

# Cesarean Birth In B.C. Conference Jan. 24-26, 2008

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Review of Evidence on Strategies for  
Reducing the Cesarean Birth Rate  
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# Is it possible to change practice?

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- What works for general medical practice?

Ineffective: mailing, didactic,  
traditional CME

Mixed effects: opinion leaders, audit and  
feedback, CQI

Effective: manual or computerized  
reminders, academic detailing,  
multifaceted strategies



# Is it possible to change obstetric practice?

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- Different forces and variables at work in obstetric practice
- Specific challenges in each clinical environment
- Identification of specific barriers to change to adapt interventions to that environment

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# Is there evidence?

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*Chaillet and Dumont, BIRTH 34:1  
March 2007*

- Metanalysis to assess the effectiveness of interventions for reducing the Cesarean section rate and impact on maternal and perinatal mortality and morbidity
- 10 included studies, evaluated according to strict criteria
- Total number of women 776,909 with 686,334 from randomized control trials

# What is the evidence?

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- Significant reduction of cesarean rates was found by meta-analysis  
Pooled RR=0.81 (0.75, 0.87)
- Audit and feedback, quality improvement (except for active management of labour) and multifaceted strategies showed higher effects
- Identification of barriers led to more positive effect

# Let's take a closer look....

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- *Robson et al. 1996 Am J Obstet Gynecol Vol 174, No 1, Part 1*
- New guidelines ( modified active management), monthly medical audit, interventions in antenatal care with women
- Reduced rates in spontaneously labouring nulliparous women with singleton cephalic term pregnancies



*Robson et al. 1996 Am J Obstet  
Gynecol Vol 174, No 1, Part 1*

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- New guidelines ( modified active management), monthly medical audit, interventions in antenatal care with women
- Reduced rates in spontaneously labouring nulliparous women with singleton cephalic term pregnancies ( drop from 7.5% to 2.4%)



*Robson et al. 1996 Am J Obstet  
Gynecol Vol 174, No 1, Part 1*

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- Decreased rate in multiparous women with a scarred uterus and a singleton, cephalic term pregnancy- no intervention( dropped from 74% Csection rate to 56%)
- The Hawthorne effect
- Role for subsequent projects and regular peer review

# *Poma. June 1998 Obstet & Gyne*

## *Vol.91, No.6*

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- Labour management and delivery guidelines, review of every Cesarean that did not meet, confidential individual feedback, 24 hour in-house coverage, goal of 15% Cesarean delivery rate in a community hospital
- Decrease of total delivery rate from 22.5% to 18.6% ( primary rates dropped from 13.5% to 10.6% and repeat cesarean delivery dropped from 9.0% to 7.9%)



*Poma. June 1998 Obstet & Gyne*  
*Vol.91, No.6*

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- Increased use of oxytocin and vacuum assisted deliveries
- Rates decreased despite increasing epidural rates ( 20 to 24%)
- No adverse effects
- Stress the commitment of attending physicians, service improvement and detailed feedback



*Althabe, F et al. June 2001, Lancet  
Vol.363*

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- Latin American study which included 36 hospitals in Argentina, Brazil, Cuba, Guatemala and Mexico
- Matched and randomized to control or intervention: mandatory second opinion
- 8583 second opinions: 4% disagreed; changed the intervention 1.5% leading to a relative rate reduction of 7.3%



*Althabe, F et al. June 2001, Lancet  
Vol.36*

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- Higher effect in cesareans indicated for dystocia and fetal distress
- Mandatory second opinion well accepted by both women and physicians



*Liang, W et al Journal of Chinese Medical Association, June 2004, Vol.67, No.6*

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- Tertiary hospital in Taiwan:  
selective trial of labour (promotion of VBAC) and cesarean surveillance system
- Second opinion by two consultants
- Weekly presentation of all cesarean births by the Chief resident,  
presentation of MD rates to the physician group

*Liang, W et al Journal of Chinese Medical Association, June 2004, Vol.67, No.6*

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- Total Cesarean rate dropped from 27.0 to 30.7%, primary from 21.3% to 17.8% and repeat cesarean rate from 15.7 to 12.9%
- Recommend the promotion of VBAC and adherence to guidelines



*Frigoletto, FD et al. Sept. 1995.  
N.Eng.Jrnl.Med.Vol.333, No.12*

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- RCT of 1934 women in Boston: usual-care and active management of labour (childbirth classes, strict criteria for diagnosis, standardized management of labour with ARM, high dose oxy and one-to-one nursing)
- No reduction in Cesarean section rate: slightly shorter labour and reduced maternal fever



*Homer, CSE et al. Jan.2001, BJOG  
108*

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- Australian study of 1089 women randomized to standard hospital care ( multiple providers for antepartum and intrapartum care) or community based care by a group of midwives supported by an obstetrician
- Ethnically diverse community



*Homer, CSE et al. Jan.2001, BJOG  
108*

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- Cesarean birth rates 13.3% in the community-based group and 17.8% in the control group
- No other differences in clinical outcomes
- Similar design to South Community Birth Program



*Bickell NA, et al May 1996. Obstet. And Gyne. Vol.87, No.5, Part I*

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- New York State between 1989 and 1993: 45 of 165 hospitals with delivery services
- Joint specialty review of three or four physician and nurse reviewers: interview and review of 100 labour and delivery records
- Decrease in total cesarean birth rates and increase VBAC but not statistically significant



*Bickell NA, et al May 1996. Obstet.  
And Gyne. Vol.87, No.5, Part I*

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- Represented a collaboration between the state health department and a specialty society
- Discussion suggests that there should have been coordinated and sustained feedback feedback and increased hospital and obstetrician interaction



*Lagrew DC, Morgan MA. Jan. 1996. Am J. Obstet. Gyne. Vol.174, No.1, Part 1*

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- Analysis of delivery statistics from a private hospital in Southern California
- Outline of a program: confidential provider feedback, more aggressive laboring techniques, other guidelines



*Lagrew DC, Morgan MA. Jan. 1996. Am J. Obstet. Gyne. Vol.174, No.1, Part 1*


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- Cesarean birth rate fell from 31.1% to 15.4%
- Decreased cesareans for CPD and fetal distress
- Increase in trial and successful vaginal birth after cesarean delivery
- No change maternal or newborn morbidity

*Socol ML et al. June 1993. Am. J. Obstet. Gynec. Vol. 168, No. 6, Part I*

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- Private university hospital
- VBAC encouraged, confidential feedback of Cesarean birth rates, active management of labour
- Total rate drop from 27.3% to 16.9%
- Primary rate drop from 18.2% to 10.6%



*Socol ML et al. June 1993. Am. J. Obstet. Gyne. Vol. 168, No. 6, Part I*

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- Repeat rate drop from 9.1% to 6.4%
- Stressed alternative strategies that can be adapted to individual institutions



## Lopez-Zeno JA et al, Feb.1992, NEJM Vol.326.No.7

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- RCT for active and traditional management
- Active management included ARM, Aggressive oxy ( higher dose)
- Active management Cesarean birth rate 10.5% vs 14.1% in traditional approach
- No increase in maternal or neonatal morbidity



# Other Initiatives

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- IHI Breakthrough Series in the U.S. in the early 1990s
- Information and evidence to improve care exists but is not implemented
- Led by Bruce Flamm: prevent early admission for false labour, avoid unnecessary induction, TOLAC, review of elective repeat CS, increase nurse awareness of their impact. Management of the pain of labour, creation of will for change



# IHI Breakthrough Series

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- 28 organization participating achieved reduction of Cesarean birthrates of 30% or more
- No longer active
- Recent Communication Peter Chournery: “We have “normalized the deviance” in US hospitals for a lot of reasons- malpractice being one but in collaboration with many others”.



# BC Report of the Cesarean Section Task Force 1993

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- Legalization of Midwifery
- Practice Guidelines
- Otherwise no change in Cesarean Birth rates



# First Births Project: BC Women's

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- Modelled after the Breakthrough Series
- 1995: eliminate unnecessary induction of labour, reduce the use of electronic fetal monitoring, decrease the admission of women in the latent phase of labour and manage pain appropriately



# First Births Project: BC Women's

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- Initial decreases in Cesarean Birth rates from 22 to 18% but not maintained
- Induction rates were successfully lower through a peer review process and remain one of the lowest in the country
- Reasons for failure? Multifactorial?  
Lack of data, lack of admin support, failure of buy-in from all team members



# Ontario Women's Health Council : Attaining and Maintaining best practices in the Use of Cesarean Section 1999

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- Critical factors in organizations with low Cesarean Birth rates
- Attitude and culture of birth, Program organization, knowledge and information, connections and networking, and ability to make change
- No impact on Cesarean birth rates



# Can we change practice: Summary

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- Task force reports, clinical guidelines, single discipline initiatives will not work



# Strategies for Reduction of Cesarean Birth Rates: Summary

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Features of successful strategies:

1. Multifaceted strategies that use audit and feedback
2. Sensitivity to local barriers
3. Commitment of all team members and hospital administration
4. Accessible and timely data