



Improving Safety of Deliveries

**Reducing Elective Deliveries
Prior to 39 Weeks Gestation
in Washington State**

**Washington State Perinatal Collaborative
Washington State Department of Health
Washington State Hospital Association
March of Dimes**



October 11, 2010

Reducing Elective Delivery at 37 to <39 wks GA

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Washington State Medicaid Quality Initiative

Reducing Elective Delivery at 37 to <39 wks GA

Washington State

A quality initiative of...



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Washington State Perinatal Collaborative

A Subcommittee of the Perinatal Advisory Committee

- Department of Social and Health Services
- Department of Health
- Health Care Authority
- Washington State Obstetrical Association
- Washington Academy of Family Physicians
- Midwives Association of Washington
- American College of Nurse Midwives, WA Chapter
- Perinatal Regional Network



- Washington State Hospital Association
- Foundation for Health Care Quality
- March of Dimes
- American Congress of Obstetrics & Gynecology, WA Section
- Association of Women's Health, Obstetric & Neonatal Nurses, WA Section
- Insurance providers
- Hospital representatives

Why this Quality Initiative?

Washington State Perinatal Collaborative

- Compelling clinical evidence
 - Poorer neonatal outcomes: ↑ NICU admits, RDS, LOS, \$\$
 - Elective induction vs spontaneous labor → ↑ number Cesarean deliveries and longer maternal length of stay
- Nationally endorsed standardized measure with risk adjustment
 - Medical exclusions better at leveling playing field
 - Leapfrog and Joint Commission now aligned
- 23 WA State hospitals (>50% of deliveries in state) submitting perinatal data to 2009/2010 Leapfrog surveys
- Opportunity for improvement (*wide variation*)
- Achievable (*other successful statewide initiatives*)



Neonatal Outcome Risks

190,654 Deliveries \geq 34 wks GA, Northern Neonatal Network, UK

- Reviewed for respiratory distress and mortality related to respiratory distress

	Gestational Age at Delivery		
	37 wks	38 wks	39-41 wks
Deliveries	10,581	27,073	133,277
Ventilated for RDS	19 (0.2%)	16 (0.06%)	1 (0.0008%)
Mortality with RDS	2 (0.02%)	0 (0%)	0 (0%)

Neonatal Outcome Risks




1,193 C/S Births in Calgary, Alberta

GA \geq 36 wks, BW \geq 2,500 gms

	Odds Ratio (95% CI)	
	NICU Admit	RDS
Delivery after 38 4/7 wks GA or 270 days	0.62 (0.43–0.89)	0.50 (0.34–0.74)

Neonatal Outcome Risks

14,955 Deliveries ≥ 37 at 27 Hospitals in 14 States

	Gestational Age at Delivery		
	37 wks	38 wks	≥ 39 wks
Total elective dels	241	1,471	2,933
NICU admissions	43	118	135
			
	17.8%	8.0%	4.6%
	$p < 0.001$		$p < 0.001$

Clark et al. AJOG 2009;200:156.e1-156.e4.

Neonatal Outcome Risks



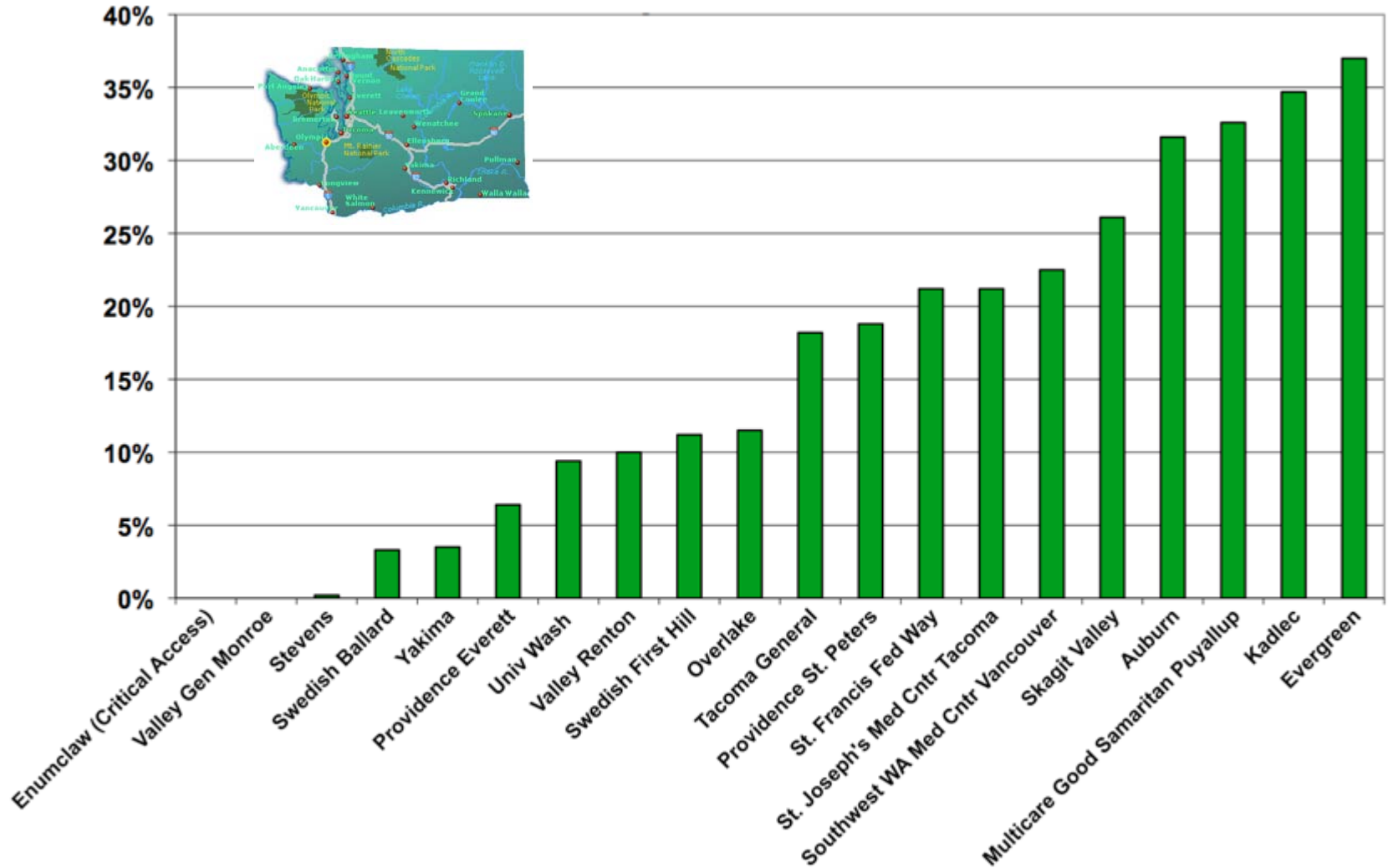
24,077 Repeat C/S, 19 units, Eunice Kennedy Shriver
NICHD Maternal-Fetal Medicine Network

- 13,258 elective deliveries, of which 4,746 (35.8%) <39 wks GA
- Outcomes measured: Neonatal death, RDS, TTN, CPR or ventilation in 1st 24 h, newborn sepsis, hypoglycemia Rx'd, LOS >5

	Gestational Age at Delivery		
	37 wks	38 wks	≥39 wks
Total elective C/S	834	3,909	6,512
Any adverse outcome	128	430	524
	15%	11%	8%
<i>Adj OR (95% CI)</i>	2.1 (1.7–2.5)	1.5 (1.3–1.7)	

Wide Variation in C/S and Induction Rates

*2010 Leapfrog Survey of WA State Reported Hospital Rates
Elective Delivery ≥ 37 wks and < 39 wks GA*



Other Statewide Initiatives



Ohio Perinatal Quality Collaborative



- 20 hospitals with 47% of Ohio births
- Elective delivs ≥ 36 and < 39 wks GA over 12 mos (2008-09)
- Reduced rate from 25% to $< 5\%$ ($p < 0.05$)

The Ohio Perinatal Quality Collaborative Writing Group. AJOG 2010;202:243.e1-8.

Perinatal Quality Collaborative of North Carolina

- 37 hospitals
- Elective deliveries < 39 wks GA from Oct 2009–June 2010
- 43% \downarrow in rate of elective deliveries < 39 wks
- 12% \downarrow in scheduled induction and C/S births ≥ 36 and < 39 wks GA



*<http://www.pqnc.org/>
October 4, 2010 (unpublished)*

Multistate Initiative

Hospital Corporation of America

- 27 hospitals over 14 states
- Elective deliveries ≥ 37 wks and < 39 wks, 2007–2009
- Hospitals self-selected to 1 of 3 approaches:

1

Hard Stop
PROHIBIT

8.2% \rightarrow 1.7%
($p=0.007$)

2

Soft Stop
VOLUNTARY

8.4% \rightarrow 3.3%
($p=0.025$)

3

Education
Only

10.9% \rightarrow 6.0%
($p=0.135$, NS)

GOALS

Reducing Elective Deliveries <39 wks GA in WA State

- Hospital target rate— $\leq 7\%$
- Quality improvement protected forum
— Share tools, experiences, lessons learned, successes
- Prepare for future perinatal data submission requirements
- Contribute to regional/national efforts in determining evidence-based target rate
- Make recommendations re potential improvements to the measure definition based on results
- Data collected will fulfill other submission requirements (*e.g., Leapfrog, Joint Commission, WA St Medicaid Incentive Program*)

Change Proposal

Methods and Components



- Statewide project
- Voluntary
- Regionally promoted by PRN coordinators and physician champion



- Joint Commission measure definition
- Phone survey to hospitals and promotion of participation by Perinatal Regional Network coordinators (*Aug–Sept*)



Change Proposal

Methods and Components



- Identify physician, nurse and quality improvement champions
- Tool kits and best practice methods
- Data sharing with WSHA Safe-Table QI protection
- Data collection measurement phases
 - Baseline for Collaborative: 6-mon retrospective*
 - Intervention: Begin Jan 2011, with quarterly reporting*
- Face-to-face Safe-Table meetings:
 - Nov 3, 2010—Launch
 - Jan 2012—Evaluation
- Safe-Table Webinars: — October 2010 initiation
— Mid-course intervals

Collaborative Measure Definitions



Joint Commission v 2010B2



- Denominator
- Numerator
- Medical exclusion list
- Active labor, spontaneous rupture of membranes, gestational age
- Abstraction of random sample vs. all cases
- Minimum random sample size

UWMC Simplified Method

UW Medicine

(using Joint Commission definitions)

- Simplified process to denominator and numerator
- All cases or larger sample vs. Joint Commission minimum random sample size
- Potential problems for smaller sample size

<http://manual.jointcommission.org/releases/TJC2010B/PerinatalCare.html>



Joint Commission Definitions

Denominator: Patients delivering singleton newborns
@ ≥ 37 and < 39 wks GA

- Excluded Populations:***
- Medical conditions possibly justifying elective delivery prior to 39 wks GA
(see Table 11.07, Appendix A of Joint Commission Specifications Manual v 2010B2)
 - Age < 8 or ≥ 65 yrs of age
 - Length of stay > 120 days
 - Enrolled in OB clinical trial

Joint Commission Definitions

Appendix A, Table 11.05



Numerator: Elective delivery by C/S or induction
@ ≥ 37 and < 39 wks GA

- Included Populations:***
- Induction or C/S without Active Labor or SROM:
 - 73.01 Induction of labor by artificial rupture of membranes
 - 73.1 Other surgical induction of labor
 - 73.4 Medical induction of labor
 - Cesarean:
 - 74.0 Classic Cesarean section
 - 74.1 Low transverse C/S
 - 74.2 Extraperitoneal C/S

Fetal Conditions

Possibly Justifying Elective Delivery per Joint Commission Definition

- Unstable lie (652.01)
- Multiple gestation (651.xx)
- Post-term pregnancy (645.11, 645.21)
- Poor fetal growth/IUGR (656.51)
- Central nervous system malformation (655.01)
- Chromosomal abnormality (655.11)
- Suspected damage to fetus from environmental toxins or intrauterine contraceptive device*, viral or other disease, drugs or radiation (655.80, 655.31, 655.41, 655.51, 655.61)
- Rhesus isoimmunization (656.11)
- Isoimmunization from other blood group incompatibility (656.21)
- Fetal distress (656.31), abnormality in fetal heart rate or rhythm (659.71)*
- Intrauterine death (656.41)
- Single stillborn (V27.1)
- Pregnancy with other poor reproductive history, pregnancy with history of stillbirth or neonatal death (V23.5)*

*Joint Commission
Specifications Manual
v. 2010B2, Appendix A,
Table 11.07*

**Not on Leapfrog exclusion list*

OB/Maternal Conditions

Possibly Justifying Elective Delivery per Joint Commission Definition

- HIV disease (042), asymptomatic HIV (V08)
- Hypertension—unspecified, pre-existing, transient, benign essential to severe preeclampsia (642.xx)
- Unspecified renal disease in pregnancy (646.21, 646.22)
- Liver disorders in pregnancy (646.71)
- Diabetes mellitus (648.01) or abnormal glucose tolerance (648.81, 648.82)
- Maternal congenital cardiac disease (648.51, 648.52) or other maternal cardiac disease (648.61, 648.62)
- Coagulation defects complicating pregnancy (649.31, 649.32)
- Placenta previa, placental abruption, antepartum hemorrhage, maternal-fetal hemorrhage, vasa previa (*vasa previa not on Leapfrog exclusion list*), 641.01, 641.11, 641.21, 641.31, 641.81, 641.91, 656.01, 663.50, 663.51, 663.53)
- Premature or spontaneous rupture of membranes (658.11, 658.21)
- Antepartum cervical shortening (649.73), retroverted/incarcerated gravid uterus (654.3x)
- Polyhydramnios (657.xx) or oligohydramnios (658.01)

Conditions NOT on Joint Commission Medical Exclusion List *(v. 2010B2)*



- Chronic lung disease
- Lupus
- Other fetal anomalies not listed on Table 11.07
- Demonstration of fetal lung maturity

Will be adding to WA State Collaborator
exclusion list:



- Previous classical Cesarean birth
- Previous uterine surgery or myomectomy



Joint Commission Definitions

Active Labor: Documentation of regular uterine contractions with cervical change before medical induction or Cesarean

Notes for Abstraction—Answer “YES” if:

- Cervical dilation \uparrow from 1 cm to 2 cm before augmentation and/or Cesarean, or
- Previous Cesarean scar, regular uterine contractions and cervical change (*e.g.*, \uparrow from 1 cm to 2 cm or cervix dilated ≥ 2 cm) before repeat Cesarean



Joint Commission Definitions

SROM: Documentation of spontaneous rupture of membranes (SROM) before medical induction and/or Cesarean

Notes for Abstraction—Answer “YES”:

- Confirmation before medical induction and/or Cesarean by one of the following methods:
 - Positive ferning test
 - Positive nitrazine test
 - Positive pooling (gross fluid in vagina)
 - Positive Amnisure test or equivalent
 - Patient report of SROM prior to arrival at hospital



Joint Commission Definitions

GA: Number of completed weeks that have elapsed between 1st day of last normal menstrual period and date of delivery

Notes for Abstraction—Answer “YES”:

- GA rounded off to nearest completed week, not following week (*e.g., infant born @ 35 5/7 wks = 35 wks GA, not 36 wks*)
- Order of records to review: H&P, prenatal forms, delivery or OR record, clinician admit progress note
- Where data conflicts, GA found in 1st document by order above should be used
- Clinician admit progress notes accepted by MD, CNM, ARNP/physician's assistant or RN



Minimum Sampling Requirements

The Joint Commission

- Initial patient population for mothers:
 - Age Exclusions: Remove <8 yo and ≥ 65 yo
 - LOS Exclusion: Remove if length of stay >120 days
- If choose to sample, option to sample quarterly or monthly
- May choose to use larger sample size or all cases in population
- If initial patient population size less than minimum number of cases per quarter or month, must include all cases

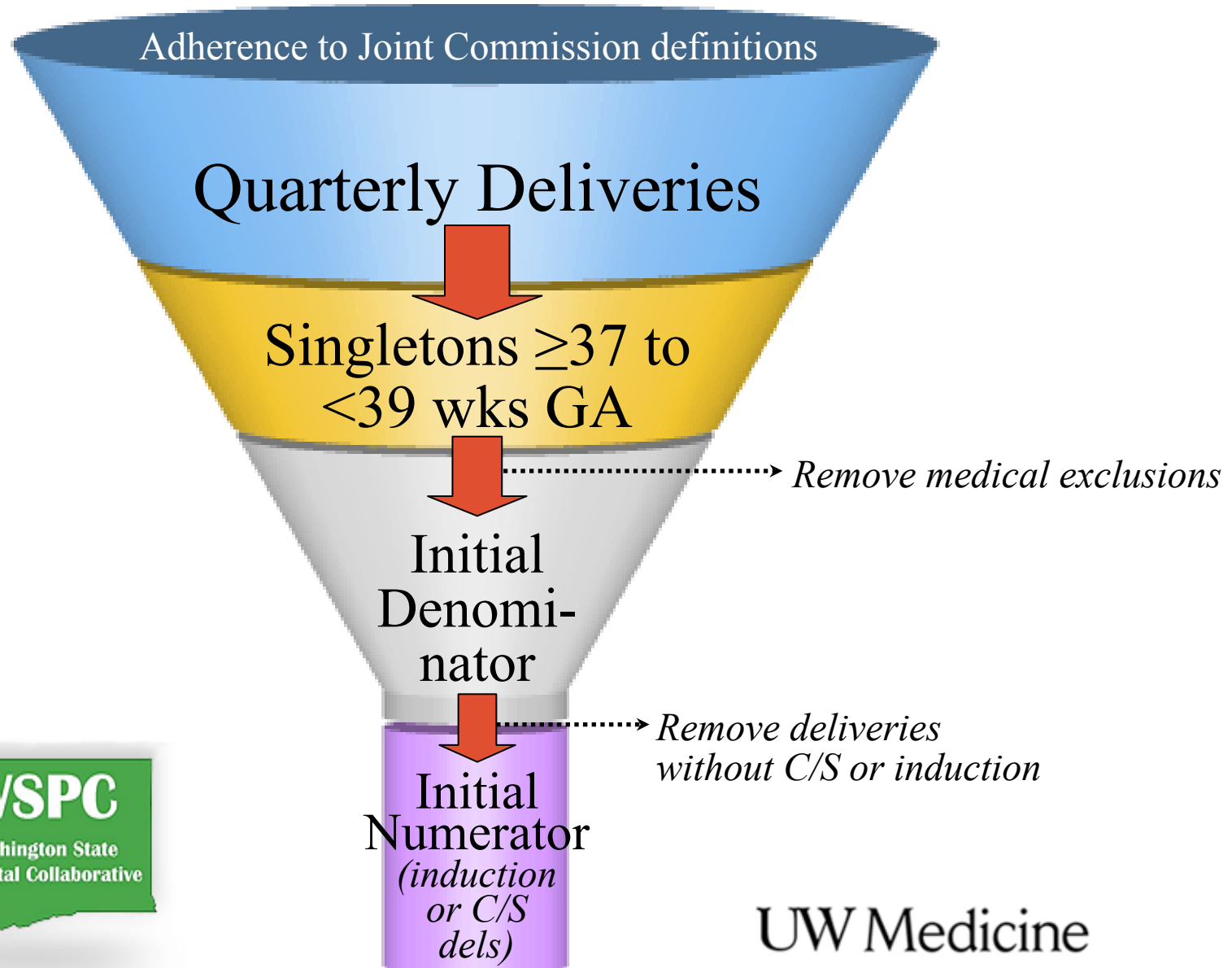


The Joint Commission

Minimum Quarterly Sampling Size for Total Deliveries

<i>Average Quarterly Initial Patient Population Size for Mothers</i>		<i>Minimum Required Random Sample Size for Mothers</i>
≥ 1501		301
376–1500		20% of Initial Patient Population
75–375		75
< 75		No sampling. Must include 100% of Initial Patient Population

UWMC Simplified Method



Simplified Method

Determining the Rate

Initial Numerator
(chart review)

Initial Denominator
(chart review not required)

Remove:

..... Active labor

..... SROM

..... Medical conditions
on exclusion list
not coded

..... Enrolled in
clinical trial

Remove:

..... SROM
Coding omissions
Clinical trials

Final Numerator

Final Denominator

$$\text{Rate} = \frac{\text{Final Numerator}}{\text{Final Denominator}}$$

Example of Simplified Method Numbers

Assume **500** deliveries / quarter

UW Medicine

..... Excluded multiples & dels <37 or ≥39 wks GA

Assume **100 (20%)***
Singletons ≥37 to <39 wks GA

..... Excluded medical conditions

Assume **50 (50%)***
Singletons ≥37 to <39 wks GA
w/o medical conditions

..... Excluded deliveries w/o C/S or induction

Initial
Denominator

Initial
Numerator

10 C/S or induction

**Based on WA State birth certificate data*

Example of Simplified Method

Determining the Rate

Initial Numerator

10

Excluded:
..... 2 active labor

8

..... 1 SROM not coded

7

..... 1 coding omission

6

Final Numerator

Initial Denominator

50

Hypothetical Example
10% SROM by chart review
10% med exclus not coded
20% active labor
(Est based on UWMC review)

Subtract:

1 SROM
1 coding omission

48

Final Denominator

$$\text{Rate} = \frac{6}{48} = 12\%$$



Joint Commission *Minimum Sampling Method*

500 deliveries / quarter

Random sample of 20%

100

..... *Excluded multiples & dels <37 or ≥39 wks (- 80%)*

20 singletons ≥37 to <39 wks GA

..... *Excluded medical conditions (- 50%)*

10 Singletons ≥37 to <39 wks GA
w/o medical conditions

..... *Excluded deliveries w/o C/S or induction (- 80%)*

**Initial
Denominator**

**Initial
Numerator**

2 C/S or induction

Rate Comparison

Sampling Methods

UW Medicine

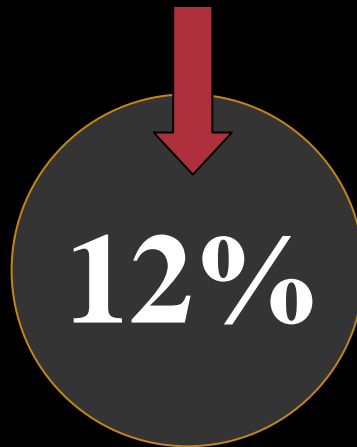
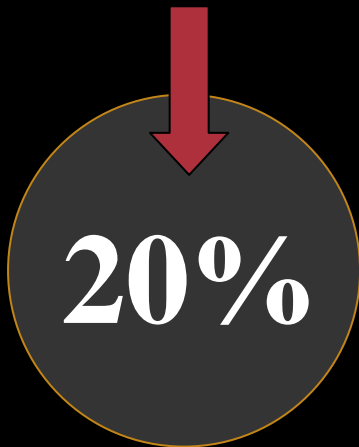


Simplified Method

Joint Commission

$$\frac{10}{50} \xrightarrow[\text{Review}]{\text{Chart}} \frac{6}{48}$$

$$\frac{2}{10}$$





Potential Problems

Joint Commission Minimum Sample Size

- 1 Results from small sample size → unstable rates unless monitored over long period
— 1 additional numerator case can cause significantly higher rate / quarter
- 2 Too few cases in numerator to inform hospital quality improvement efforts
- 3 Less feedback and volume for coding and documentation improvement

Lessons Learned and Preparation for Medicaid Incentive Program

- Review charts for documentation of conditions on exclusion list not coded (*e.g., SROM, diabetes*)
 - Pay attention to detail of ICD-9-CM codes
- Work with coders
 - Implement Ob documentation/coding quality improvement effort
 - Be certain documentation provides language coders need
- Determine what/why cases in numerator
 - Focuses areas for QI effort
- Schedule elective C/S or inductions at 39 0/7 wks or later, not 38 5/7 or 38 6/7 wks
 - Evidence hard stop produces lower rates

What's next?

Reducing Elective Delivery <39 wks GA

November 3, 2010
Face-to-Face Safe Table

Meeting Agenda

Summary of WA State Medicaid Incentive Program
Significance of this Quality Initiative
Joint Commission measure definitions
Neonatal adverse effects and outcome measures
Best practice examples and methods
Tools and resources

Resources



Washington State Perinatal Collaborative

<http://www.waperinatal.org/>

Who to Contact



- **Perinatal Regional Coordinators**

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Questions



Discussion

