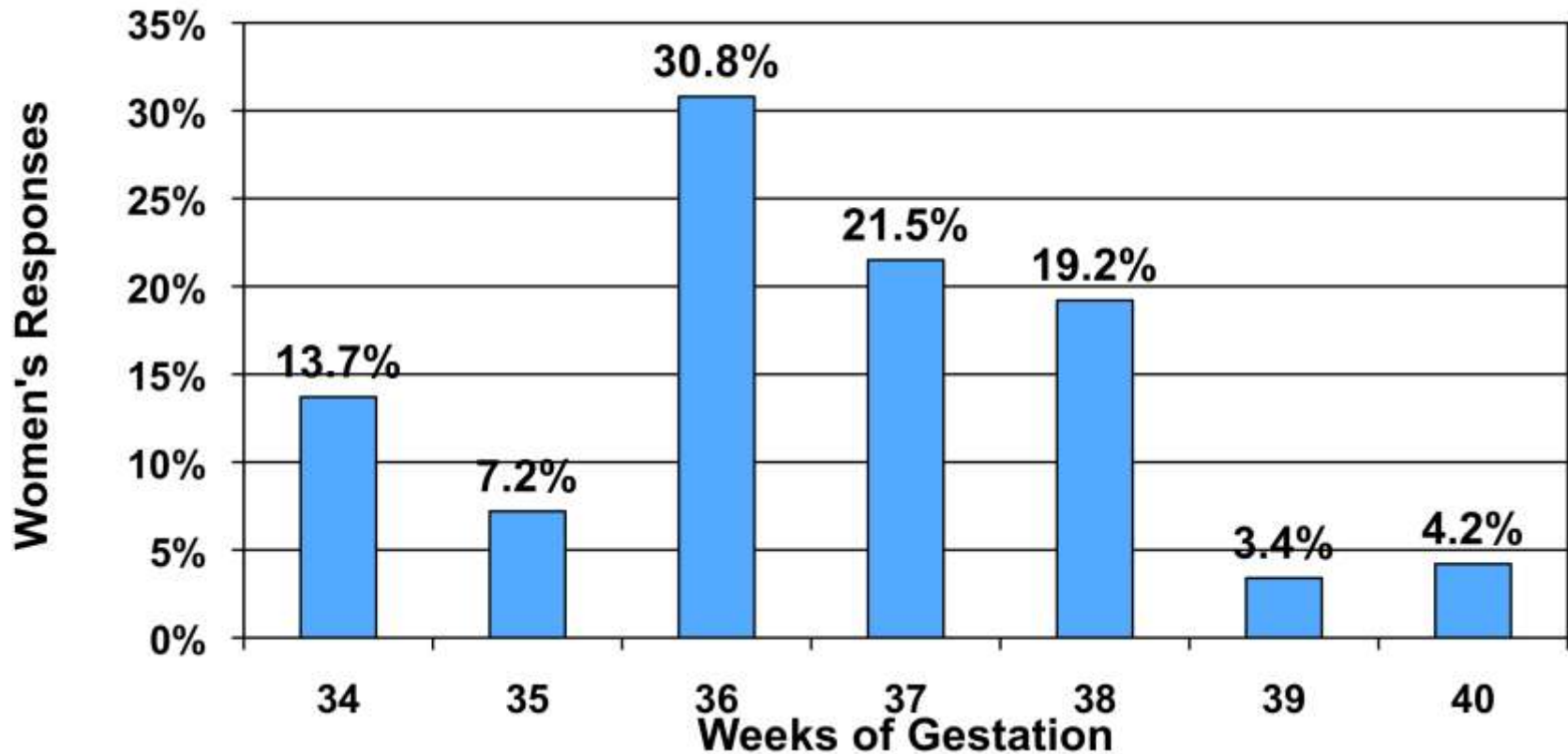
Raju TNK. Pediatrics , 2006;118 1207. Oshiro BT Obstet Gynecol 2009;113:804

Change in Distribution of Births by Gestational Age: United States, 1990-2006



Martin JA, Hamilton BE, Sutton PD, Ventura SJ, et al. Births: Final data for 2006. National vital statistics reports; vol 57 no 7. Hyattsville, MD: National Center for Health Statistics. 2009.

The Gestational Age that Women Considered it “Safe to Deliver”



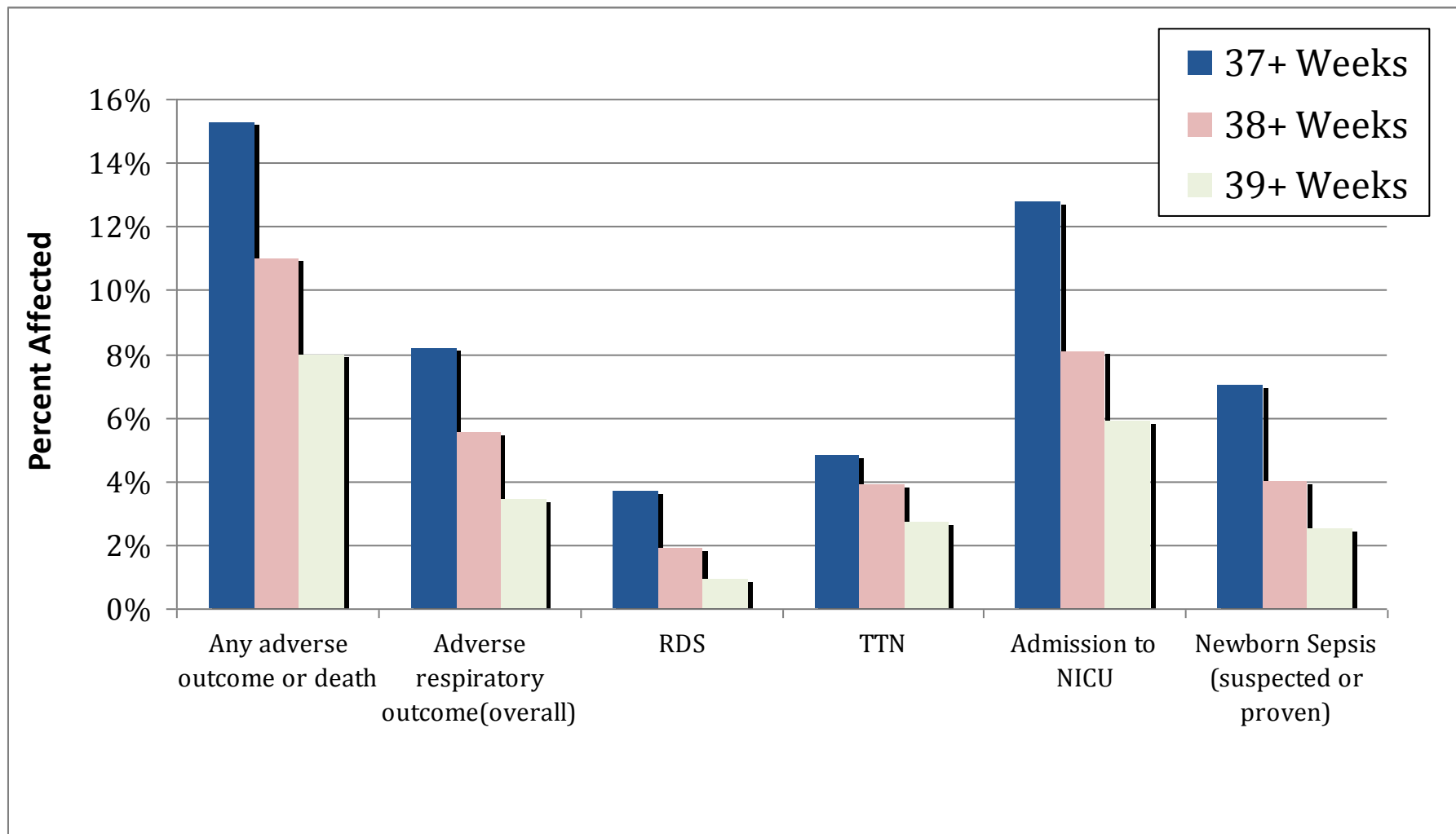
Complications of Non-medically Indicated (Elective) Deliveries Between 37 and 39 Weeks

- Increased NICU admissions
- Increased transient tachypnea of the newborn (TTN)
- Increased respiratory distress syndrome (RDS)
- Increased ventilator support
- Increased suspected or proven sepsis
- Increased newborn feeding problems and other transition issues

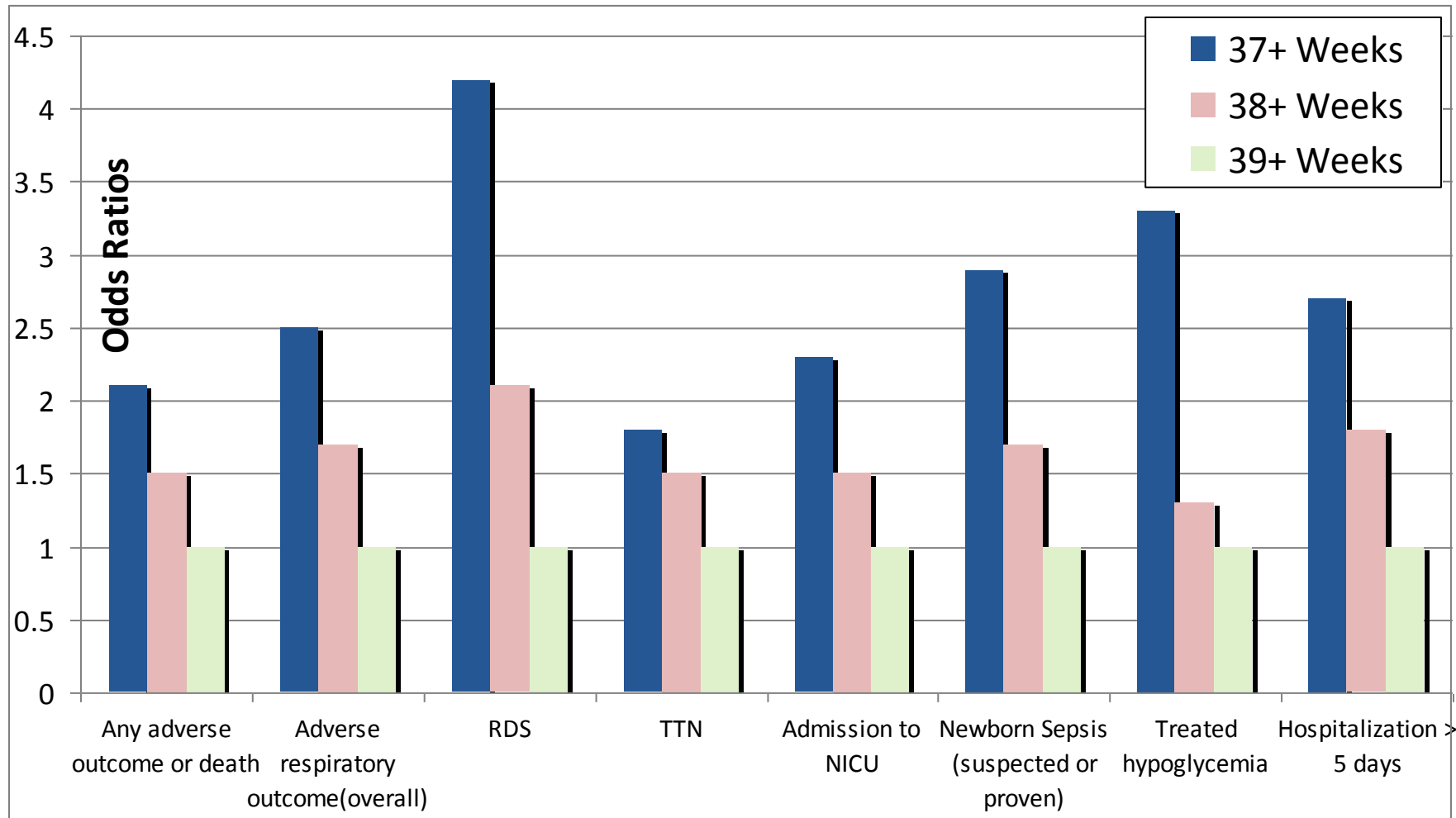
See Toolkit for more data and full list of citations

Clark 2009, Madar 1999, Morrison 1995, Sutton 2001, Hook 1997

Adverse Neonatal Outcomes According to Completed Week of Gestation at Delivery: **Absolute Risk**



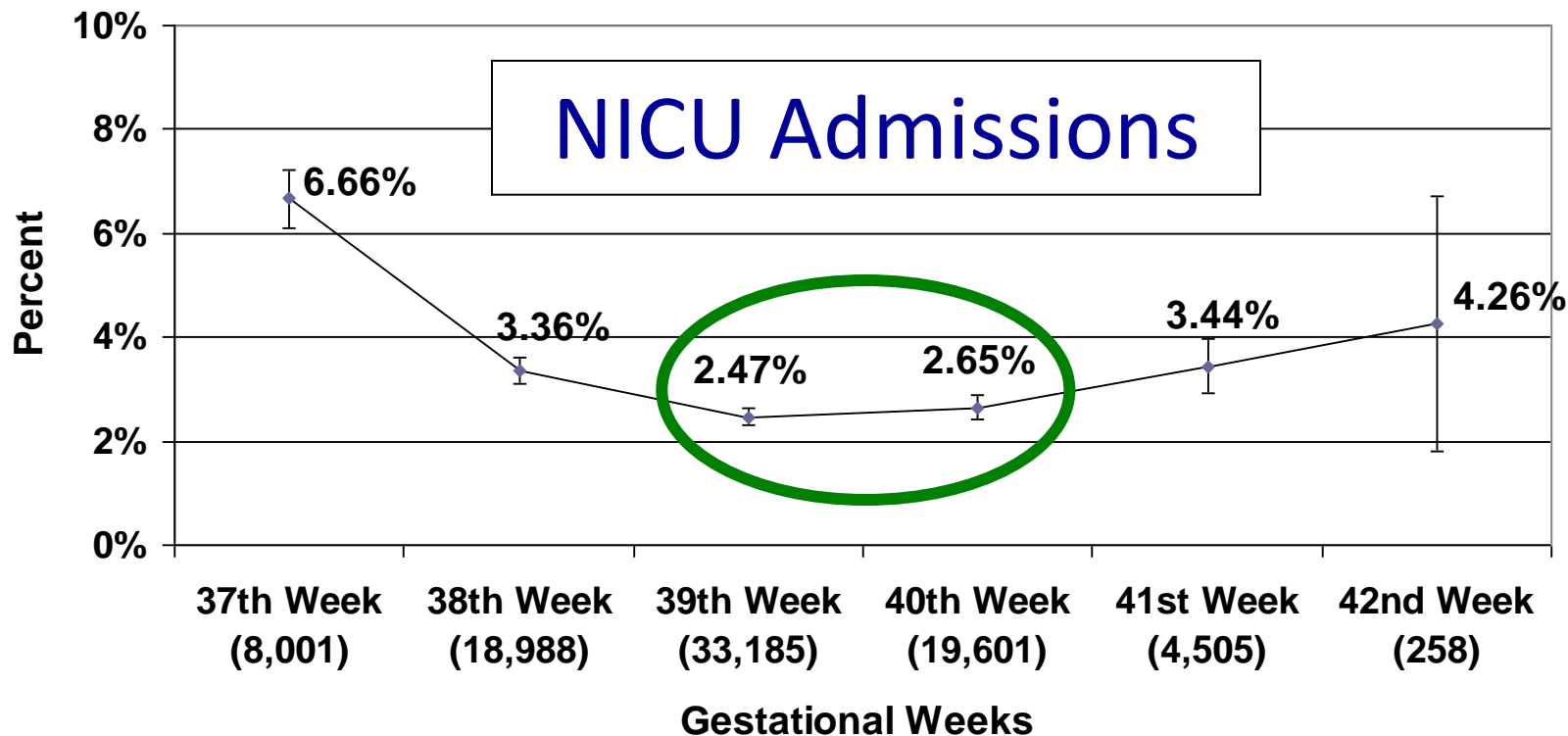
Adverse Neonatal Outcomes According to Completed Week of Gestation at Delivery: Odds Ratios



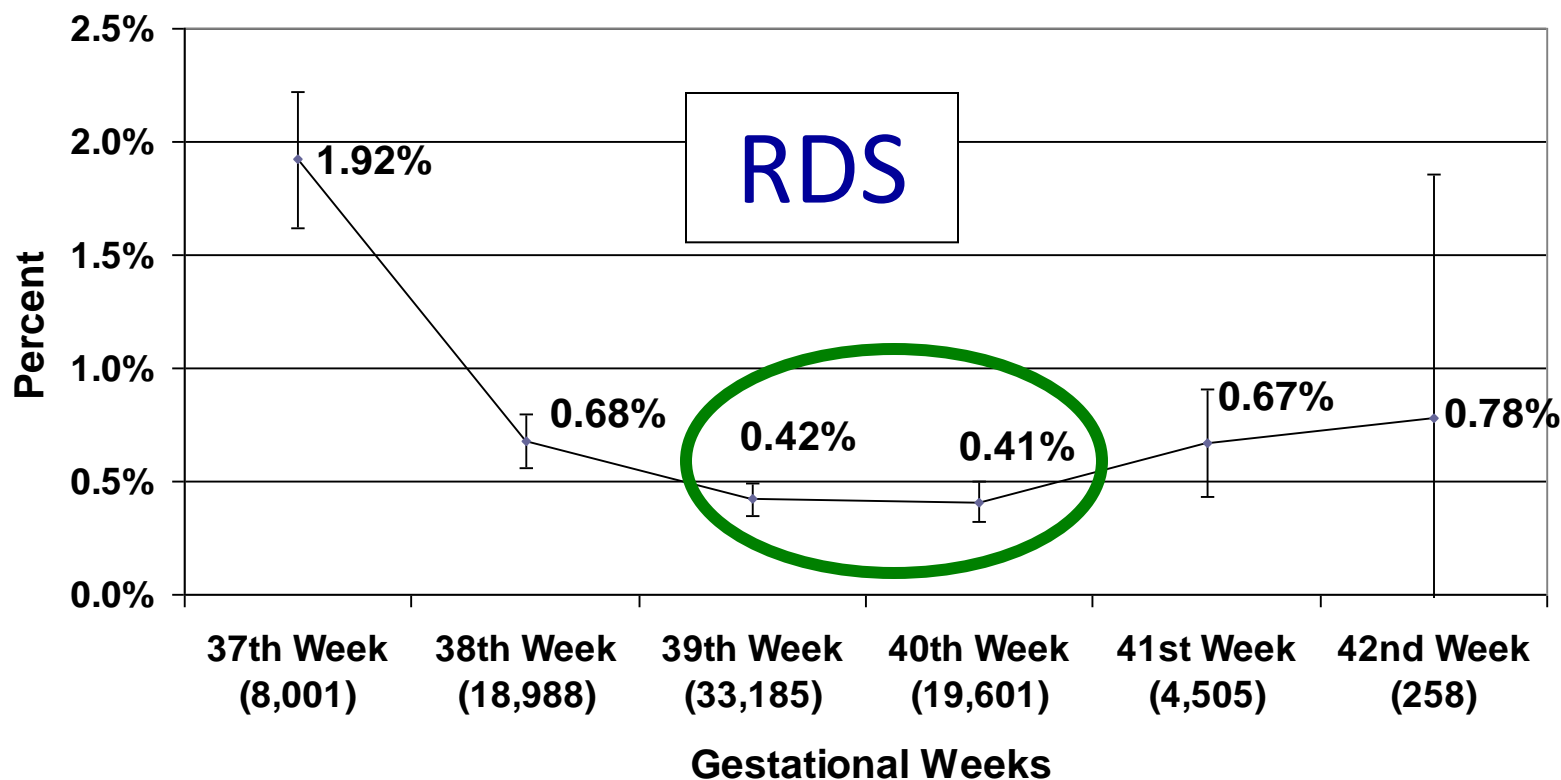
New Concept: U-Shaped Curve for near-term Neonatal Outcomes

- Neonatal outcomes at 37 and 38 weeks are very similar (or worse) than those at 41 and 42 weeks...
- Best outcomes are at 39 and 40 weeks!

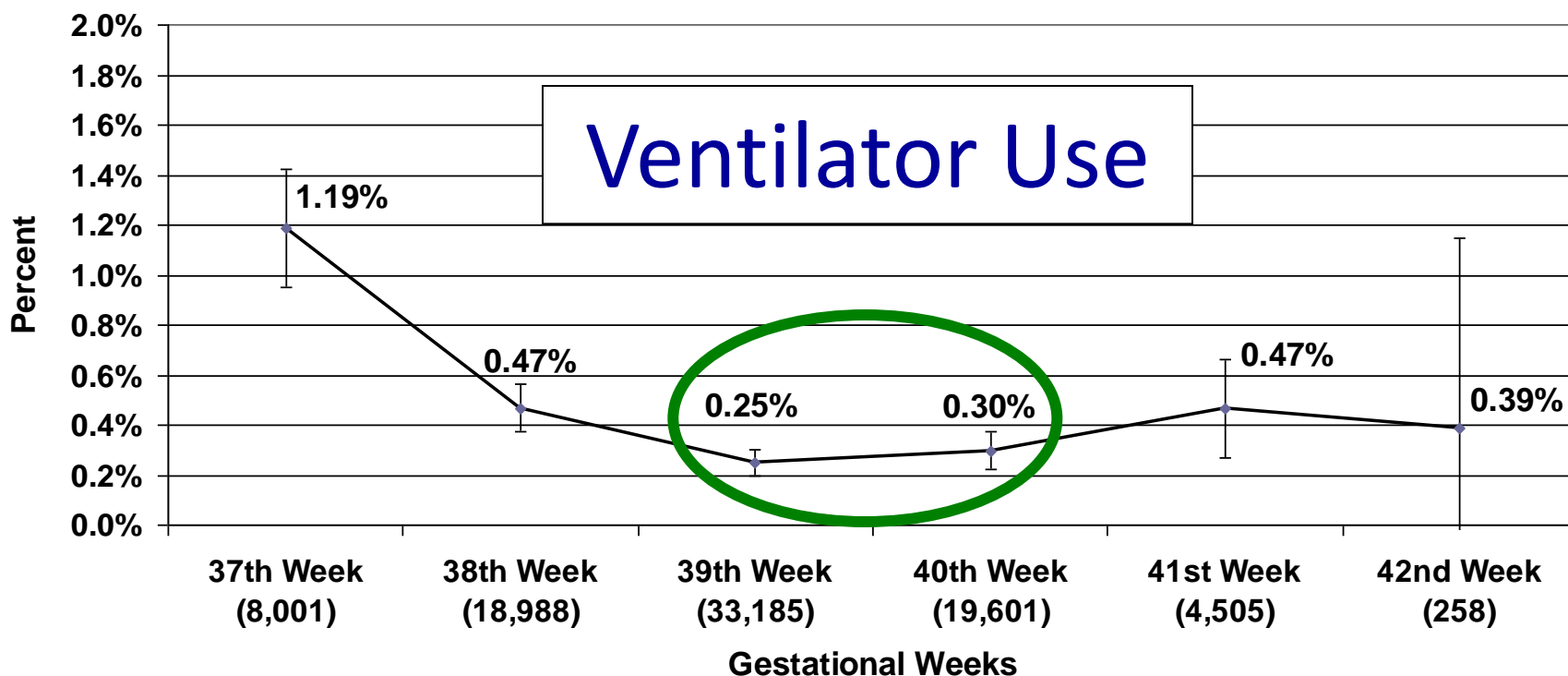
NICU Admissions By Weeks Gestation Deliveries Without Complications, 2000-2003



RDS By Weeks Gestation Deliveries Without Complications, 2000-2003



Ventilator Usage By Weeks Gestation Deliveries Without Complications, 2000-2003



Examples of Successful Programs to Reduce Non-medically Indicated (Elective) Deliveries Before 39 weeks of Gestation

- Magee Women's Hospital (Pittsburg)
- Intermountain Healthcare (Utah)
- Hospital Corporation of America (HCA)
- Ohio State Department of Health

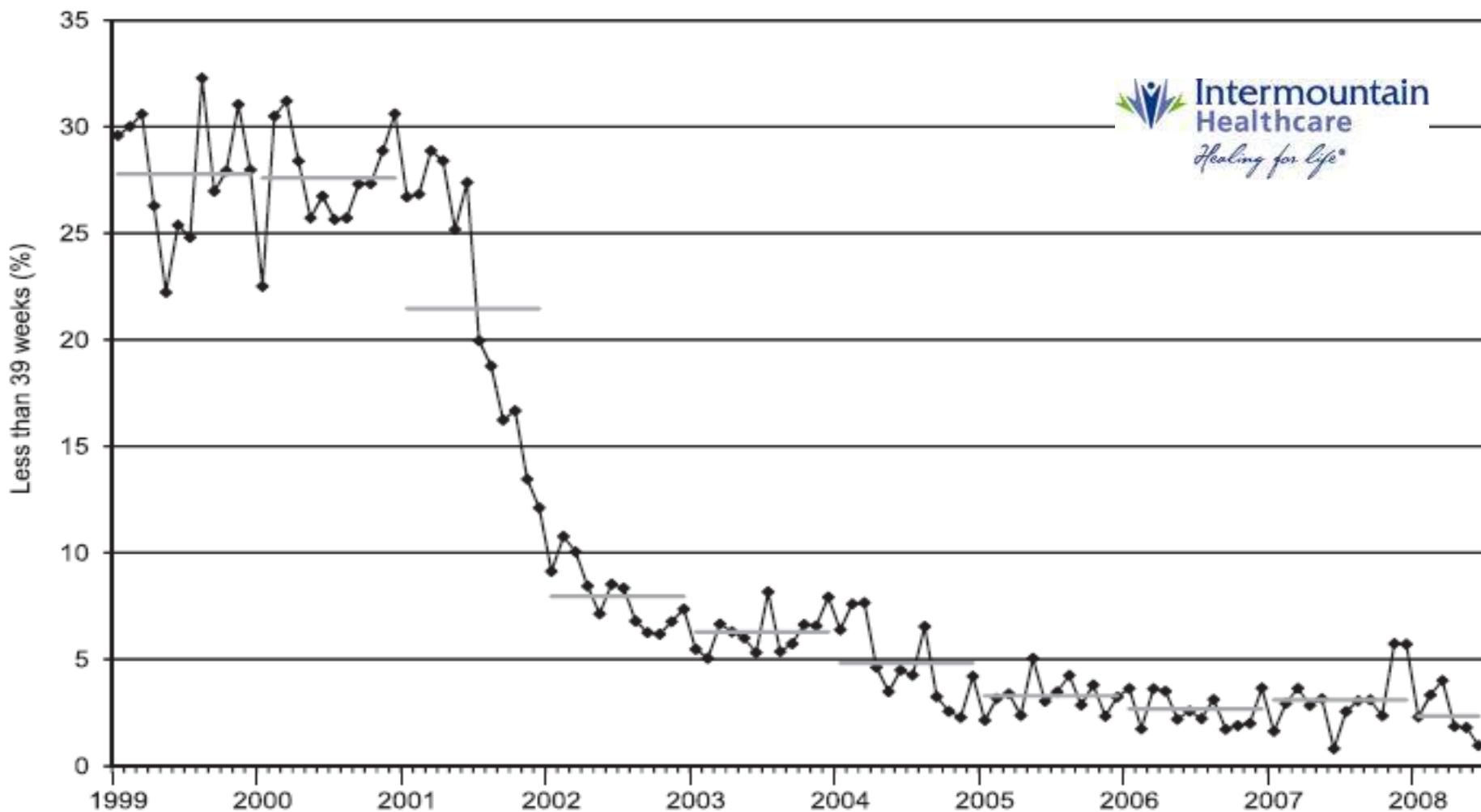
Magee Women's Experience with Guidelines

	Baseline 3mos 2004	Voluntary 3mos 2005	Enforced 14mos 2006-7
Deliveries	2,139	2,260	10,895
Elective Inductions <39wks (N)	23	21	30
Elective Inductions <39wks (rate) (elective inductions <39 / total elective inductions)	11.8%	10.0%	4.3% (p<0.001)
Total Induction Rate	24.9%	20.1%	16.6%

“Voluntary”: educational program and dept. recommendations

“Enforced”: Department standard requiring approval by the Perinatal Committee Chair before scheduling non-standard indications for inductions

% Non-medically Indicated Deliveries <39 Weeks, January 1999 – December 2005



Stillbirths Before and After Implementation of Guidelines at Intermountain Healthcare

Table 3. Stillbirth Data (1999–2000 and July 2001 to June 2006)

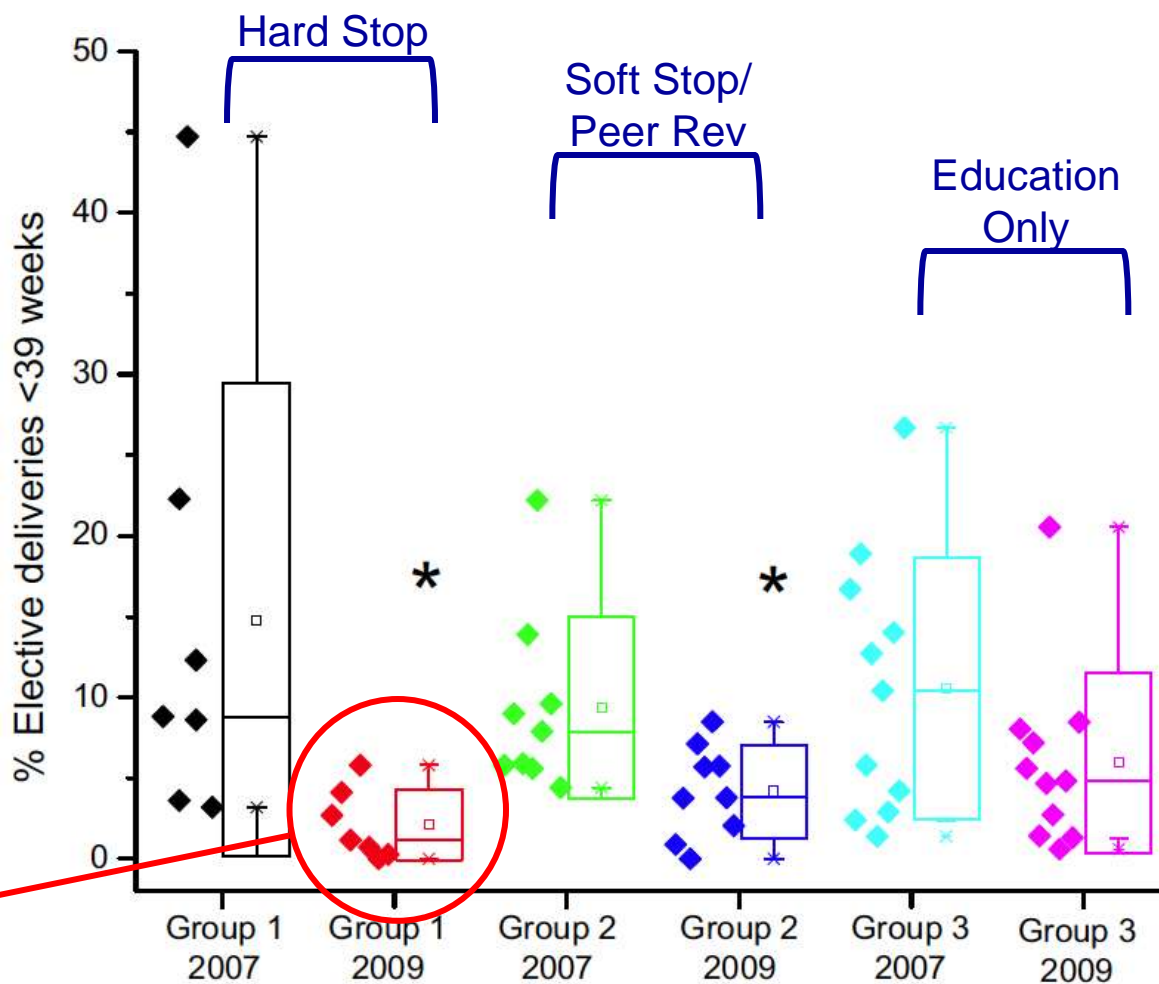
Weeks of Gestation	1999–2000			July 2001 to June 2006			Odds Ratio	95% CI
	Stillbirths	Deliveries	%	Stillbirths	Deliveries	%		
37	17	4,117	0.41	22	13,077	0.17	0.406	0.22–0.77
38	19	9,954	0.19	21	28,209	0.07	0.390	0.21–0.72
39	10	13,752	0.07	28	51,721	0.05	0.744	0.36–1.53
40	10	7,925	0.13	14	24,140	0.06	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	12,2718	0.07	0.466	0.33–0.65

HCA Study

- HCA: Largest healthcare system in the US with approx 220,000 births annually.
- Cohort study of 27 pilot hospitals in 2007-2009
- Self-selected to either:
 - Group 3—“Education only”, provision of literature and ACOG recommendations
 - Group 2—Education and “Soft stop”, compliance left to individual physicians, cases reviewed in peer review sessions
 - Group 1—Education and “Hard stop”, <39 wk elective procedures are not scheduled unless department criteria are met, exceptions thru chain of command
- Careful distinction among “planned” deliveries between “indicated” and “elective” deliveries

Clark SL. et al. Reduction in elective delivery at <39 weeks of gestation: comparative effectiveness of 3 approaches to change and the impact on neonatal intensive care admission and stillbirth. Am J Obstet Gynecol 2010;203:449.e1-6

HCA Trial of 3 Approaches for Reduction of Elective Deliveries <39 weeks



Consistent reduction in every hospital

Neonatal Outcomes for HCA Trial

- Stillbirth Rate unchanged:
 - 2007: 0.69%
 - 2009: 0.71%
 - Not significant
- Term NICU Admissions:
 - 2007: 8.9%
 - 2009: 7.5% (decreased 16%)
 - $P < 0.001$ $RR = 0.85$

Support for this Initiative comes from across the board

- ACOG strong support
- National Quality Organizations
 - Joint Commission, Leapfrog, NQF measures
- March of Dimes
- Many state collaboratives
- State Medicaid programs are exploring options
 - “Do not pay”, withholds, incentives, pre-auths
 - Commercial Insurance has acted in other states