The First Perinatal Education Day

PérinatalNB

Cesarean Section Rates in New Brunswick: Why the Differences?

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Cesarean Section Rates in New Brunswick: Why the Differences?

Disclosures:

- I can describe what our situation is
- I can give you some insight that might help
- I don't really know why people do what they do
- Even if I did, I don't know how to change it

- No financial disclosures

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NB Perinatal Health Program
Report of Indicators| 2011–2016

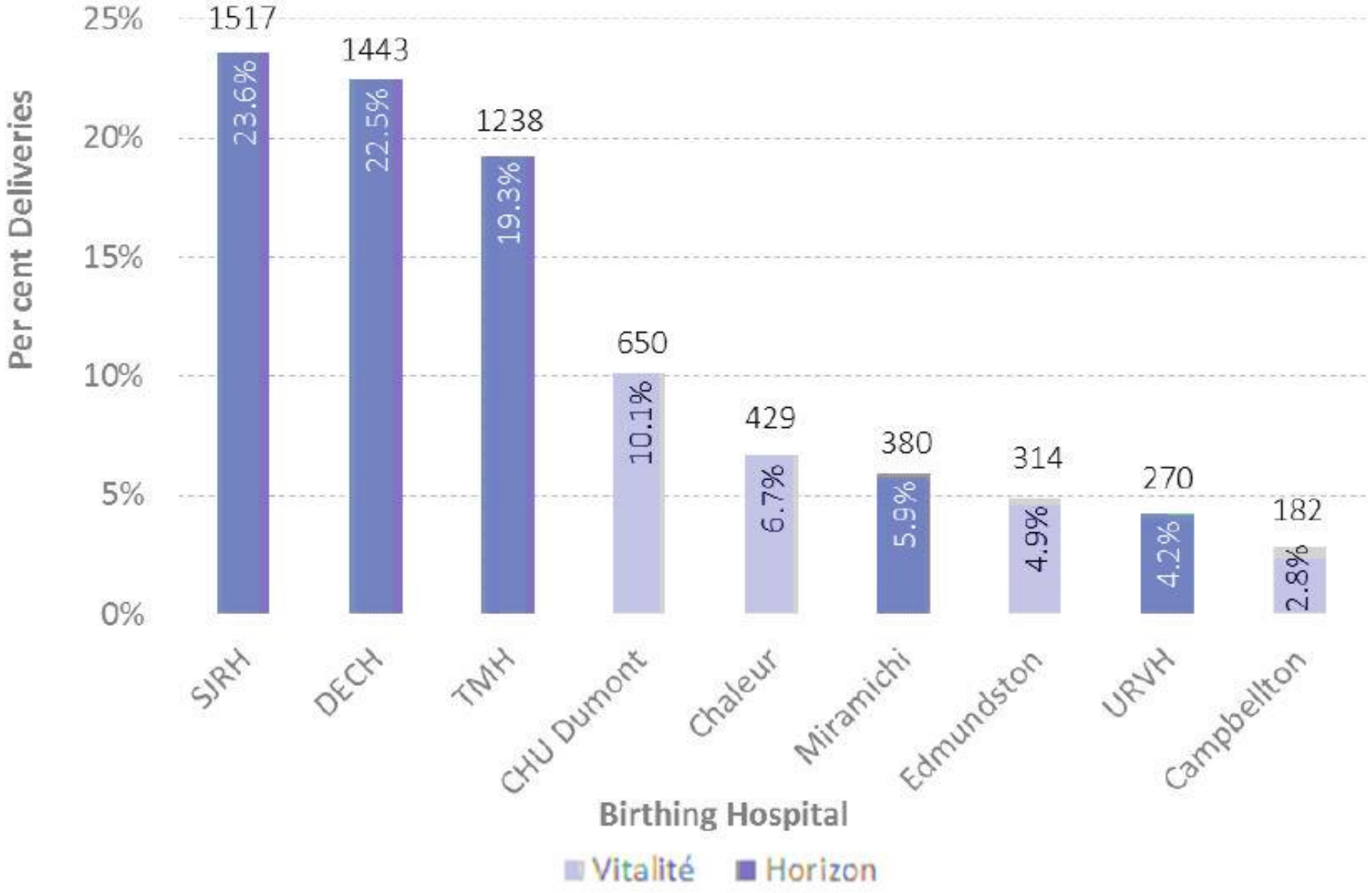

Figure 1.2: Number and per cent of deliveries, by birthing hospital, New Brunswick, 2015/16

Snapshot of Perinatal Health in New Brunswick

28.1% of women
gave birth by
C-section.

Location	C-section Rate
Horizon Health Network	27.4
Vitalité Health Network	30.0
New Brunswick	**28.1**
Canada	**27.9**
WHO	**<15**

The World Health Organization (WHO) recommended C-section rate is 15% or lower.

New Brunswick

Canada

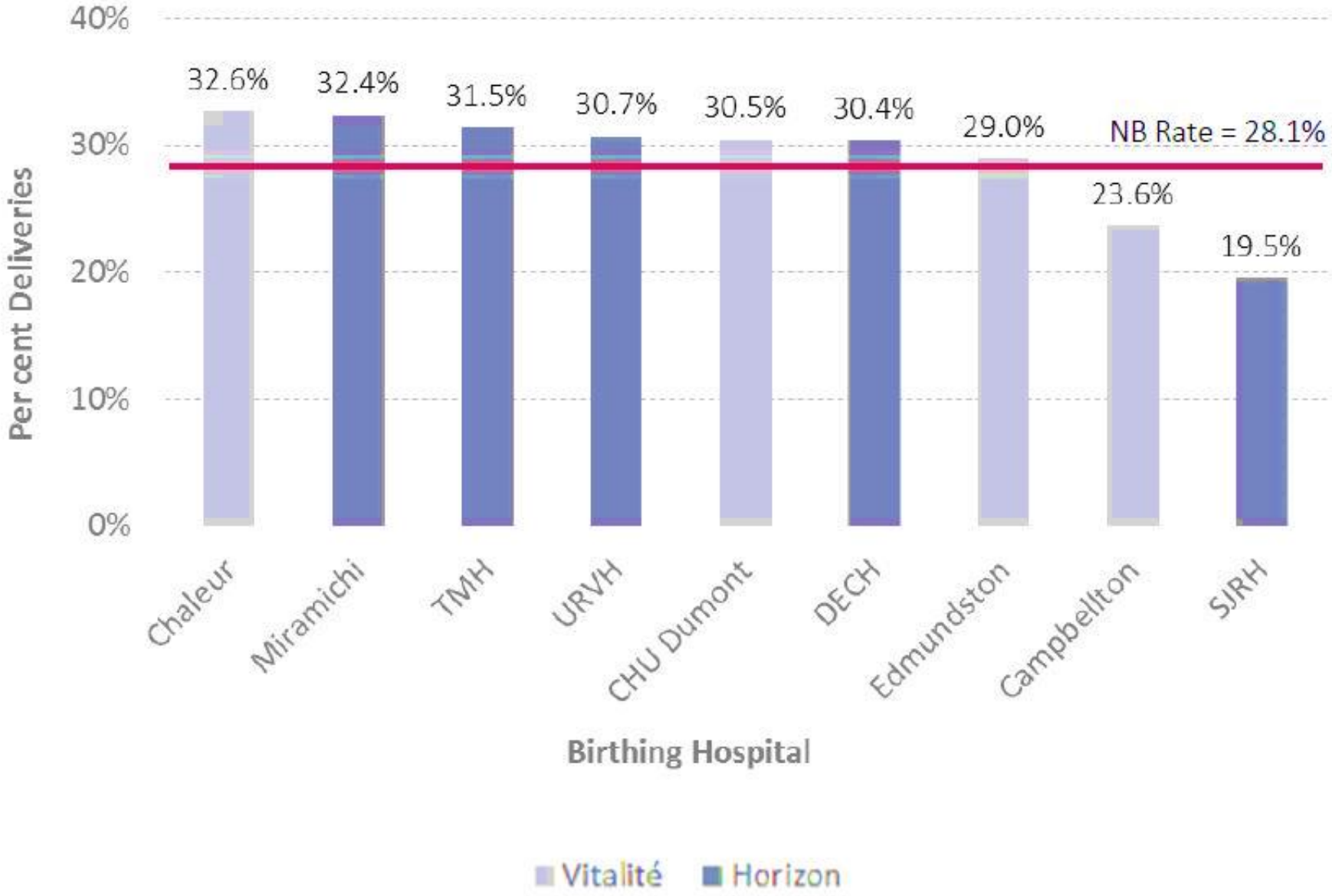

Figure 2.1: C-section Rate, by birthing hospital, New Brunswick, 2015/16

We don’t really know what the right CS Rate is…

We don’t really know what the right CS Rate is…

But why are there such significant differences?

Cesarean Section Rates in New Brunswick: Why the Differences?

Possibilities:

- Population demographics
  - Maternal age, Obesity, Parity, High Risk Pregnancy, Rates of Previous CS Birth, Ethnicity

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- Population demographics
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- Facility resources
  - Anesthesia/OR/Surgeon availability, Low Risk care providers (FPs and Midwives), Early Labour Unit
- Facility practices
  - Induction, VBAC, Operative Vaginal Birth, Care in Labour, Education, Elective CS, Repeat CS for TL, Newborn outcomes

SJRH Facility Characteristics

- Antenatal Care (2006-2016)
  - Family Physician 26-37 %
  - Obstetrician 63-74 %
- Delivery Physician (2006-2016)
  - Family Physician 16-23 %
  - Obstetrician 77-84 %
- Teaching Hospital
  - Royal College Ob/Gyn PGY1-3
  - Family Med PGY1, Clinical Clerks
  - UNB Nursing

SJRH Facility Characteristics

- Dedicated OB and FP for the day
- Dedicated Anesthesia 08:00-16:00h (Mon-Fri)
  - Epidural rates: Spontaneous Labour 50+ %
    Induced Labour 70+ %
- OR in the Labour and Birth Unit
- Labour & Birth Nurses do the OR
- Birth rate going down 1700 in 2006, 1500 now
  - ? Emigration of healthy population
- Maternal Age and Obesity going up!

SJRH Perinatal Database

- Started in 2006
- HR abstraction of data set to the 3M program used for CIHI data collection (expanded set)
- Fiscal 2006/07 to 2013/14 13,379 Deliveries

- Problems:
  - No one dedicated to manage it
  - No data quality analysis

SOGC COMMITTEE OPINION

No. 281, October 2012

Classification of Caesarean Sections in Canada: The Modified Robson Criteria

This committee opinion has been prepared by the Maternal Fetal Medicine Committee, reviewed by the Clinical Practice Obstetrics Committee, and approved by the Executive and Council of the Society of Obstetricians and Gynaecologists of Canada.

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Abstract

Objective: To advocate for the use of a common classification system for Caesarean section across Canada.

Options: A variety of clinical parameters for classification were considered.

Outcomes: Consideration of a common system for classifying Caesarean section.

Evidence: Studies published in English from 1976 to December 2011 were retrieved through searches of Medline and PubMed, using appropriate controlled vocabulary and key words (Caesarean section, vaginal birth after Caesarean, classification). Results were restricted to systematic reviews, randomized control trials/controlled clinical trials, and observational studies. Grey (unpublished) literature was identified through searching the web sites of health technology assessment and health technology assessment-related agencies, clinical practice guideline collections, clinical trial registries, and the web sites of national and international medical specialty societies.

Values: The studies reviewed were classified according to criteria described by the Canadian Task Force on Preventive Health Care, and the recommendation for practice ranked according to this classification (Table 1).

Sponsors: The Society of Obstetricians and Gynaecologists of Canada.

Recommendation

Modified Robson criteria should be used to enable comparison of Caesarean section rates and indications. (III-B)

Modified Robson Criteria – SOGC 2012

Group 1: Nullipara, Singleton, Cephalic, ≥ 37 wks

- Spontaneous labour

Group 2: Nullipara, Singleton, Cephalic, ≥ 37 wks

A. Induced
B. Cesarean Section before labour

Modified Robson Criteria – SOGC 2012

Group 3: Multipara, Singleton, Cephalic, ≥ 37 wks

- Spontaneous labour

Group 4: Multipara, Singleton, Cephalic, ≥ 37 wks

A. Induced
B. Cesarean Section before labour

Modified Robson Criteria – SOGC 2012

Group 5: Previous Cesarean, Singleton, Cephalic, ≥ 37 wks

A. Spontaneous labour
B. Induced
C. Cesarean Section before labour

Modified Robson Criteria – SOGC 2012

Group 6: All nulliparous breeches

A. Spontaneous labour
B. Induced
C. Cesarean Section before labour

Group 7: All multiparous breeches

(including those with previous Cesarean Section)

A. Spontaneous labour
B. Induced
C. Cesarean Section before labour

Modified Robson Criteria – SOGC 2012

Group 8: All multiple pregnancies

Group 9: All transverse or oblique lies

Group 10: All singleton, cephalic pregnancies < 37 wks

(including those with previous Cesarean Section)

A. Spontaneous labour
B. Induced
C. Cesarean Section before labour

Rank contribution of Robson groups to overall CS rate – 5 provinces

1. Nulliparous, singleton, cephalic, term, spontaneous labour **#3**
2. Nulliparous, singleton, cephalic, term, induced or CS before labour **#2**
3. Multiparous, singleton, cephalic, term, without a previous CS, spontaneous labour
4. Multiparous, singleton, cephalic, term, without a previous uterine scar, induced labour or by CS before labour
5. Multiparous, singleton, cephalic, term, with a previous CS **#1**
6. Nulliparous, singleton, breech
7. Multiparous, singleton, breech
8. Multiple pregnancy (twins or higher-order multiples)
9. Singleton, transverse or oblique lie
10. Singleton, cephalic, pre-term

All remaining records that could not be classified due to missing information on one or more of the following variables: presentation, parity, gestational age, type of labour or previous cesarean.

#1 Largest contribution to CS rate

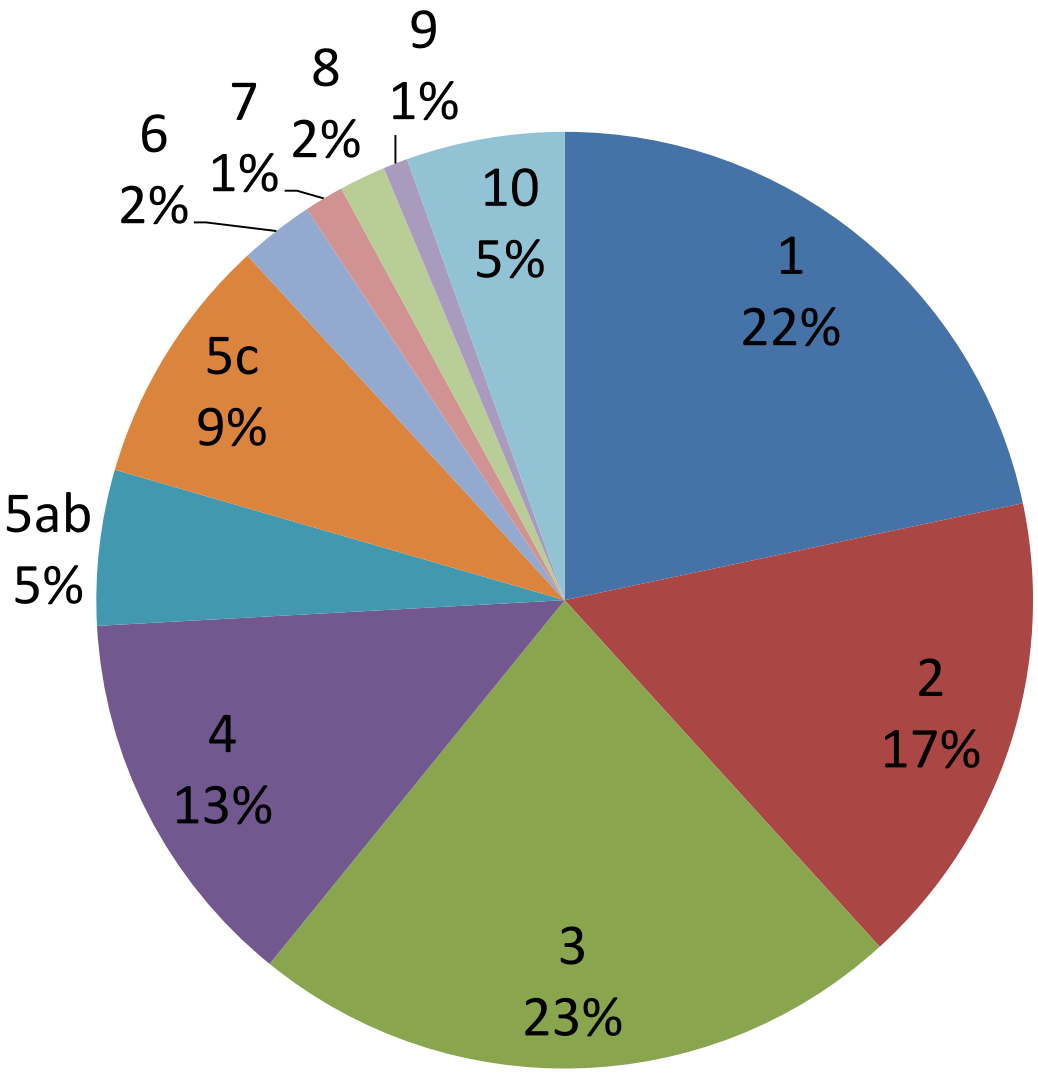
Robson Group 5 - previous CS and a term, singleton, cephalic pregnancy

CS rate

- 2010-11: 76.1% in AB to 89.9% in NL
- 2007-8 to 2010-11: decreased slightly other than in ON showed slight increase

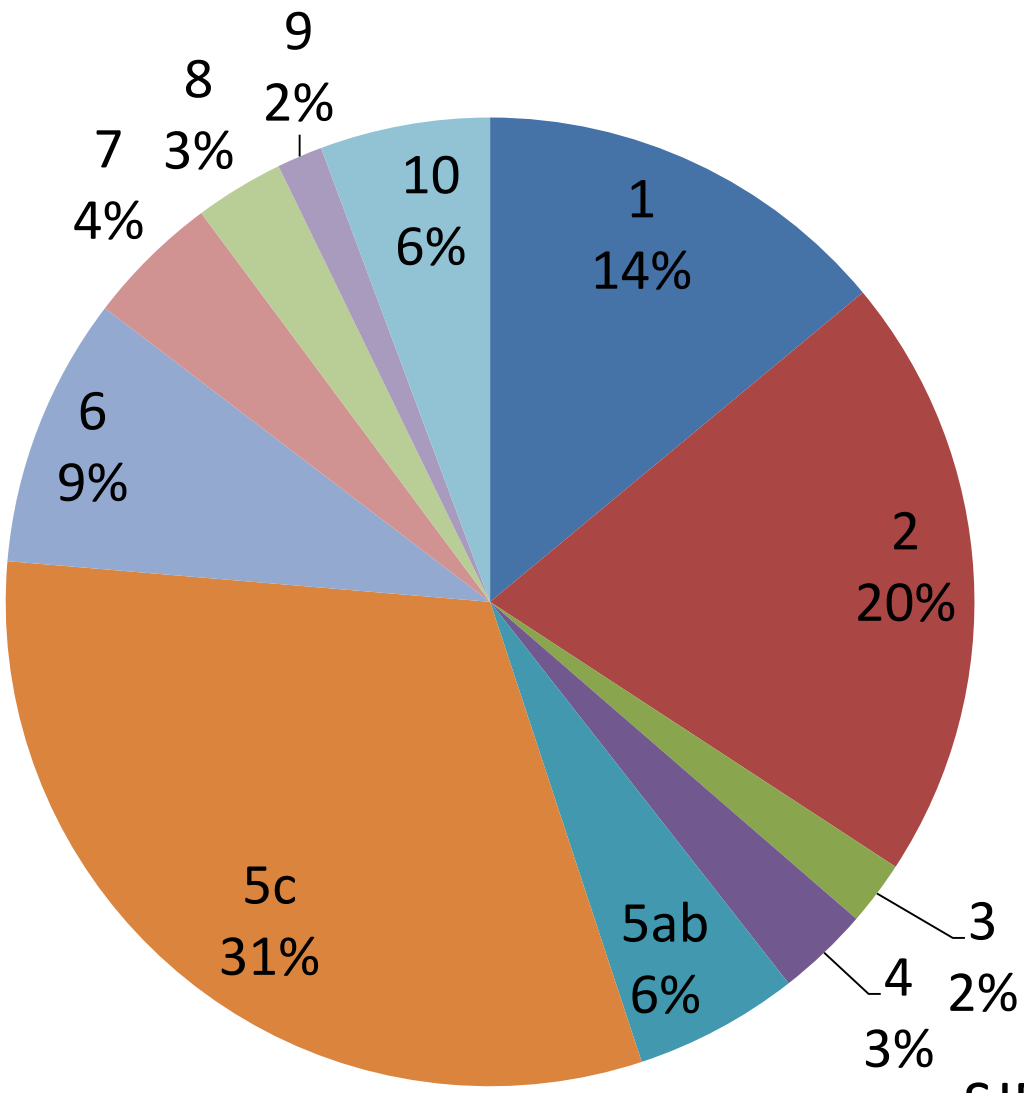
- Accounting for 11.3% of all deliveries

Percentage of all Deliveries by Robson Grouping



SJRH 2006-2014

Percentage of all Cesareans by Robson Grouping



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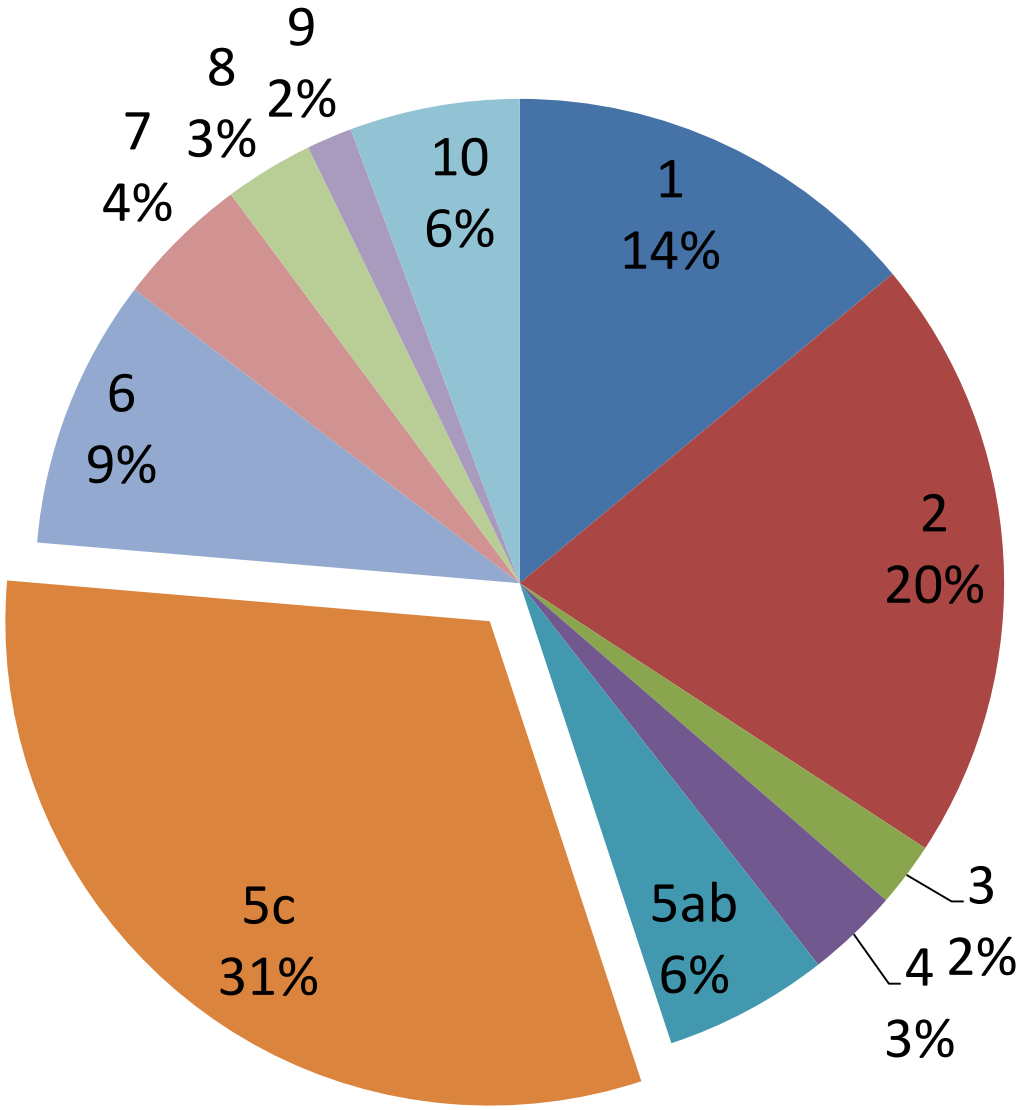


Robson Group 5

- 14.0% of all Deliveries
- 61.8% have elective CS (Group 5C)
- Contributes 31.4% of all CS

SJRH 2006-2014

Group 5 (Previous Cesarean Section)

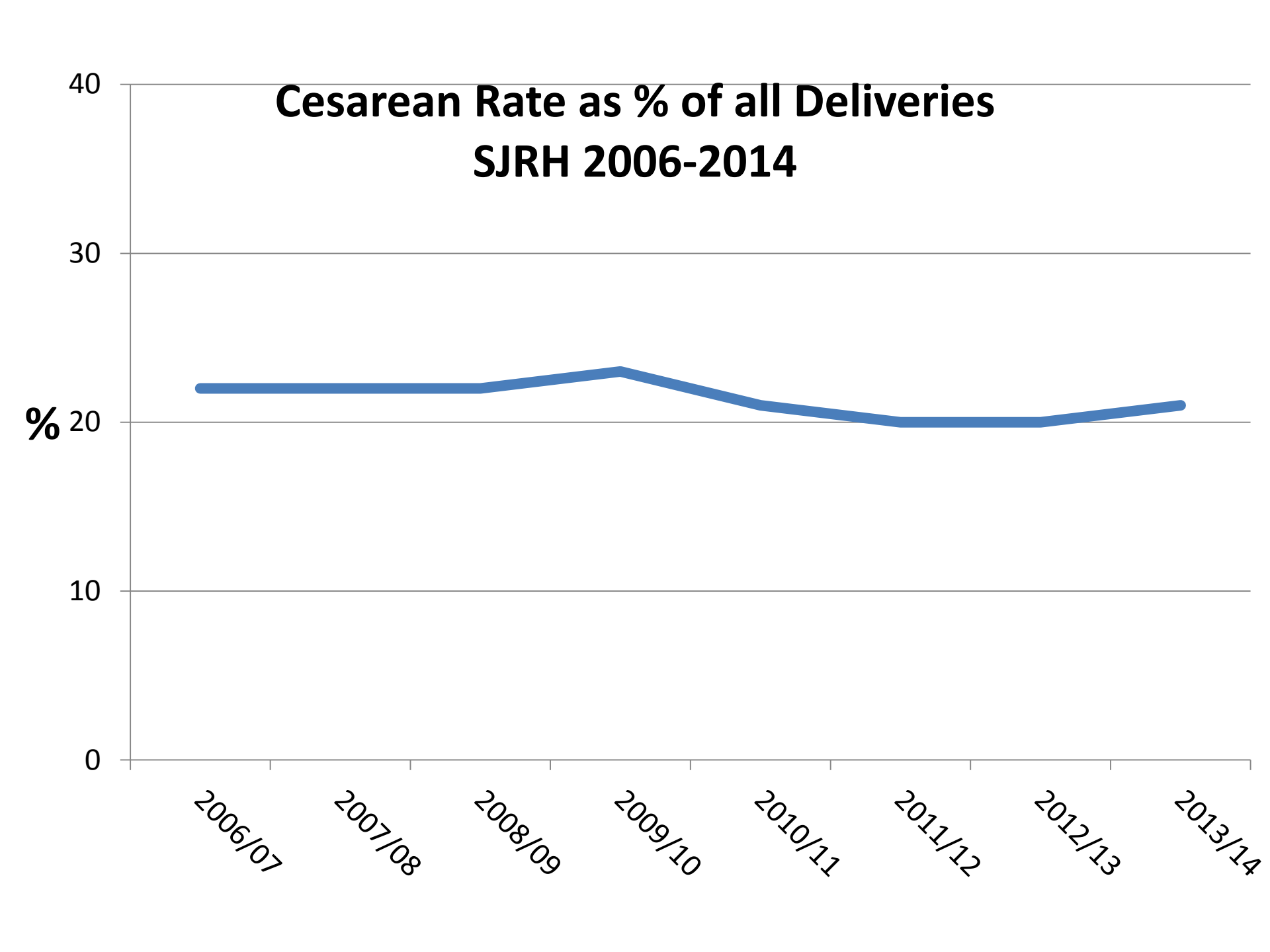
- 14.0% of all Deliveries
- 61.8% elective CS (Group 5C)
  - Contributes 31.4% of all CS
- 38.2% have opportunity to labour
  - Successful VBAC 71.8%
  - Overall VBAC Rate 27.4%

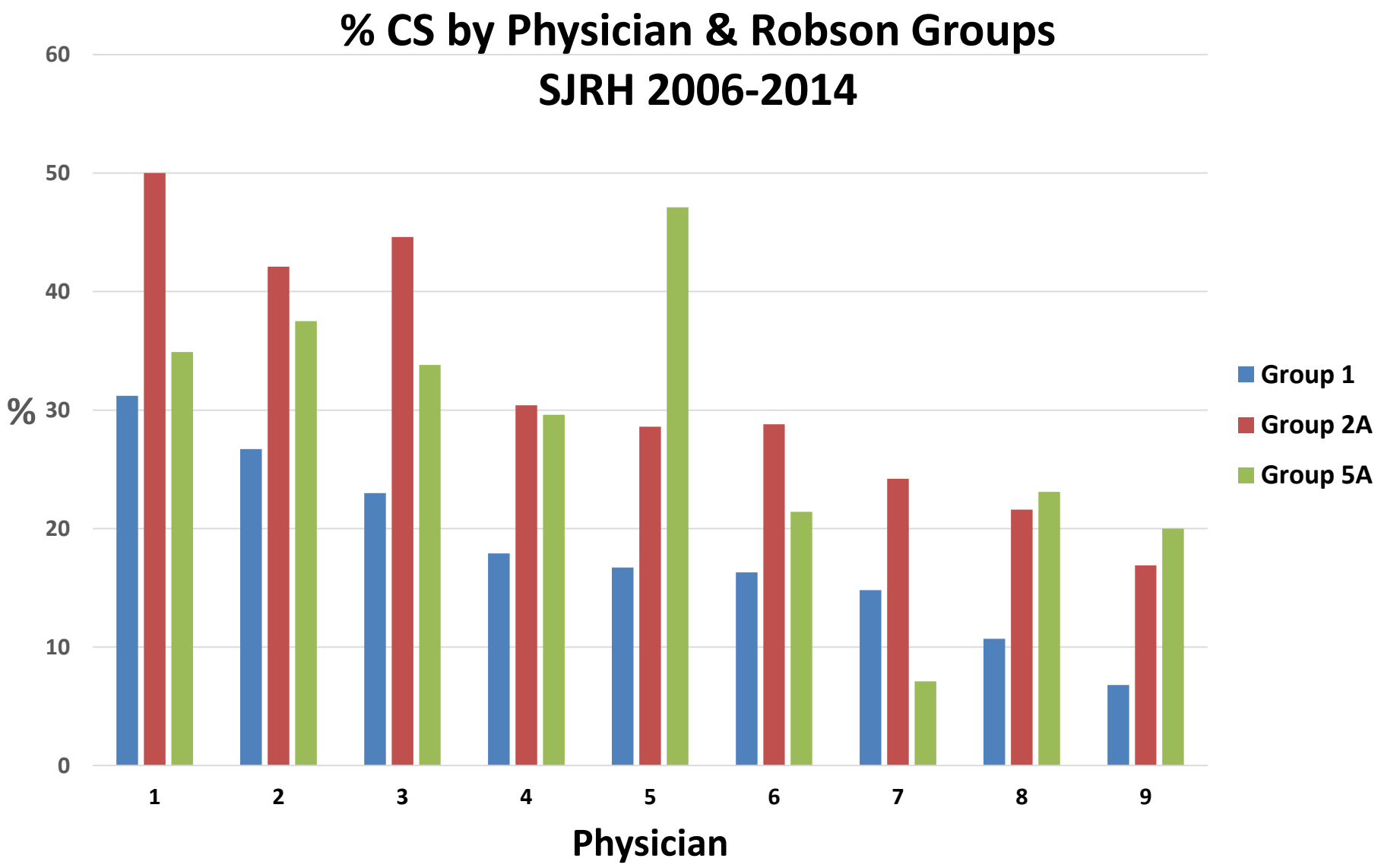
    (% Vaginal Deliveries of all Previous CS)

SJRH 2006-2014

Table 2.3: Crude VBAC Rate, VBAC Attempt Rate and VBAC Success Rate, by birthing hospital, New Brunswick, 2015/16

Location	VBAC Deliveries by Birthing Hospital		
	Crude VBAC Rate	VBAC Attempt Rate	VBAC Success Rate
Campbellton	0.0%	0.0%	NA
Chaleur	NR	10.0%	NR
DECH	11.4%	16.9%	67.5%
CHU Dumont	11.3%	16.9%	66.7%
Edmundston	19.6`%	26.1%	75.0%
Miramichi	NR	12.8%	NR
TMH	7.7%	11.6%	66.7%
SJRH	26.4%	35.0%	75.4%
URVH	NR	NR	NR


Cesarean Rate as % of all Deliveries
SJRH 2006-2014
40
30
20
10
0
%
2006/07
2007/08
2008/09
2009/10
2010/11
2011/12
2012/13
2013/14


% CS by Physician & Robson Groups
SJRH 2006-2014
60
50
40
30
20
10
0
%
1
2
3
4
5
6
7
8
9
Physician
Group 1
Group 2A
Group 5A

What does OB-9 do?

1. When do you rupture membranes?
   - Active labour (3-4 cm AND changing cervix)

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   - Active labour

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1. When do you rupture membranes?
   - Active labour (3-4 cm AND changing cervix)
2. When do you offer/allow epidural?
   - Active labour
3. When do you augment with oxytocin?
   - Active labour is established
   - More likely to send home if 3-4 cm
   - Lack of progress 2-4 hours
   - Use of IUPC

What does OB-9 do?

4. Do you encourage ambulation?
   - No, maybe if they are trying to avoid epidural

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5. When do you start pushing?
   - Full dilatation AND
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   - No, maybe if they are trying to avoid epidural
5. When do you start pushing?
   - Full dilatation AND
   - When there is a good urge to push
6. How long do you wait in the 2nd Stage
   - 2 hr active pushing and no progress
   - Longer if not pushing or if making progress
   - Spend a lot of time in the room coaching (Some nurses are less effective at coaching)

What does OB-9 do?

7. How do you manage malpresentation?
   - Manual rotation early
   - Know the position at 8 cm in a primip
   - Try very hard to rotate, even over a number of contractions, with pushing to achieve descent as OA
   - Rarely do C/S for “Arrest in 2nd Stage, OP”

What does OB-9 do?

8. How do you manage analgesia?
    - Whatever works:
        - Morphine early
        - Fentanyl late
        - No epidural until in active labour

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9. When do you induce term PROM, GBS neg?
    - Give at least a full 24 hr from ROM
    - If in the evening, will do NSM at 24 hr and induce the following morning (could be 36 hr)

What does OB-9 do?

Nursing observations:

- Corroboration of lack of interventions until active labour established
- Very “hands on” with the patients
  - actively coaches
  - early manual rotation of OP or OT
- Higher tolerance for Atypical FHR
  - less likely to run to the OR for a bradycardia episode that has recovered or is recovering
  - Nurses not uncomfortable with this

What does OB-9 do?

My observations:

- Agree with OB-9 and the nurses observations
- OB-9 creates a culture of vaginal birth as the anticipated goal
  - Great sense of accomplishment and personal pride in achieving vaginal birth
  - Feels a sense of failure to do a Cesarean in labour
- Newborn outcomes have not been a concern (anecdotal)

Conclusions

- Robust perinatal database is needed
- Analysis by Robson Grouping
  - Helpful to identify physician (and Care Team) specific differences
  - Identify impact of facility and physician specific practices regarding Induction and VBAC
  - Starts the conversation and directs future enquiry

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- Robust perinatal database is needed
- Analysis by Robson Grouping is helpful to identify facility & physician specific differences
- There are physician specific differences!
  - Reaction to FHR events?
  - Labour management?
  - Opportunity for VBAC?
  - Patience?

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- There are physician specific differences!
  - Reaction to FHR events?
  - Labour management?
  - Opportunity for VBAC?
  - Patience?
- Important to avoid the 1st Cesarean
- We need to look at Neonatal outcomes