



# Seton's Perinatal Safety Journey

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## The Journey in Brief

- Nearly seven years
- Originated from a bad outcome
- No new technology, etc...
- Hard work and serendipity
- Absolutely real
- Replicable



## Seton Family of Hospitals (SFH) Facts

- Largest network of hospitals in Central Texas
- Parent corporation is Ascension Health
- 10 total hospitals, with three new medical centers opened between 2007-2009
- 6 facilities that provide OB services
  - 2 tertiary care referral facilities that do 'high risk' OB
  - 2 newer medical centers in growth phase
  - 1 moderate sized community hospital
  - 1 small semi-rural facility
  - 2 level three NICUs
  - 1 academic teaching facility
  - Total 10,000 deliveries per year



## Ascension Health and the 'Journey to Zero'

- Priorities for Action
  - Mortality reduction in the ICU
  - Peri-operative Safety
  - Falls and falls injuries
  - Pressure ulcers
  - Medication safety (CLEAR)
  - **Birth trauma**
  - Nosocomial infection
- Roll out of the campaign
- Results



## Seton's Additional Approach to Perinatal Safety

- Focus on clinical evidence
- Focus on 'high reliability'
- Focus on fetal (baby) well-being



## Ascension Health HANDS Program

**Handle All Neonatal Deliveries Safely**

HANDS Elements—

- EFM Common Language
- Oxytocin Bundles
  - Elective Induction Bundle
  - Augmentation Bundle
- SBAR Report
- Teamwork Simulation Training

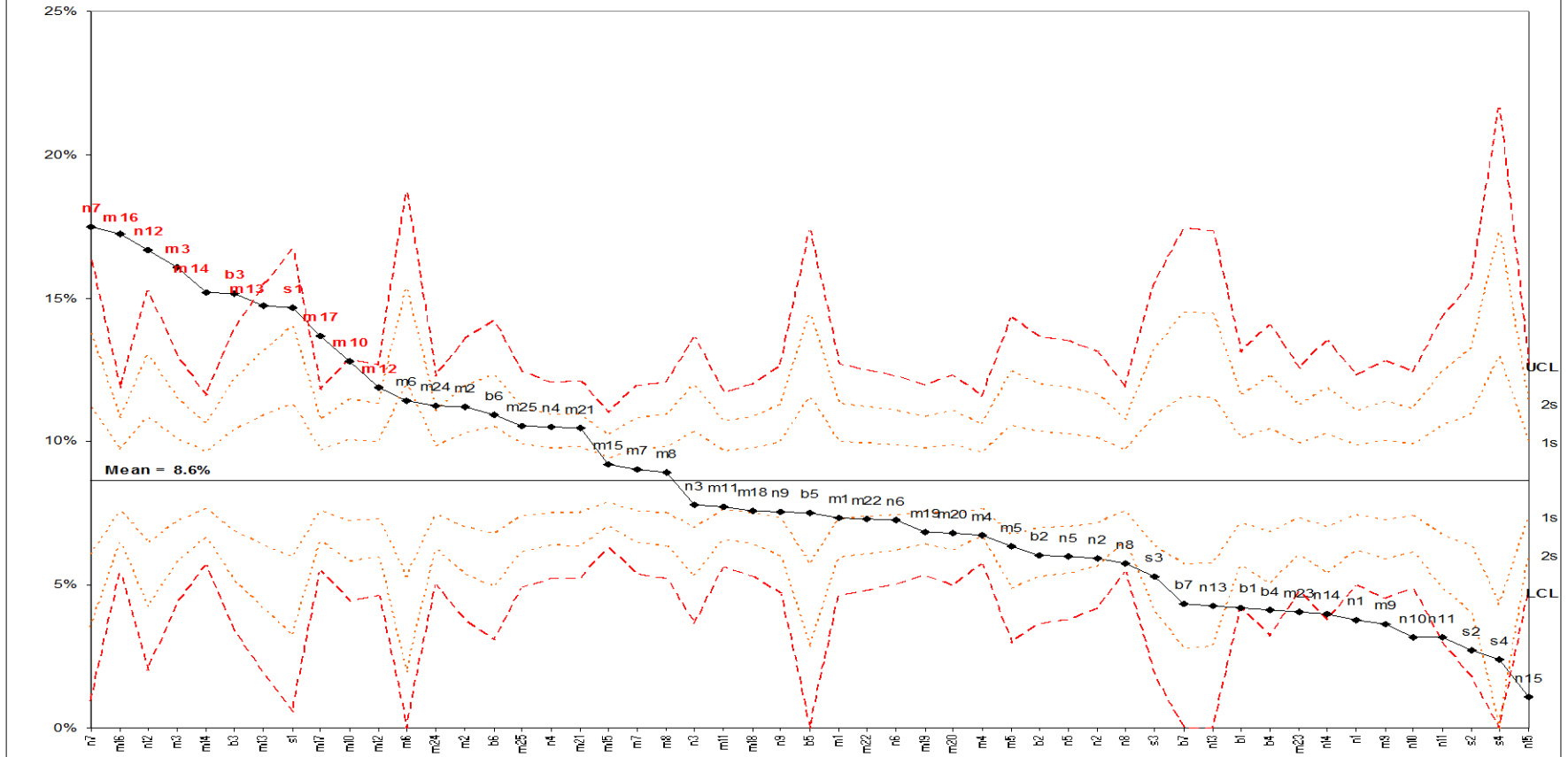


## Seton's Additional Approach to Perinatal Safety

- Standardized order sets across all 6 hospitals that deliver obstetrical services
- Minimization of obstetrical intervention
- Shoulder dystocia team work program
- Navigated C-section program
- Focus on episiotomy / 3<sup>th</sup> and 4<sup>th</sup> degree lacerations



### Instrumented Delivery Rate By Physician Seton Healthcare Network







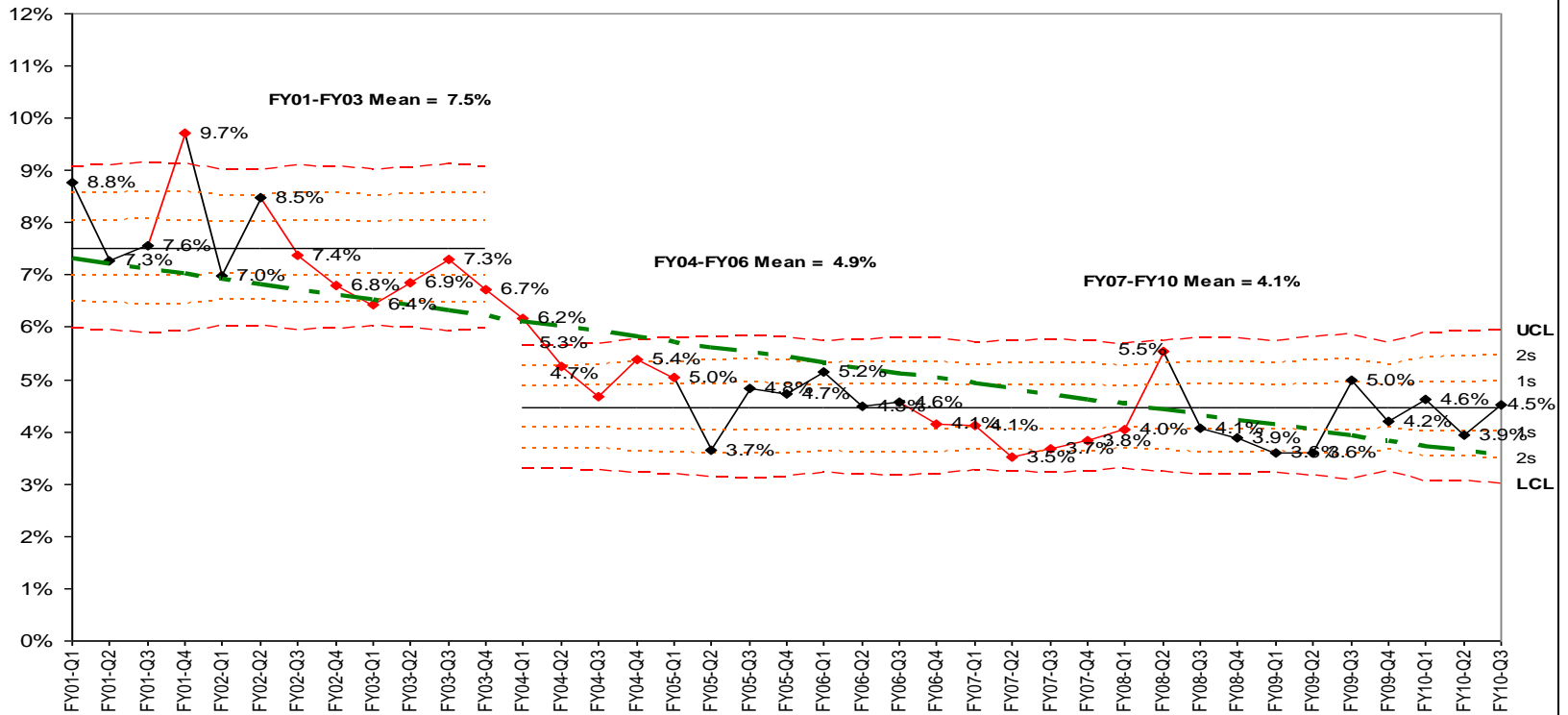
## Instrumented Delivery Bundle/Process

- No more than 3 vacuum pop-offs
- No combined use of vacuum-forceps
- No vacuum use prior to 36(34) weeks\*

[Operative Vaginal Delivery, ACOG Practice Bulletin Number 17, June 2000](#)

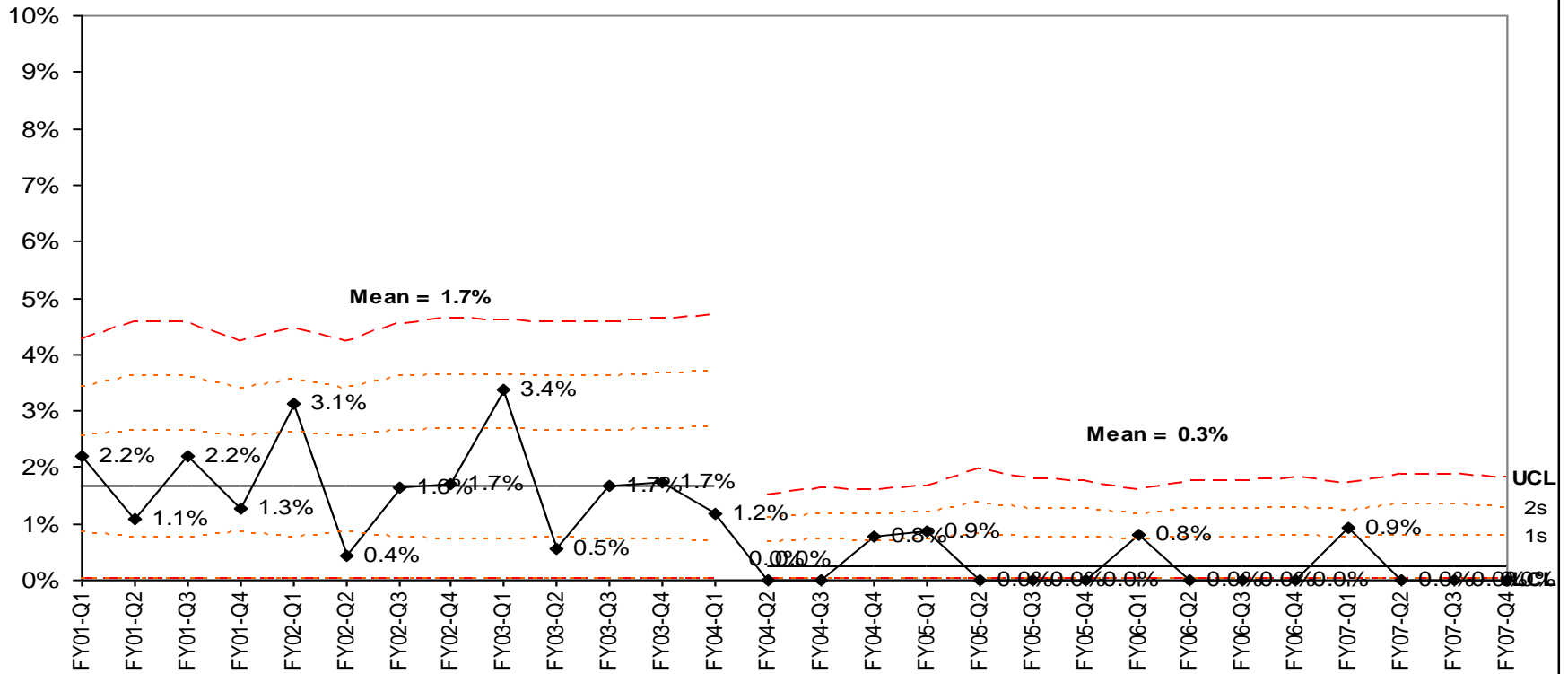


**Instrumented Delivery Rate  
Seton Family of Hospitals  
7/1/2000–3/31/2010  
(den: total deliveries)**





**Seton Healthcare Network  
 OVD Birth Injury Rate  
 Deliveries: 7/1/2000 and 6/30/2007  
 (num/denom: OVD injuries/OVD deliveries)**





# Oxytocin Bundles

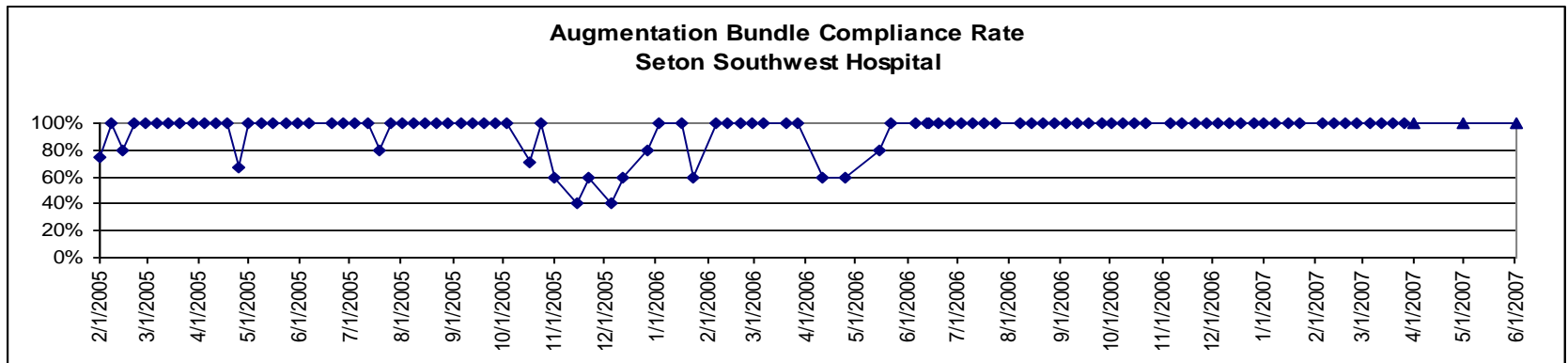
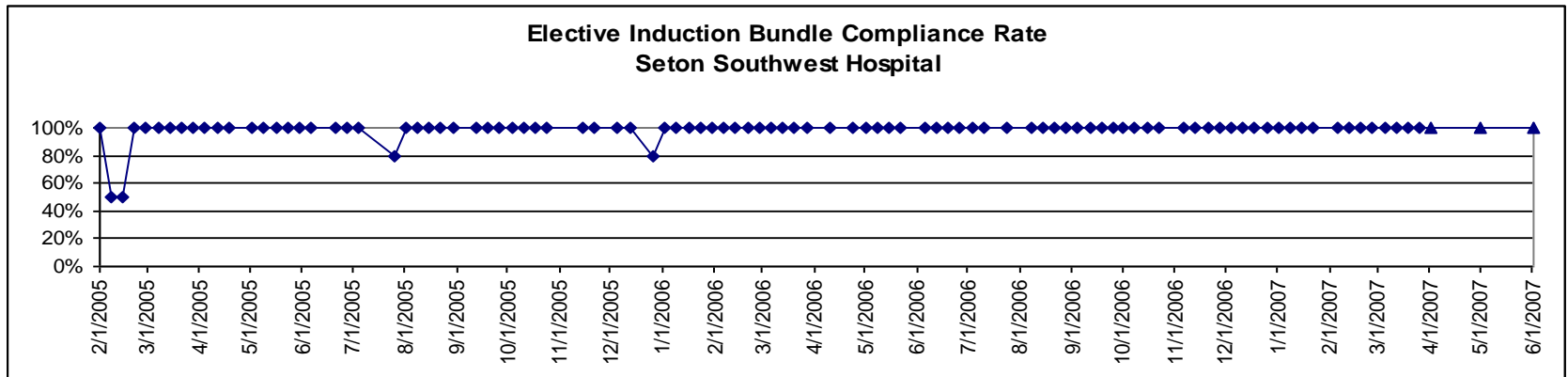
## **Elective Induction Bundle**

- Gestational Age  $\geq$  39 weeks
- Reassuring Fetal Status
- Pelvic Exam prior to the start of Oxytocin
- Absence or management of Hyperstimulation with increases in Oxytocin

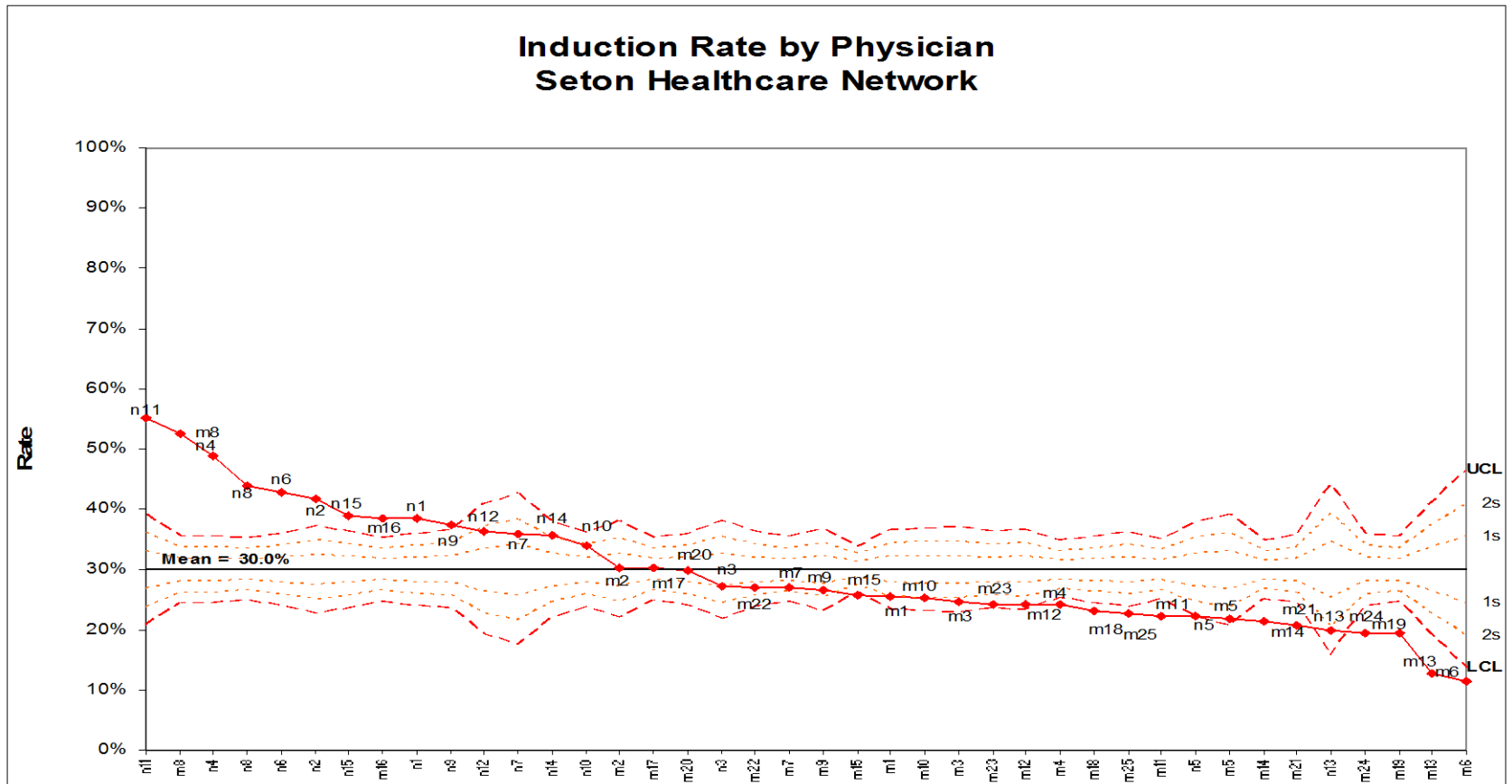
## **Augmentation Bundle**

- Documentation of Estimated Fetal Weight
- Reassuring Fetal Status
- Pelvic Exam prior to the start of Oxytocin
- Absence or management of Hyperstimulation with increases in Oxytocin

# Oxytocin Bundle Compliance

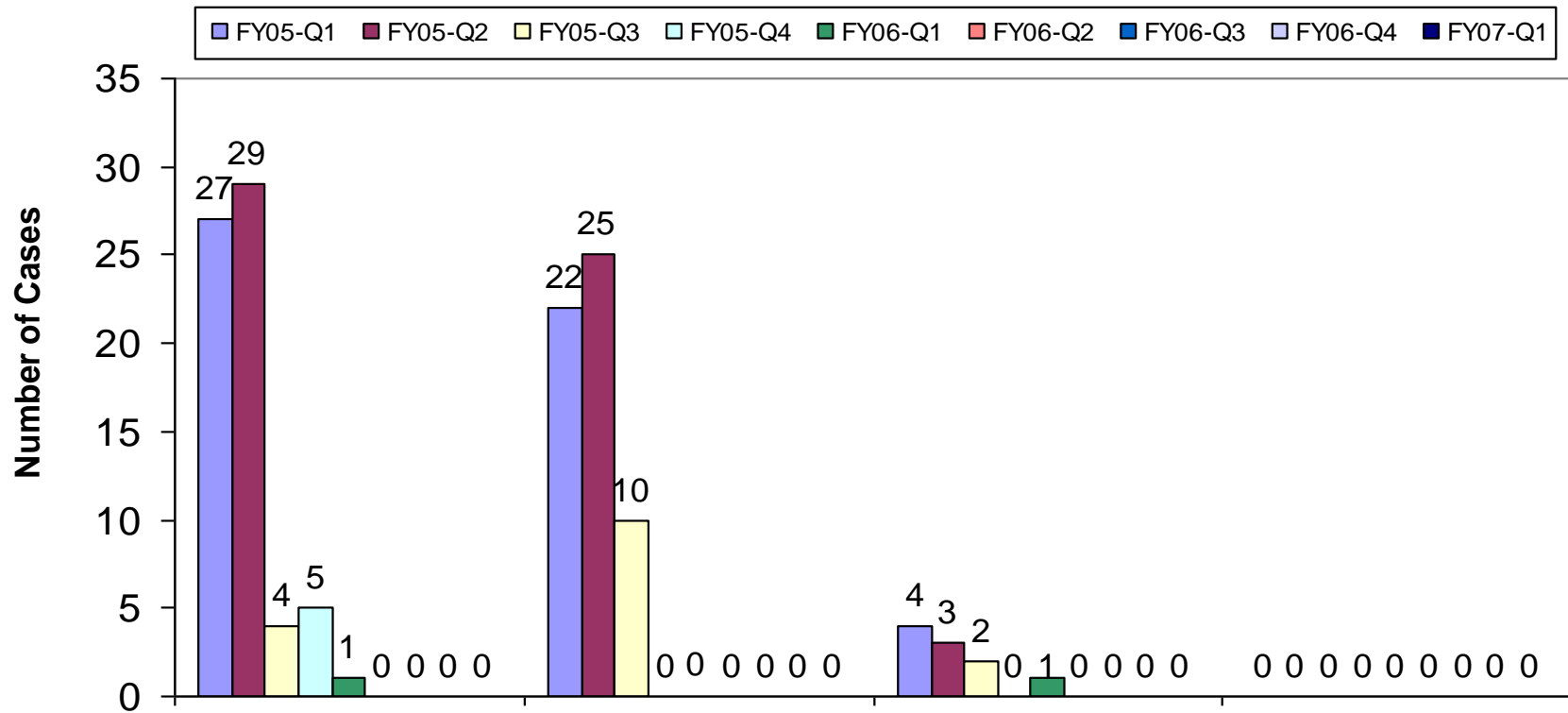


# Induction Rates by Physician (2000-2003)

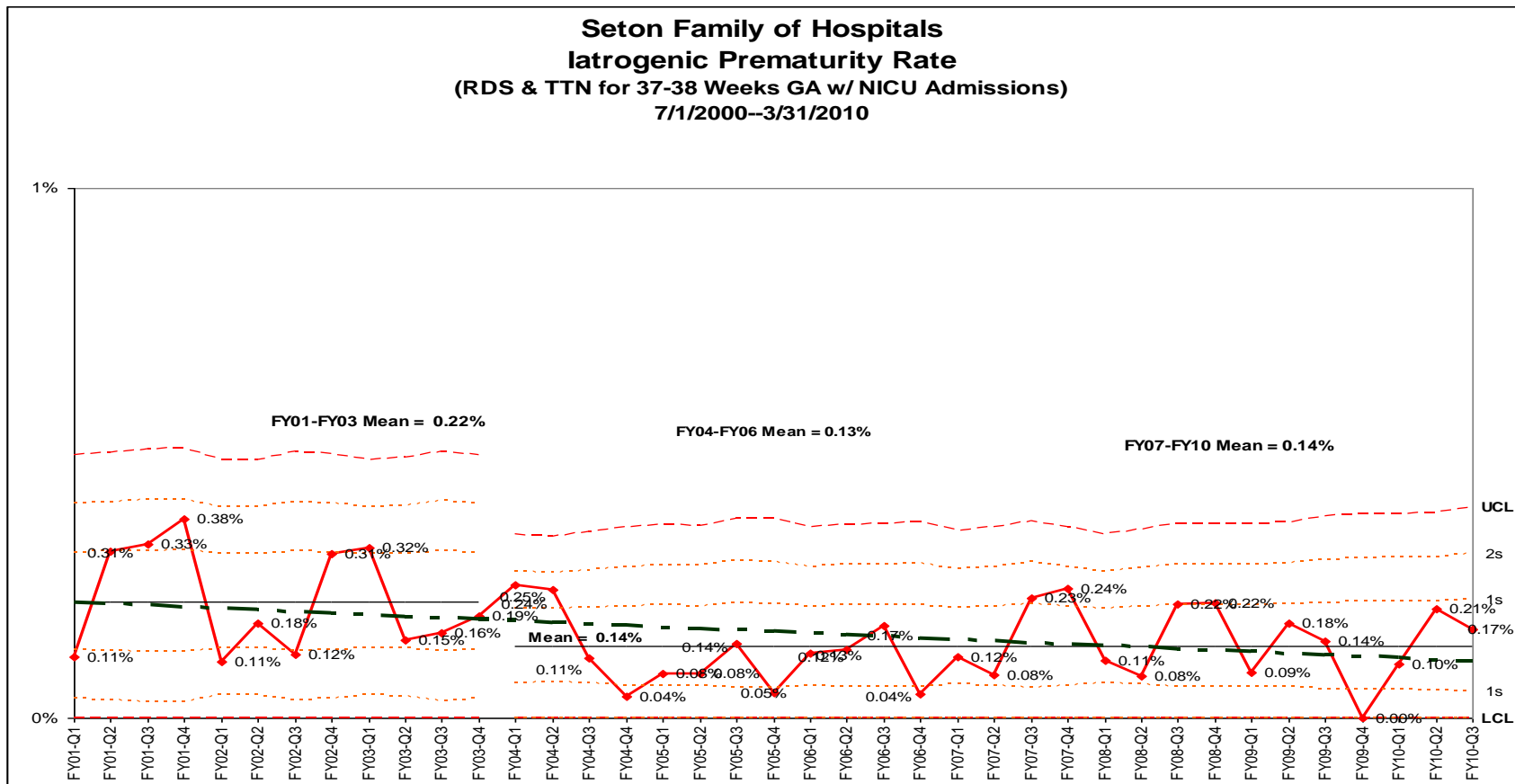




## Elective Inductions Prior to 39 Weeks 7/1/2004-9/30/2006



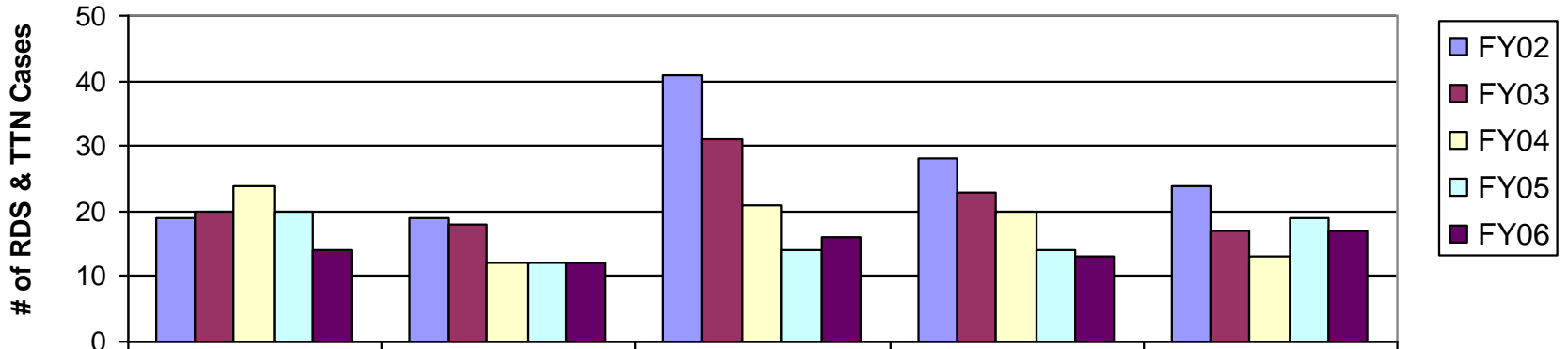
# Iatrogenic Prematurity Rate







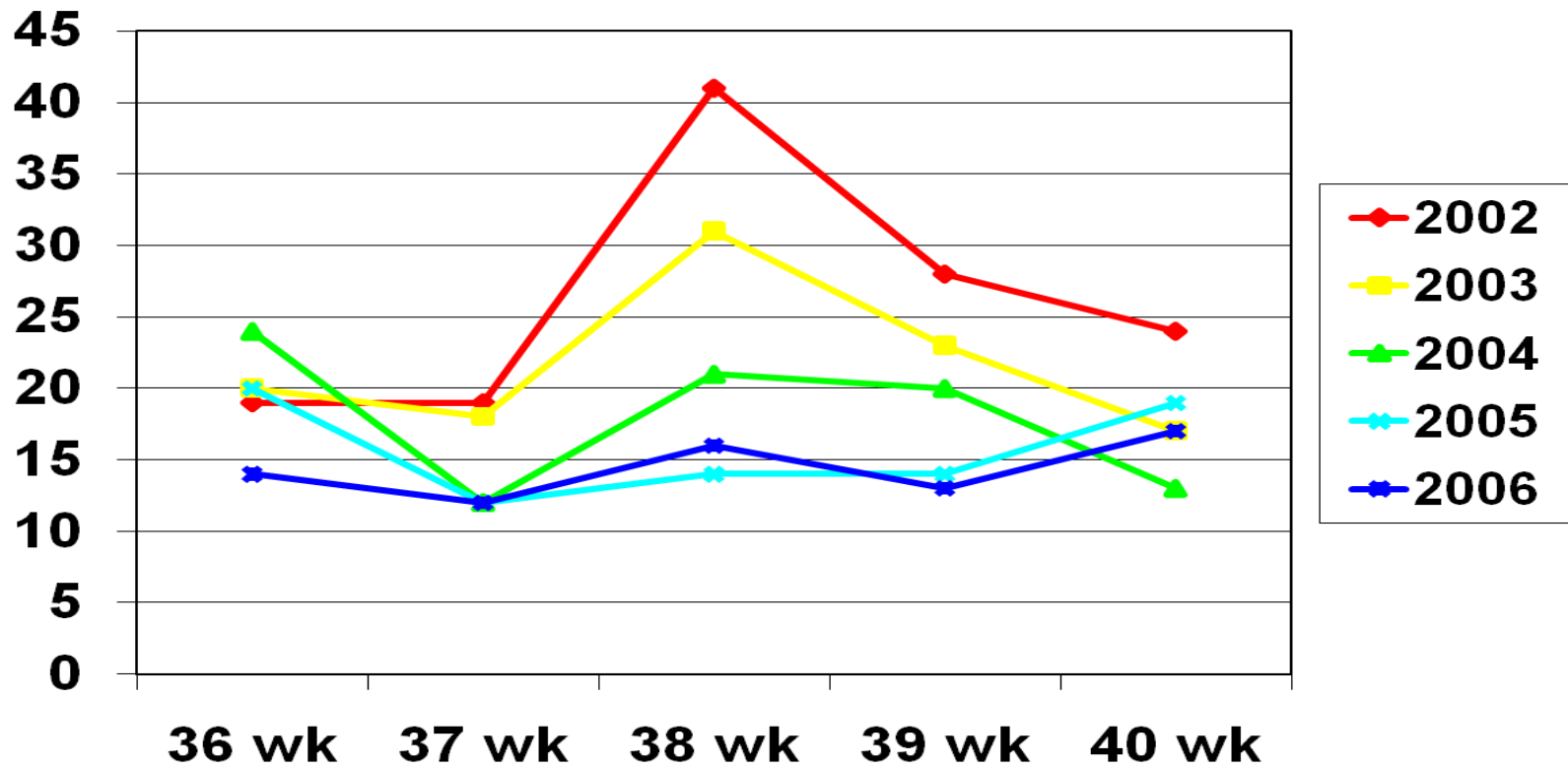
## Seton Medical Center RDS & TTN By Gestation Weeks FY 2002--FY2006



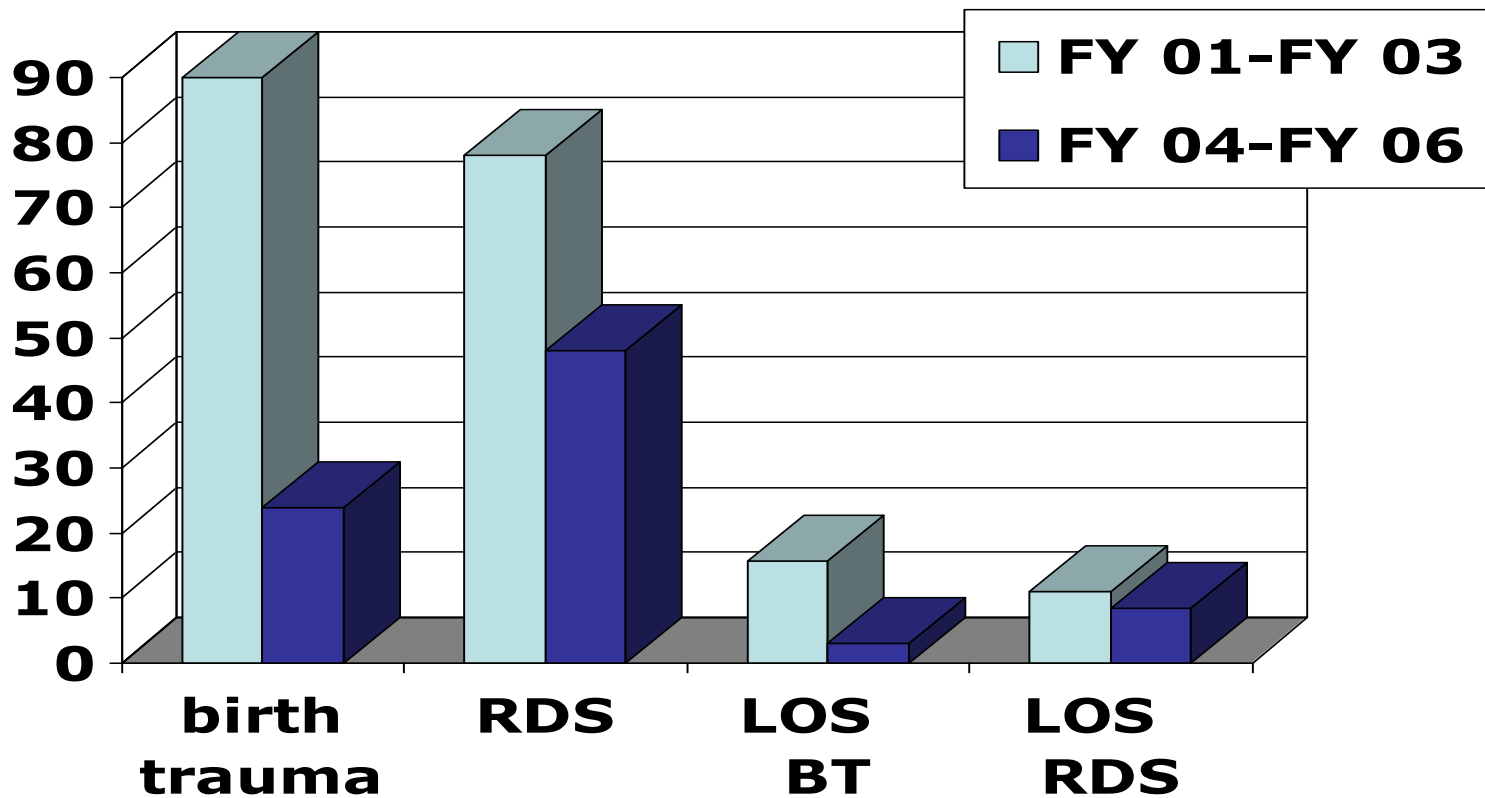
	36 Weeks	37 Weeks	38 Weeks	39 Weeks	40 Weeks
FY02	19	19	41	28	24
FY03	20	18	31	23	17
FY04	24	12	21	20	13
FY05	20	12	14	14	19
FY06	14	12	16	13	17



## SMCA RDS/TTS Rates FY2002-2006



## Effect of Reduced Iatrogenic Prematurity



## Effect of Reduced Iatrogenic Prematurity

Seton Family of Hospitals	FY01-FY03 Number of Cases	FY01-FY03 Total Billed Amounts	AVG LOS (Days)	FY04-FY06 Number of Cases	FY04-FY06 Total Billed Amounts	AVG LOS (Days)
Birth Trauma	93	\$4,520,004	15.8	24	\$181,759	3.1
RDS & TTN (37-38 wks)	78	\$1,673,647	11.1	48	\$1,428,617	8.5

# Financial (NICU) Implications of Birth Trauma Cases

<u>Payor</u>	<u>Year(s)</u>	<u>Billed Amount</u>	<u># of Cases</u>
<b>HMO/PPO</b>	FY01-03	\$1,967,323.07	46 (15.33/yr)
	FY04	\$73,901.00	7 (7.0/yr)
	FY05-07	\$6,203.00	4 (1.33/yr)
	FY08-09	\$67,140.25	2 (1.0/yr)
<b>Medicaid</b>	FY01-03	\$1,291,842.00	31 (10.33/yr)
	FY04	\$31,812.75	2 (2.0/yr)
	FY05-07	\$32,765.15	3 (1.0/yr)
	FY08-09	\$25,934.37	1 (1.0/yr)
<b>Blue Cross</b>	FY01-03	\$1,109,342.56	8 (2.67/yr)
	FY04	\$0	0 (0/yr)
	FY05-07	\$28,305.50	2 (1/yr)
	FY08-09	\$0	0 (0/yr)

# Perinatal SBAR Report Tool to physician about a critical situation--

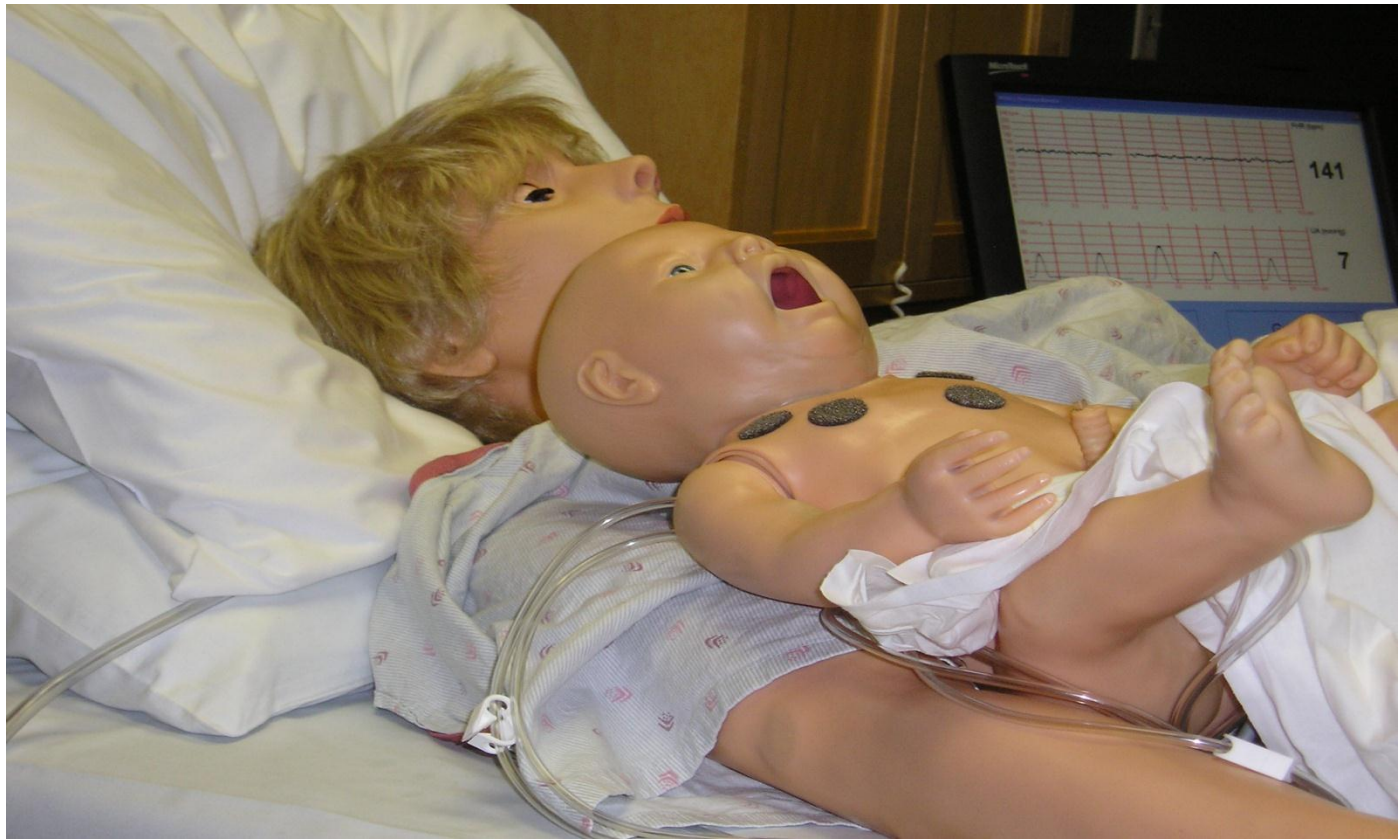
S	<p><u>Situation</u></p> <ul style="list-style-type: none"> <li>-Identify self and site/unit you are calling from.</li> <li>-Patient's name and the reason for report.</li> <li>-Patient's reason for admission is--</li> <li>I am concerned about--</li> <li>-FHR (<b>describe in ranked order</b>) 1.FHR Variability 2. Periodic Changes 3. Baseline FHR 4. Evolution of the tracing</li> <li>Contraction pattern</li> <li>-Blood pressure because it is (give recent BP's, and patient's baseline)</li> <li>-Vaginal bleeding (quantify)</li> </ul>
B	<p><u>Background</u></p> <ul style="list-style-type: none"> <li>-Patient is a gravida -----para ---- at ---- gestation.</li> <li>-Patient's significant medical and obstetrical history includes-----</li> <li>-Problems with the current pregnancy -----</li> <li>-Known drug allergies include--(if applicable)</li> </ul>
A	<p><u>Assessment</u></p> <ul style="list-style-type: none"> <li>-FHR (<b>describe in ranked order</b>) 1. Variability 2. Periodic Changes 3. Baseline 4. Evolution of tracing</li> <li>-Vital signs are: blood pressure, pulse, respirations, and temperature</li> <li>-Contraction pattern.</li> <li>-Clinical impressions, concerns are-----</li> </ul>
R	<p><u>Recommendation</u></p> <ul style="list-style-type: none"> <li>What I need from you is-----</li> <li>(Be specific about request and time frame.)</li> <li>-Suggestions for tests are: (LFT'S, BS, UA with micro, pitocin, methergine, hemabate, mag level, coags, KB, antibiotics, terbutaline..)</li> <li>-Clarify orders and expectations.</li> </ul>

# Perinatal SBAR Report Tool for reporting a fetal monitor tracing

S	<p><u>Situation</u>            -Identify yourself and what site/unit you are calling from.-Identify patient by name and the reason for report. <u>I am concerned about—(describe concern)-Describe FHR <b>in ranked order</b> 1.FHR Variability 2. Periodic Changes 3. Baseline FHR 4. Evolution of the tracing (changes from admission, possible reasons such as recent epidural placement, recent administration of narcotics, change in vital signs..)-Contraction pattern</u></p>
B	<p><u>Background</u>            -Patient's reason for admission is---Patient is a gravida ----- para ----at ----- gestation. -Problems with the current pregnancy -----Significant medical and obstetrical history includes-----FHR tracing on admission (FHR variability, periodic changes and baseline)</p>
A	<p><u>Assessment</u>            -Cervical Exam-Vital signs -Contraction pattern-Clinical impressions, concerns.</p>
R	<p><u>Recommendation</u>            -What I need from you is------(Be specific about request and time frame.) -Suggestions (such as terbutaline..)-Clarify orders and expectations.</p>



## Birthing Simulator--Noelle and Her Baby







## Simulation Scenarios

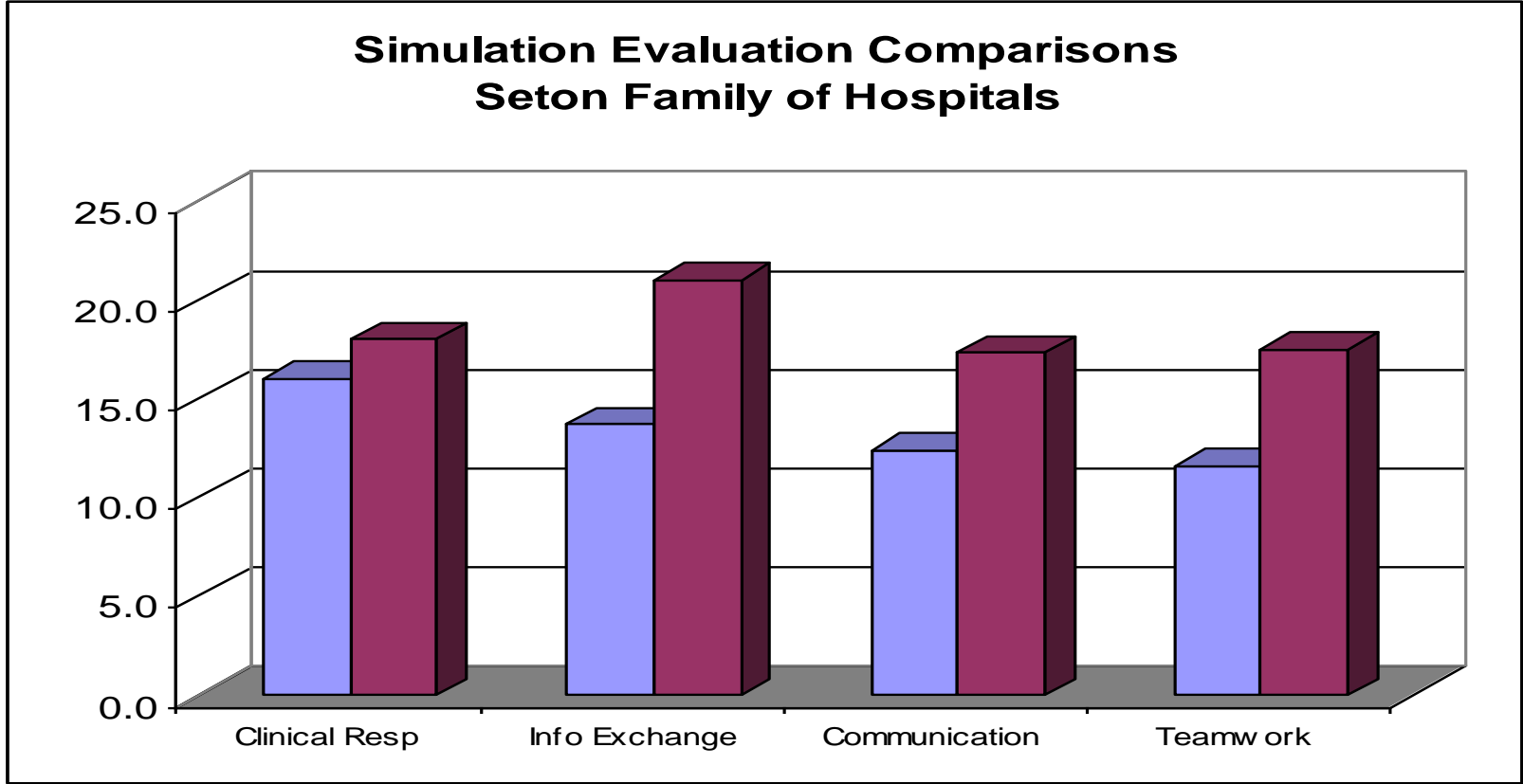
- Shoulder dystocia
- Postpartum hemorrhage
- Cardiac arrest
- Cord prolapse
- Precipitous delivery
- Infant Code Blue



# Simulation Evaluation

- I. Clinical Response
- II. Info Exchange/Language Structure
- III. Communication Patterns
- IV. Team Collaborative Level

# Simulation Score Comparisons

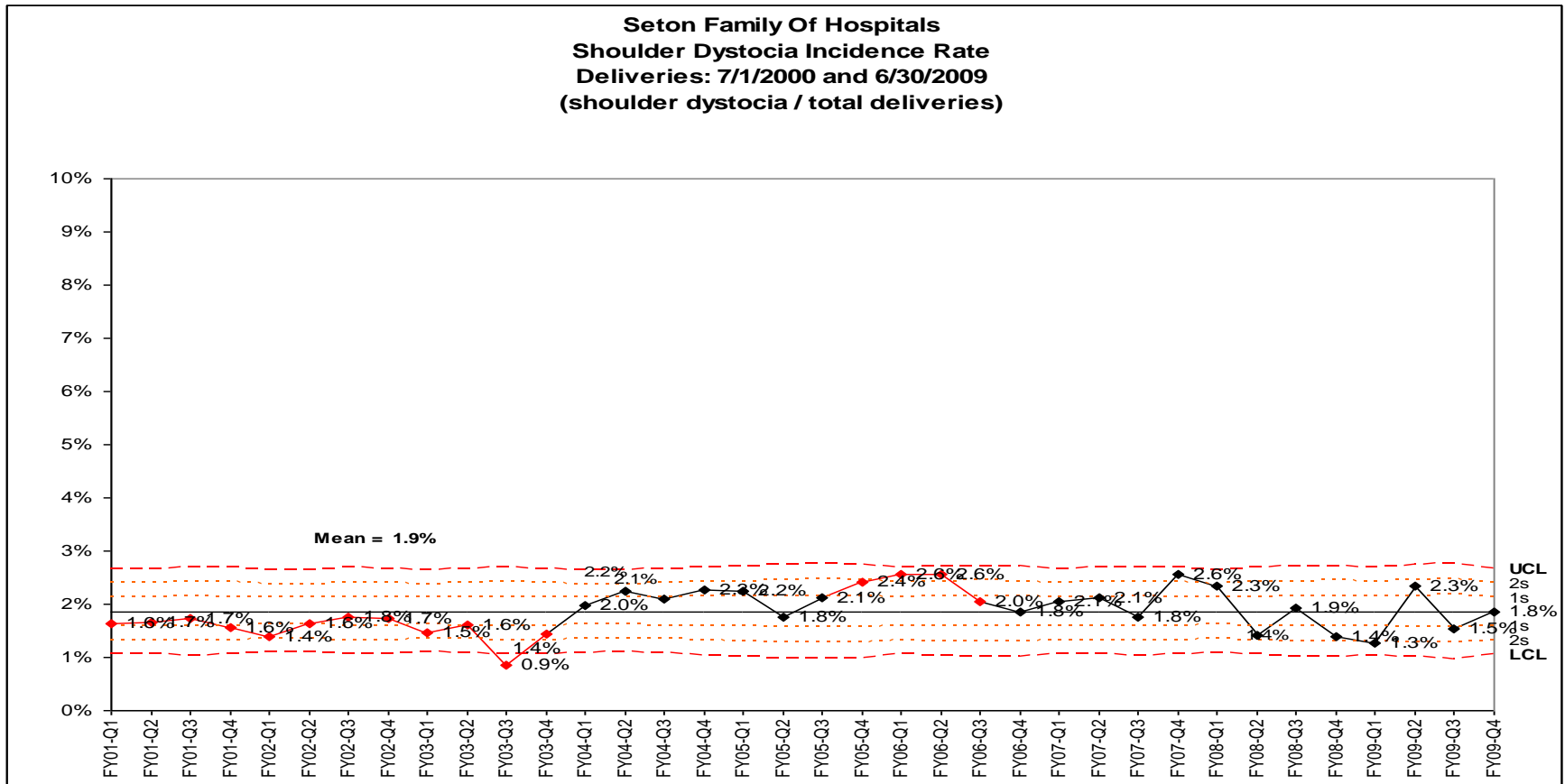




## Our Additional Approach to Perinatal Safety

- Joint Physician-Nurse EFM strip review (NICHD)
- Shoulder dystocia team work program
- Navigated C-section program
- Focus on episiotomy / 3<sup>th</sup> and 4<sup>th</sup> degree lacerations

# SFH Shoulder Dystocia Rates



# Shoulder Dystocia Documentation

## Seton Family of Hospitals

### SHOULDER DYSTOCIA DELIVERY NOTE

Time of delivery of HEAD	Time of delivery of BODY						
<b>Initial Traction:</b> <input type="checkbox"/> Gentle attempt at downward traction, assisted by maternal expulsive forces If above box is not checked, please explain:							
Maneuvers Utilized	Order of Occurrence (circle)						
<b>Positional maneuvers:</b>							
<input type="checkbox"/> McRoberts-----	1	2	3	4	5	6	7
<input type="checkbox"/> Gaskin (All Fours)-----	1	2	3	4	5	6	7
<b>Suprapubic pressure:</b>							
<input type="checkbox"/> Directed to patient's left-----	1	2	3	4	5	6	7
<input type="checkbox"/> Directed to patient's right-----	1	2	3	4	5	6	7
<b>Rotational maneuvers:</b>							
<input type="checkbox"/> Pressure to posterior scapula -----	1	2	3	4	5	6	7
<input type="checkbox"/> Pressure to anterior scapula -----	1	2	3	4	5	6	7
<input type="checkbox"/> Pressure to posterior front of fetal chest wall-----	1	2	3	4	5	6	7
<input type="checkbox"/> Pressure to anterior front of fetal chest wall-----	1	2	3	4	5	6	7
<input type="checkbox"/> <b>Delivery of posterior arm</b> -----	1	2	3	4	5	6	7
<input type="checkbox"/> <b>Zavanelli</b> (Upward displacement of fetal head followed by c-section) --	1	2	3	4	5	6	7
<b>Verify that fundal pressure was not applied after the head delivered</b> <input type="checkbox"/> Not Applied <input type="checkbox"/> Applied : By Whom? Reason:						<b>Anterior Shoulder</b> <input type="checkbox"/> Left <input type="checkbox"/> Right	



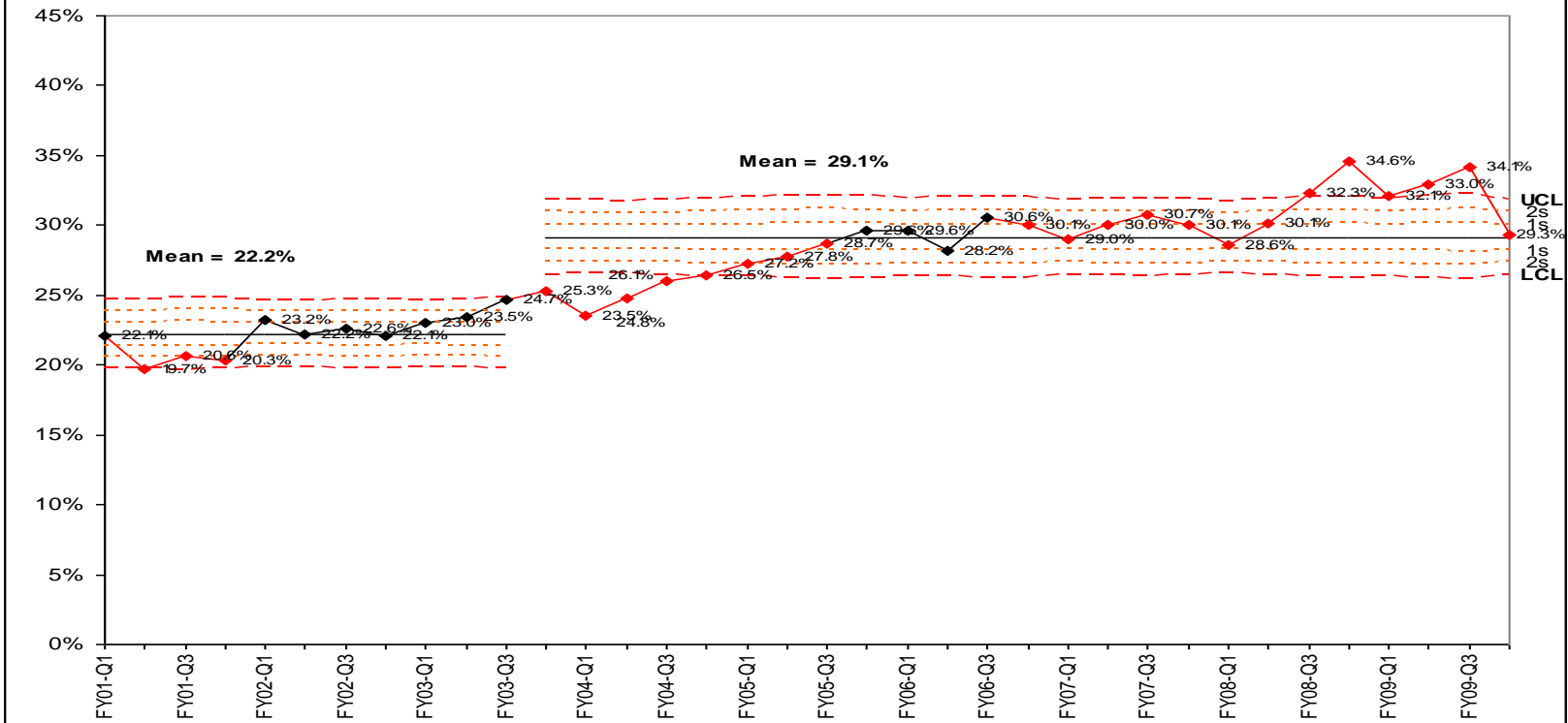
## Navigated C-Section Initiative

- Category I “Negotiated”  
Decision to proceed with cesarean delivery based upon elective criteria and/or maternal request following informed consent.
- Category II “Navigated”  
Decision to proceed with cesarean delivery made to remedy dystocia following failure of appropriate logistic modalities during labor.
- Category III “No Options”  
Decision to proceed with cesarean delivery based upon absolute or emergent indications

We believe monitoring "navigated c-sections" helps to reduce elective inductions and hence c-section rates. Below are the elements we monitor for navigated c-sections.



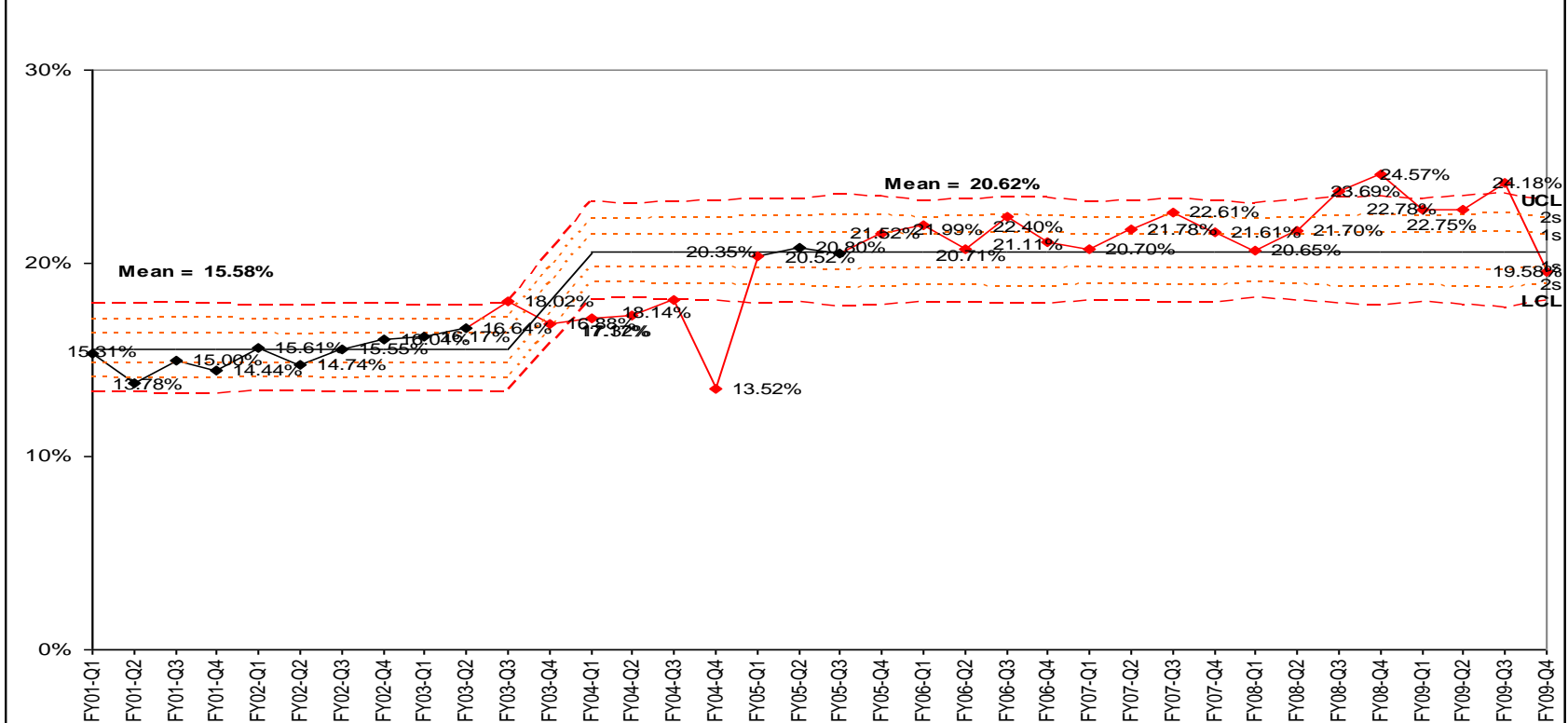
**Cesarean Section Rate  
Seton Family of Hospitals  
Deliveries: 7/1/2000--6/30/2009  
(overall c-s / total deliveries)**



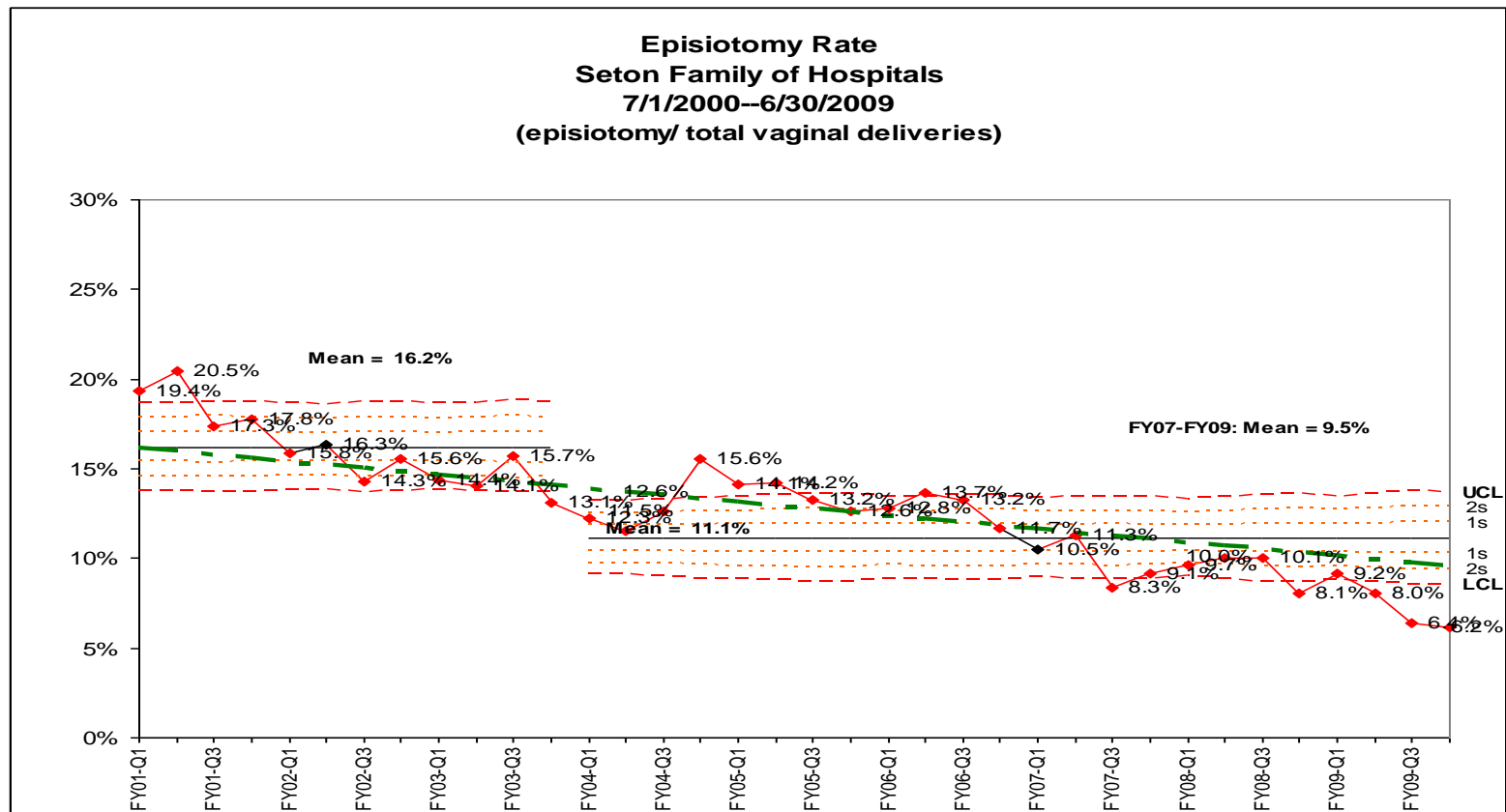




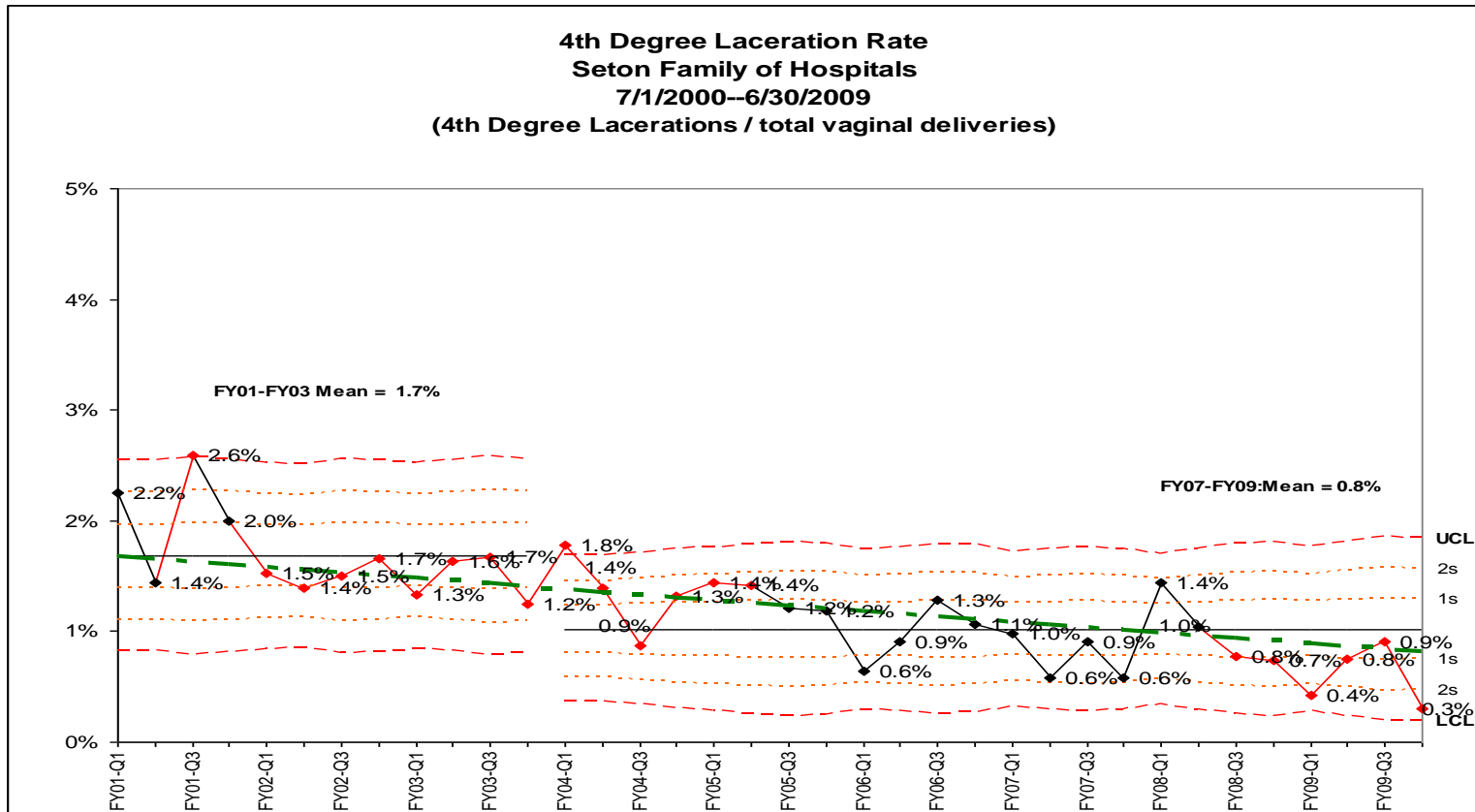
**Primary C-section Rate  
Seton Family of Hospitals  
7/1/2000–6/30/2009  
(primary c-s / total deliveries w/ no previous c-s)**



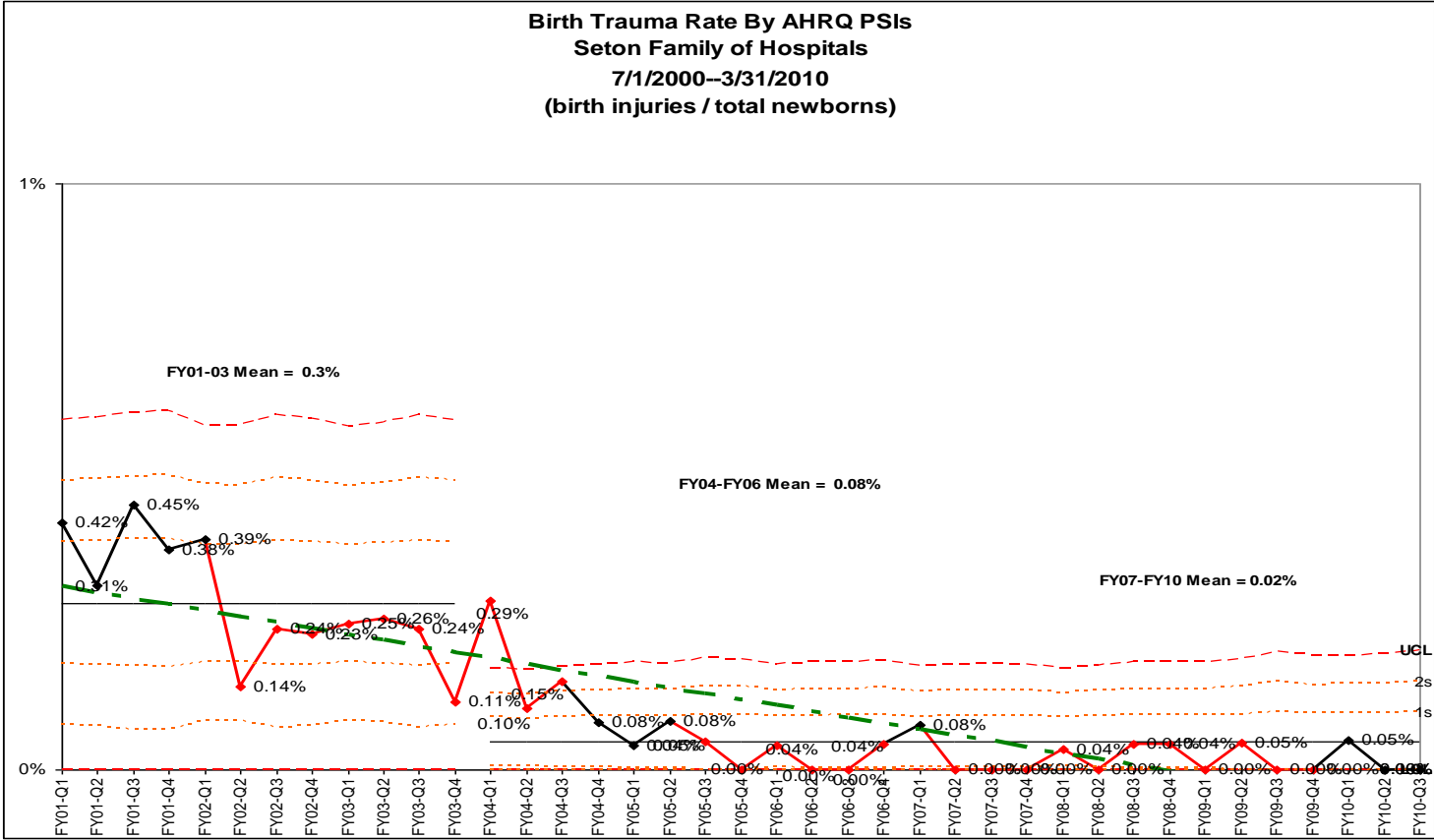
# Episiotomy Rate



# 4<sup>th</sup> Degree Laceration Rate



# Birth Trauma Rate





## What have we seen... what do we hope for?

- Birth Trauma appears not to be totally preventable, but it appears to be less inevitable than thought.
- Malpractice OB claims and payouts across Ascension Health have dramatically dropped over the last several years.
- No elective inductions before 39 weeks in 4 ½ years at Seton
- Shoulder dystocia program aimed at reducing both injury and claims damages (and in improving defensibility of claims).
- Navigated C-section program aimed at reducing the number of primary C-sections.



## Questions?

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