

ATTAINING AND
MAINTAINING
BEST PRACTICES
IN THE USE OF
CAESAREAN SECTIONS

An Analysis of
Four Ontario Hospitals

REPORT OF THE CAESAREAN SECTION
WORKING GROUP OF THE



JUNE 2000

ATTAINING AND MAINTAINING BEST PRACTICES IN THE USE OF CAESAREAN SECTIONS

AN ANALYSIS OF
FOUR ONTARIO HOSPITALS

June 2000

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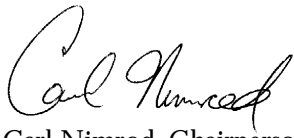
The Ontario Women's Health Council is fully funded by the Ontario Ministry of Health and Long-Term Care. This report does not necessarily reflect endorsement by the Ministry of Health and Long-Term Care.

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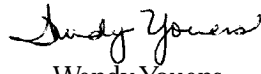
Dear Ms. Pepino:

The Caesarean Section Working Group was assembled at the request of the Ontario Women's Health Council to identify best practices in the use of caesarean sections. Our multidisciplinary team has now concluded its deliberations and hereby respectfully submits its findings and recommendations.

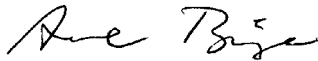
Yours very truly,



Carl Nimrod, Chairperson



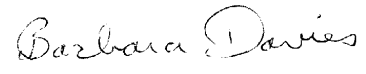
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EXECUTIVE SUMMARY

Throughout the 1970s and early 1980s, caesarean section¹ rates in Canada and the United States rose sharply, compared to European countries. In the 1980s, both Canada and the United States took steps to reduce inappropriate use of caesarean sections and, as a result, Canada's and Ontario's caesarean section rate began to decline steadily through the late 1980s and early 1990s. However, beginning in 1994, caesarean section rates in Canada and Ontario began to rise significantly.

Most of the increase was for indications, such as a previous caesarean section and dystocia (prolonged labour) that can often be managed without resorting to caesarean section. Concerned about this trend and its impact on both women's health and health care costs, the Minister of Health and Long-Term Care asked the Ontario Women's Health Council to develop an action plan to decrease current caesarean section rates in the province.

To fulfill its task, the Ontario Women's Health Council established a Caesarean Section Working Group and identified four representative Ontario hospitals that had been able to achieve low caesarean section rates throughout the period when many other hospitals saw their rates rise: Woodstock General Hospital (rural hospital), Scarborough Hospital - Grace Division (Level 1), St. Catharines General Hospital (Level 2) and St. Joseph's Health Centre in London (Level 3.) The Group's task was to examine the practices at these four hospitals and identify those factors that made it possible for them to attain and maintain low caesarean section rates.

FINDINGS

Based on the experience of these four hospitals, the Working Group determined that it is possible for maternal/newborn programs in Ontario to maintain a low caesarean section rate over time — regardless of their size, location, the level of care they provide or the population they serve.

However, achieving this goal requires the right attitude, focus, leadership, teamwork, support, and a personal and financial commitment to best practice and continuous quality improvement. Hospitals with a low caesarean section rate have been able to achieve this goal in large part because they embrace the belief that supportive labour care and the least intervention possible create the best opportunity for a good birth experience. They have also been diligent in their efforts to set targets for caesarean section rates, monitor their progress, and assess and adjust their practices to achieve their targets.

CRITICAL SUCCESS FACTORS

Through its observations and study of the four hospitals, the Working Group identified 12 critical success factors for attaining and maintaining a low caesarean section rate.

The first three have to do with the ATTITUDE the hospitals take towards childbirth and the care they provide:

- ◆ pride in a low caesarean section rate
- ◆ a “culture” of birth as a normal physiological process
- ◆ a commitment to one-to-one supportive nursing care during active labour.

These attitudes and beliefs reflect a philosophy of labour and childbirth that shapes the hospitals' practice and ensures that women have every opportunity for a normal delivery.

The next three critical success factors have to do with how the programs are ORGANIZED and how staff work together to achieve goals. In all four hospitals, the Working Group observed:

- ◆ strong team leadership
- ◆ effective multidisciplinary teams
- ◆ timely access to skilled professionals.

¹ This report uses the term “caesarean section” rather than alternative terms, such as “caesarean birth” or “caesarean delivery.” Caesarean section is defined by the Institute for Clinical Evaluative Sciences (ICES) as surgery involving the delivery of the fetus through an incision in the uterus. This report refers specifically to the surgical procedure.

When maternal/newborn staff work together, have strong consistent leadership and have ready access to the skills they need, they have the support they need to provide the best possible care. They can set high goals and achieve them.

The next three critical success factors reflect the vital importance of KNOWLEDGE AND INFORMATION in an effective best practice program. All four sites had:

- ◆ a strong commitment to evidence-based practice
- ◆ programs to ensure continuous quality improvement (CQI)
- ◆ an accessible and interactive database.

The four hospitals used information to help them make decisions and to continuously adapt and improve their programs to reflect new research and knowledge.

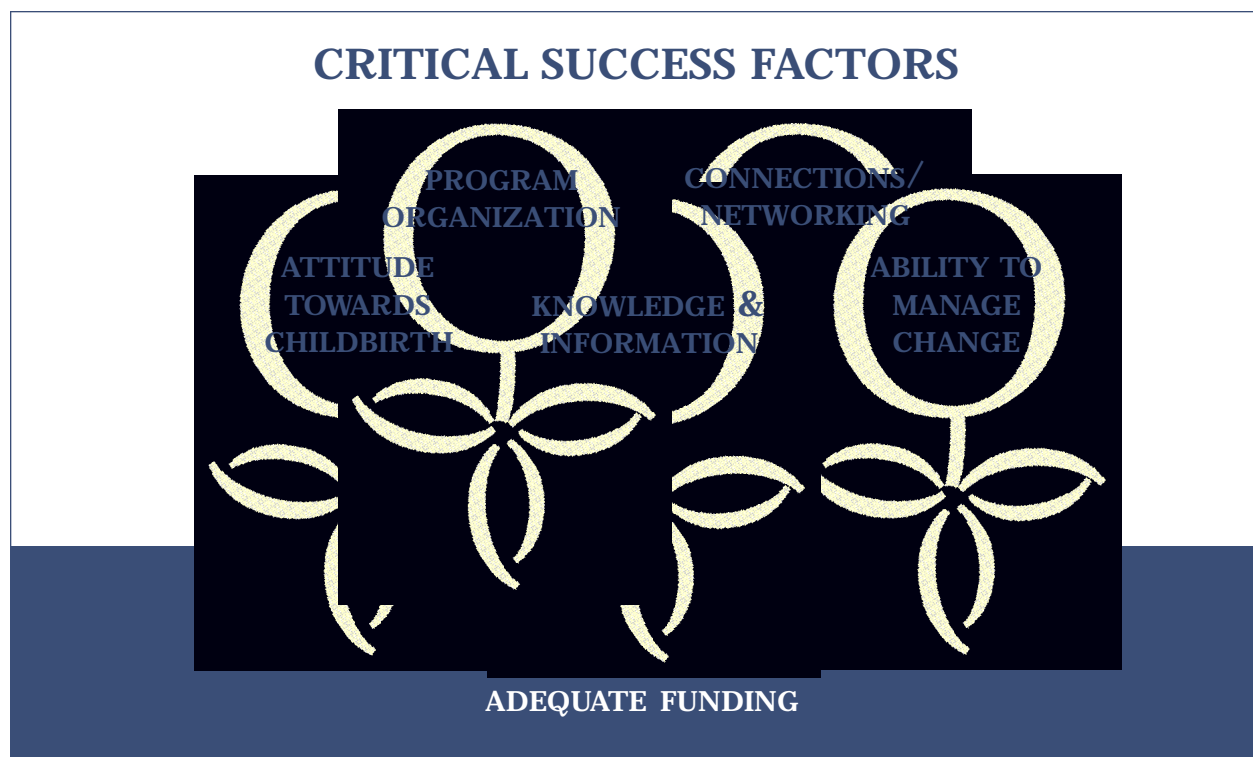
Two of the critical success factors reflected the need for CONNECTIONS, for both patients and staff. Staff

in the four sites worked hard to:

- ◆ co-ordinate labour and delivery services with other maternal/newborn services so women would have continuity in their care and in their contact with the hospital
- ◆ develop networks with peers and organizations in their field, so they could stay up-to-date, share information and avoid becoming isolated.

This approach helps ensure high quality care and nurtures a continuous learning environment.

The last factor in the success and effectiveness of a maternal/newborn program is its ability to MANAGE CHANGE. Change has become a norm in the health care system. Only those organizations that can adjust — by monitoring performance and adjusting their strategies — will be resilient enough to continue to attain and maintain goals, such as a low caesarean section rate, through times of significant change.



THE NEED FOR ADEQUATE FUNDING

While maternal/newborn programs must develop all these critical success factors to ensure best practice, it is clear that they must also have adequate funding.

To achieve their desired outcomes, all four hospitals dedicated additional dollars to their maternal/newborn program. For example, the hospitals allocated funds — either from within their budgets or from other sources — to:

- ◆ provide one-to-one supportive nursing care during active labour
- ◆ support the initial orientation and ongoing training of staff in the principles of supportive care
- ◆ renovate rooms and purchase furniture and equipment that creates a more welcoming and calming environment
- ◆ support CQI principles and processes.

As part of their CQI programs, staff of the maternity programs were aware of where/how their dollars were spent, and they made choices to reallocate funds from other components of care (e.g., from postpartum care to one-to-one supportive care during labour).

In some cases, hospitals reallocated funds from within their global budgets or closed inpatient beds and used the freed-up funds to support their maternal program. In others, they took advantage of special funding sources, such as one-time provincial funding for nursing projects, research grants, designated donations and creative one-time funding arrangements.

According to the hospitals, reallocating funds to the maternal/newborn program was no small task. It took special effort on the part of many individuals. The leaders of each of the maternal/newborn programs advocated for additional financial support and actively sought out possible sources of funding. In all cases, senior management of the respective organizations supported their initiatives and encouraged evidence-based/CQI activities. As a result, the maternal/newborn programs received priority consideration.

During the review, it was apparent that all four hospitals made active, concerted efforts to ensure their maternal/newborn programs had the funding required to support best practice. However, it was beyond the mandate of the Working Group to assess whether, in providing financial resources to support best practice in active labour care, hospitals went into debt or sacrificed other components of the maternity program (e.g., postpartum care) or other programs/activities within the hospital.

In short, we do not know what impact their decision to support maternal/newborn care had on the bottom line, or what it cost the organizations in terms of other programs and services. Nor do we know whether the hospitals can continue to maintain these levels of funding. All four programs appear to work within a financial accountability framework that requires them to stay within their budget allocation. Despite their success so far in acquiring the resources they need, the sites expressed concern about their ability to obtain the financial resources required to sustain the momentum and continue ongoing training.

It is not reasonable to assume that all hospitals will be able to negotiate the creative funding arrangements that the best practice hospitals used to support their maternal programs, nor is it appropriate for best practice maternal care to be funded in this way. It is essential that maternal/newborn programs be funded at a level that supports best practices, including one-to-one supportive nursing care.

ENSURING BEST PRACTICE

However, that said, money alone is not enough. A hospital's success in attaining and maintaining best practice in the use of caesarean sections will depend on a combination of the critical success factors described above.

That is why it is crucial that any hospitals that have the financial resources within their budget allocations to provide one-to-one supportive nursing care

during labour and are not achieving low caesarean section rates take steps to identify any problems in attitude or organization that may be affecting their ability to attain best practice. The hospitals can then work to develop the right mix and combination of critical success factors and program features that will help them succeed.

The goal of reducing inappropriate or unnecessary use of caesarean sections is achievable. The four best practice hospitals prove that it is possible to attain and maintain a low caesarean section rate, regardless of the level of care they provide or the population they serve. It is even possible to maintain these rates despite the dramatic changes in hospital organization and staffing that have occurred over the past few years.

Our research also shows that units that work towards and achieve the goal of a low caesarean section rate are rewarded with a proud, motivated staff who possess the confidence and curiosity to continuously evaluate their performance and look for opportunities to improve. In fact, staff in the four hospital units believe that, by working together, they have the potential to reduce their caesarean section rates even more, with no negative impact on health outcomes for mothers and their babies.

RECOMMENDATIONS

Based on its observations, the Working Group recommends a number of steps that all maternal/newborn programs in Ontario can take to attain and maintain low caesarean section rates and improve maternal/newborn care. The following is a summary of the key recommendations. The full report includes a series of concrete, detailed recommendations under each of these headings.

1. Take Pride in a Low Caesarian Section Rate

The leadership of the hospital and the maternal/newborn program should recognize and believe that a low caesarean section rate is a key indicator of the quality and success of their program, and they

should take pride in achieving a low caesarean section rate and maintaining it over time.

2. ADOPT A PHILOSOPHY OF BIRTH AS A NORMAL PHYSIOLOGICAL PROCESS

Maternal/newborn units should adopt and embrace a philosophy of birth as a normal physiological process and an experience with far-reaching implications for a woman's life, and then support this philosophy with specific policies and goals.

3. PROVIDE ONE-TO-ONE SUPPORTIVE NURSING CARE DURING LABOUR

All women in active labour in Ontario should receive one-to-one supportive nursing care.

4. ENLIST/NURTURE STRONG LEADERS

Maternal/newborn programs should enlist and nurture strong leaders who are committed to evidence-based best practice, support continuous quality improvement, and possess the desire and capacity to move new initiatives forward.

5. DEVELOP AN EFFECTIVE MULTI-DISCIPLINARY TEAM

Maternal/newborn programs should develop a high functioning multidisciplinary team approach, in which the input of all members is considered and members share common goals, values and a commitment to best practices for caesarean sections. All formal and informal teams that contribute to the maternal/newborn program — from the core clinical patient care team to the broader-based program management team — should adopt this team approach.

6. ENSURE TIMELY ACCESS TO SKILLED PROFESSIONALS

To reduce the tendency to resort to caesarean section when confronted with variations in normal pregnancy and labour, the maternal/newborn program should ensure that it has professionals who are highly skilled in obstetrical and paediatric care, including providing obstetrical analgesia, readily available.

7. IMPLEMENT EVIDENCE-BASED PRACTICE

Maternal/newborn programs should *accelerate* the process of implementing evidence-based practice guidelines, particularly those that have an impact on

caesarean section rates and devise an implementation strategy to ensure that new guidelines are incorporated into practice in a timely manner.

In particular, hospitals should adopt the following evidence-based policies and practices.

Dystocia: The decision to perform a caesarean section for dystocia should only be made in the active phase of labour, and after augmentation with oxytocin and the offer of analgesia.

Vaginal Birth After Previous Caesarean Section (VBAC): Labour is recommended for women with a previous low-segment transverse caesarean incision in the absence of any contra-indications for vaginal birth.

Fetal Surveillance: In the low-risk patient, intermittent auscultation is the preferred method for intrapartum fetal health surveillance.

Induction of Labour: Elective induction in the absence of maternal or fetal indications is not appropriate prior to 41 weeks gestation.

Epidural Anesthesia: Where possible, the administration of epidurals should be delayed until active labour.

8. IMPLEMENT CONTINUOUS QUALITY IMPROVEMENT (CQI)

Maternal/newborn programs should actively participate in continuous quality improvement initiatives designed to achieve/maintain low Caesarean section rates and provide the highest quality care for their clients.

9. DEVELOP A COMPREHENSIVE, ACCESSIBLE, INTERACTIVE DATABASE

Maternal/newborn programs should develop a current accurate, comprehensive, interactive database which is readily accessible to team members. The database must be capable of supplying timely and easily interpreted reports on caesarean section rates to respond to program inquiries and CQI initiatives.

10. ENSURE CONTINUITY AND COORDINATION OF MATERNAL/NEWBORN CARE

Maternal/newborn programs should review the full continuum of hospital services to assess their ability to affect the caesarean section rate.

11. MAKE CONNECTIONS THROUGH NETWORKING

Leaders and participants in maternal/newborn programs should develop links with peers and organizations committed to best practice initiatives, particularly in the area of caesarean section rates.

12. DEVELOP STRATEGIES TO MANAGE CHANGE

Hospitals undergoing significant change should develop a targeted strategy to ensure they will continue to implement best practice and achieve low caesarean section rates while the program is being restructured.

The Working Group also notes that hospitals will be more successful in implementing best practices when they have the support of the broader health care system. Therefore, the group makes the following general recommendation as well as other, more concrete suggestions.

13. PROVIDE SYSTEMATIC SUPPORT FOR BEST PRACTICE MATERNAL/NEWBORN PROGRAM

The broader health care system should provide the policy, funding, monitoring, education and research support that will help Ontario hospitals achieve and maintain low caesarean rates throughout the province.

In particular, the Ministry of Health and Long-Term Care should coordinate a discussion with the Joint Policy and Planning Committee (JPPC), ICES and best practice hospitals to identify the base line funding required to support best practices, including one-to-one supportive care.

CONCLUSION

The members of the Working Group would like to congratulate the Ontario hospitals that have been able to attain and maintain low caesarean section rates, and encourage these leaders in the field to continue to develop and share their knowledge and experience. We also challenge other maternal/newborn programs across the province to take action now to ensure that caesarean sections are used appropriately. We encourage Ontario hospitals and birthing centres to develop the attitudes, organizational structures, information, connections and change management skills that will allow them to match and possibly surpass the low caesarean section rates achieved in the four best practice hospitals analyzed for this project.

We also suggest that the approach used by best practice maternal/newborn programs, with the focus on evidence-based practice, multidisciplinary teams, patient-focused care and continuous quality improvement, could be a template for best practice programs in other aspects of health care.

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PREFACE

In December 1998, the Institute for Clinical Evaluative Sciences (ICES) released a technical report entitled *Caesarean Section Rates in Ontario: An ICES Practical Atlas Update*. The report showed a marked increase in caesarean section rates in Ontario, beginning in 1994.

In February 1999, the Honourable Elizabeth Witmer, Ontario's Minister of Health and Long-Term Care asked the Ontario Women's Health Council to review the ICES findings and develop an action plan to decrease current caesarean section rates in Ontario.

The Women's Health Council is an advisory body established December 8, 1998, by the Minister of Health and Long-Term Care. Its role is to:

- ◆ advise the Minister and key stakeholders on health issues affecting women
- ◆ advocate for improvements in women's health in Ontario
- ◆ promote women's health research, identify gaps and disseminate information on current research activities
- ◆ communicate its activities as widely as possible.

Members are drawn from the academic, research, treatment, public and community health sectors, as well as the corporate sector.

In response to the Minister's request, the Council assembled a team of opinion leaders, composed of an obstetrician, midwife, family physician, nurse and hospital administrator, and asked the team to visit four Ontario hospitals that had among the lowest cesarean section rates in the province (as identified by ICES). The purpose of the visits was to identify best practices and critical success factors that allow these hospitals to achieve their low rates of caesarean sections.

ACKNOWLEDGEMENTS

This report was prepared by the Caesarean Section Working Group of the Women's Health Council. Members of the interdisciplinary caesarean section Working Group were chosen based on recommendations from members of the Women's Health Council. All are opinion leaders in their respective fields. They include:

FAMILY PHYSICIAN

Anne Biringer MD, CCFP, FCFP

Assistant Professor, Dept. of Family and Community Medicine, University of Toronto

Family physician with an active obstetrical practice at Mount Sinai Hospital

Director, Family Practice Obstetrics programme and Co-chair, Maternal Newborn Team, Mount Sinai Hospital

Research interests: low risk maternity care, psychosocial health in pregnancy, Group B streptococcus in pregnancy

Instructor: ALARM - Advances in Labour and Risk Management, and ALSO - Advanced Life Support in Obstetrics

NURSE

Barbara Davies, PhD Nursing

Assistant Director, Graduate Program, School of Nursing, University of Ottawa

Research interests: strategies for the transfer of research results about fetal health surveillance guidelines into practice; won an award for best research paper in obstetrics from the Society of Obstetricians and Gynecologists of Canada for her research paper entitled *Evaluation of two methods for the transfer of fetal health surveillance guidelines into practice.*

OBSTETRICIAN

Carl Nimrod, MB, FRCSC (Chairperson)

Dr. Nimrod is the Chief of the Department of Obstetrics, Gynecology and Newborn Care at the new Ottawa Hospital. He is also Professor and Chair of Obstetrics and Gynecology at the University of Ottawa, and is a Maternal Fetal Medicine specialist in the Eastern Ontario Regional Perinatal Program.

Administrative interests: methods of incorporating research evidence into clinical practice.

MIDWIFE

Chris Sternberg, RM

Registered Midwife with Riverdale Community Midwives in downtown Toronto, who also teaches in the Midwifery Education Program at Ryerson Polytechnic University.

Special interests: counselling and education for women planning vaginal birth after caesarean; a midwifery care project for incarcerated women.

HOSPITAL ADMINISTRATOR

Wendy Youens, DHA, CHE

Vice President, North York General Hospital; Assistant Professor, University of Toronto

Hospital administrator with extensive experience in teaching, community hospitals and regional integrated health delivery systems.

Special interests: the determinants of health and capacity building of individuals and communities.

BACKGROUND

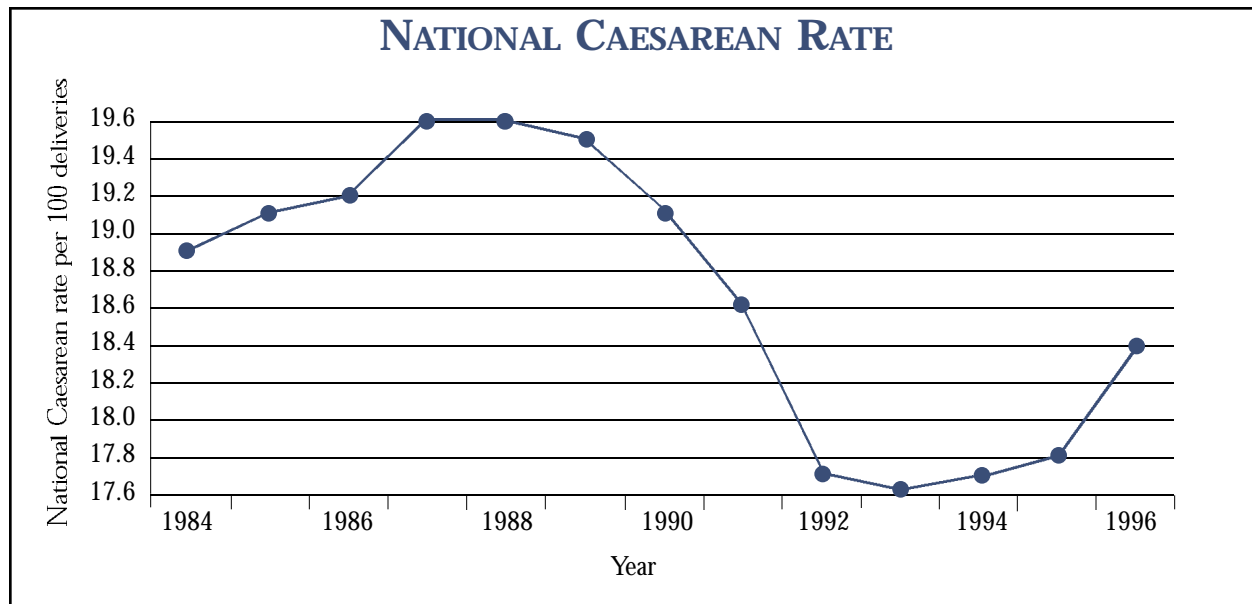
Throughout the 1970s and early 1980s, caesarean section¹ rates in Canada and the United States rose sharply. During this same period, European countries had substantially lower caesarean section rates, yet their maternal and perinatal mortality rates were comparable to those in Canada and the United States. This seemed to indicate that North America might be performing caesarean sections that were, in terms of the health of mother and child, unnecessary. These trends sparked both public and professional debate and, in the 1980s, both Canada and the United States developed consensus statements on the appropriate use of caesarean sections:

- ◆ In 1980, a National Institutes of Health (U.S.) Consensus Development Conference addressed the issues around the increasing caesarean rate in the U.S., and concluded that the current rates of caesarean section could be safely reduced without adverse effects on neonatal outcome (*NIH Conference Summaries*, 1981).
- ◆ In 1980, Minkoff & Schwarz studied the records of over 100,000 deliveries that took place at a U.S. hospital, and reached the same conclusion.
- ◆ In 1984, Anderson and Lomas articulated the

growing consensus that “the caesarean birth rate has probably exceeded that which can be justified purely on the grounds of improving perinatal mortality and that a reduction in the rate can be achieved without reversing improved mortality statistics for the neonate.”

- ◆ In 1985, the Society of Obstetricians and Gynecologists of Canada (SOGC) initiated a Canadian consensus process to establish clinical guidelines for caesarean birth (*Consensus Conference Report*, 1986). A panel of the National Consensus Conference on Aspects of Caesarean Childbirth examined the relationship between caesarean section rates and maternal/perinatal mortality rates in an effort to “reduce unnecessary surgical intervention and to promote the safest forms of birth for Canadian women and their babies” (*National Consensus Conference*, 1986).

As a result of these efforts, Canada’s caesarean section rate began to decline steadily through the late 1980s and early 1990s. However, beginning in 1994, it began to rise again.



Source: The Canadian Centre for Health Information & Statistics Canada

¹ This report uses the term ‘caesarean section’ rather than alternative terms, such as ‘caesarean birth’ or ‘caesarean delivery’. Caesarean section is defined by the Institute for Clinical Evaluative Sciences (ICES) as surgery involving the delivery of the fetus through an incision in the uterus. This report refers specifically to the surgical procedure.

WHY ARE HIGH CAESAREAN SECTION RATES UNDESIRABLE?

Why are higher caesarean section rates deemed undesirable? Caesarean sections can benefit both mother and baby if performed for the appropriate indications. In many circumstances, perinatal death or disability can be reduced by a timely caesarean section (*Baskett, 1978*). However, as noted in the ICES Atlas, “a caesarean section has inherent risks and these risks need to be balanced against potential benefits.”

Although caesarean sections offer significant benefits when used appropriately, high caesarean section rates are undesirable because they are associated with:

- ◆ higher rates of maternal morbidity and mortality
- ◆ more maternal psychosocial problems
- ◆ higher health care costs.

MATERNAL MORBIDITY AND MORTALITY

Minkoff and Schwarz (1980) reported that maternal mortality and morbidity is substantially higher for women delivering by caesarean section than for women delivering vaginally. Studies conducted by *Evrard et al (1997)* and *Rubin et al. (1981)* found that the risk of maternal death from caesarean section was significantly greater than from vaginal delivery. In 1982, *Petitti et al.* compared mortality rates after a previous caesarean, and also concluded that caesarean delivery results in increased maternal mortality. *Shearer (1993)* documented a risk of morbidity and mortality associated with caesarean sections that was two to four times higher than that associated with vaginal delivery.

PSYCHOSOCIAL EFFECTS ON WOMEN

Caesarean sections are also associated with immediate and long-term adverse psychosocial effects on women. *Ryding et al. (1998)* interviewed 53 women after emergency caesarean section and found that 55 percent experienced fear for their own life or that of their baby, and one in four blamed themselves to some extent for the event. In a prospective longitudinal study of 272 nulliparous pregnant women, researchers found that women who had a caesarean delivery were significantly more likely to experience a deterioration

in mood and a loss of self-esteem (*Fisher et al., 1997*). In a Swedish study in which women were interviewed after emergency caesarean section, 76% experienced their delivery as a traumatic event. One to two months postpartum, 52% had various forms of post traumatic stress reactions, with one third exhibiting serious post traumatic intrusive stress reactions (*Ryding et al., 1997*). *DiMatteo et al. (1996)* performed a literature review with meta-analysis to examine the differences between vaginal and caesarean delivery on 23 psychosocial outcomes of childbirth. Their findings suggested that caesarean mothers, compared with those who delivered vaginally, expressed less immediate and long-term satisfaction with the birth, were less likely to ever breastfeed, experienced a much longer time to first interaction with their infants, had less positive reactions to them after birth, and interacted less with them at home.

COST

Caesarean sections are also more expensive (*Sachs et al., 1999*). *Shy et al. (1981)* conducted an evaluation of elective repeat caesarean section as a standard of care and found that, with precautionary monitoring, a policy of vaginal birth after caesarean provides substantial dollar costs savings with no greater risk of mortality.

THE EXPERIENCE IN ONTARIO

Ontario's caesarean section rates have mirrored national trends in both Canada and the United States. The province's caesarean section rate increased dramatically in the 1970s, and continued to rise in the early 1980s (*Anderson & Lomas, 1989*), going from 6.8 per 100 deliveries in 1971 to 18.7 per 100 deliveries in 1982 (*Wadhera & Nair 1982, Anderson & Lomas 1984*), and reaching 20.4 per 100 deliveries in 1986 (*Statistics Canada, 1996*) — an increase of over 300% in 15 years. In 1987, with the advent of the Canadian consensus report and clinical guidelines, Ontario's caesarean section rate began to decline steadily until it reached 17.3 in 1993 (*Statistics Canada, 1996*).

However, recent data indicate that Ontario's rate of caesarean section is once again on the rise. In

December 1998, the Institute for Clinical Evaluative Sciences (ICES), a non-profit health services research organization, released a technical report entitled *Caesarean Section Rates in Ontario: An ICES Practical Atlas Update*.² This third edition of the ICES Practical Atlas analyzed provincial data on caesarean section rates in Ontario through 1997/98, caesarean section rates for residents of Ontario's 16 District Health Councils (DHC) for 1994/95 through 1997/98, and hospital specific data for 1995/96 and 1996/97. (Anderson & Axel, 1998)

The analysis indicated that there was a steady increase in the caesarean section rate from 1994/95 to 1997/98. In 1997/98, just over 25,000 caesarean sections were performed in Ontario, a rate of 19 per 100 deliveries — an increase of 10% from the 1994/95 rate of 17.3.

Only a small portion of the increase in caesarean sections was attributed to the increase in the number of older women giving birth in the province. The increase in the caesarean section rate was found in all age groups and in all three categories of hospitals (i.e. Level 1, Level 2 and Level 3) in the

province, and suggests a growing reliance on caesarean sections in obstetric care. The data used in the analysis lacked clinical detail such as parity of the mother and gestational age of the baby, which could affect the use of caesarean sections.

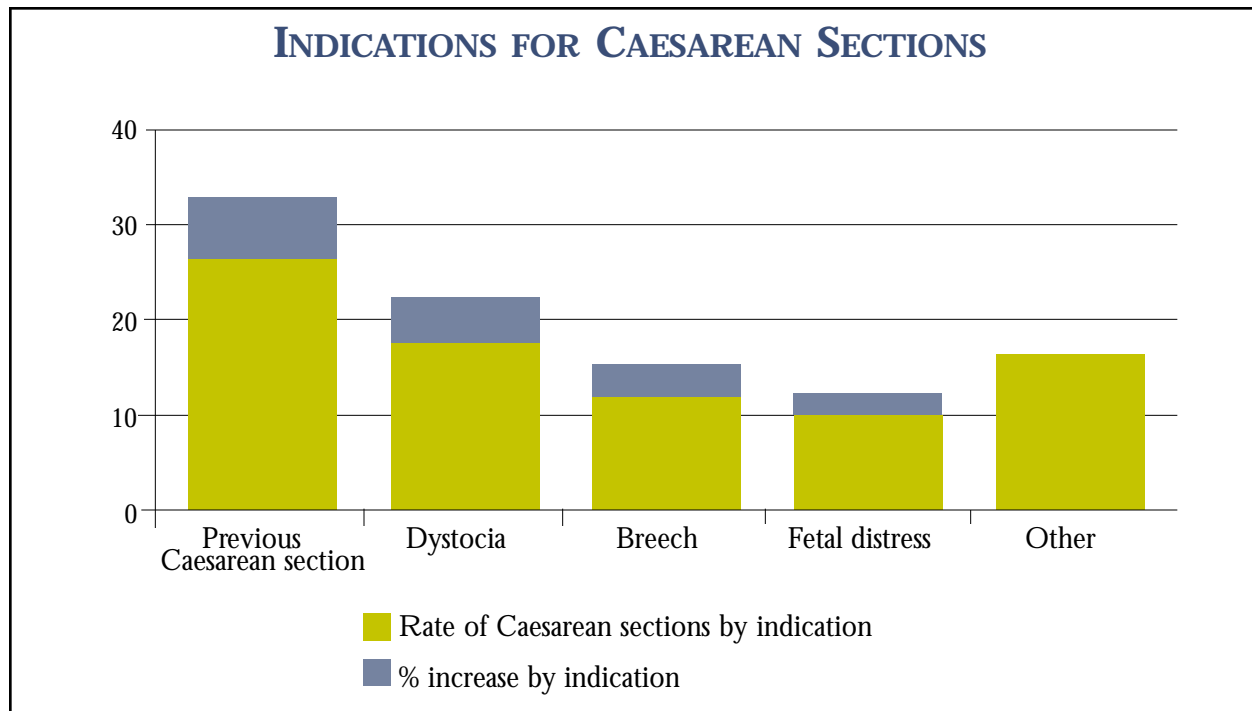
Within Ontario and across Canada, caesarean section rates vary considerably. In Ontario, the rates vary from 6 to 32%. In Canada, the average provincial rates range from 16% in Saskatchewan to 22% in Newfoundland and British Columbia (*Canadian Institute for Health Information (CIHI)* as reported in *Macleans*, June 1999; ICES).

INDICATIONS FOR CAESAREAN SECTIONS

The graph below, based on information gathered and reported by ICES, illustrates the indications for the 25,000 caesarean sections done in Ontario in 1997/98, as well as how much each indication contributed to the increase in Ontario's caesarean section rate.

WHAT SHOULD ONTARIO'S CAESAREAN SECTION RATE BE?

According to Dr. John Millar, vice-president of the Canadian Institute for Health Information (CIHI),



Source: The Institute for Clinical and Evaluative Sciences (ICES)

² The report is an update of earlier research released in *Patterns of Health Care in Ontario: An ICES Practice Atlas 2nd Edition*, published in 1996.

international guidelines suggest that caesarean sections are necessary and beneficial in only about 10% to 15% of births (*Macleans*, June 1999). The World Health Organization (WHO) and the U.S. Department of Health and Human Services have both set a target rate of 15% for caesarean sections. According to *Helewa* (1995), “by modulating the four major indications for the caesarean birth rate and increasing trials of labour for patients with a previous caesarean section ... it is conceivable that the caesarean section rate in Canada can be reduced to 12%.”

Based on experience in several jurisdictions, these kinds of target rates are attainable. “In the United States, several hospitals and communities achieved significant reductions in their caesarean section rates without increasing perinatal or maternal morbidity. In Green Bay, Wisconsin, for example, the total caesarean section rate fell from 16% in 1986 to 10% within four years with no adverse perinatal outcomes” (Sandmire & DeMott, 1994). “In California, the rate at a private hospital was safely lowered from 31 to 15%” (Lagrew & Morgan, 1996).

However, the ICES report (1998) cautions against using comparisons with other jurisdictions to set an appropriate caesarean section rate for Ontario, noting that a “more productive approach to defining the appropriate caesarean section rate could be based on a closer examination of current professional guidelines and the extent to which practice is consistent with those guidelines.”

ADDRESSING THE PROBLEM

In February 1999, the Honourable Elizabeth Witmer, Ontario’s Minister of Health and Long-Term Care asked the Ontario Women’s Health Council to review the ICES findings and develop an action plan to decrease current caesarean section rates in Ontario.

The Council established a Caesarean Section Working Group responsible for identifying the best practices and critical success factors that would help Ontario lower its caesarean section rate. The group

is made up of experts and opinion leaders in the field of obstetrics. This report, prepared by the Working Group:

- ◆ describes the methodology used
- ◆ summarizes the key findings
- ◆ makes a series of recommendations to reduce caesarean section rates.

METHODOLOGY

EXAMINING BEST PRACTICE HOSPITALS

To identify the critical factors associated with low caesarean section rates, the Working Group analyzed the policies, approaches, programs and services at four of the best practice hospitals in Ontario.

These four hospitals were selected by the Women's Health Council from a number of hospitals that achieved low caesarean section rates, based on data gathered for 1997/98. They were also chosen to reflect the full range of maternal/newborn care provided in the province, including:

- ◆ a rural hospital
- ◆ a Level 1 hospital, which generally provides care only for low risk cases
- ◆ a Level 2 hospital, which has a neonatal nursery and is capable of caring for some high risk cases
- ◆ a Level 3 hospital, which has a sophisticated neonatal nursery and is capable of caring for the most complex cases.

To assess practices in these four hospitals, the Working Group used the following methodology:

1. REVIEWING THE LITERATURE

Members of the Working Group reviewed the literature/guidelines on best practices and results of recent research in the field.

2. GATHERING BACKGROUND INFORMATION

The Working Group asked each of the four hospitals to provide requested detailed information on their obstetric policies and data (for a list of infor-

mation requested, see Appendix I). Members of the Working Group then reviewed and analyzed that information.

3. VISITING THE SITES

The Working Group spent one day at each hospital. They had a brief tour of the facilities so members could see and assess the physical plant. They then met as a team with staff from all levels of the organization, including Administration (CEO and VP Patient Services/Nursing, Human Resources Director and Organizational Development leader), Nursing, Midwifery, Family Medicine, Obstetrics/Perinatology, Anesthesia and Health Records.

The purpose of the meeting was to:

- ◆ discuss the goals and purpose of the Women's Health Council project
- ◆ discuss the background information provided by the hospital (i.e., policies and data) and ask any questions for clarification
- ◆ obtain a general understanding of the hospital's vision for maternity care, and its outcome evaluation processes
- ◆ assess the hospital's labour and delivery policies for admission, early labour assessment, elective caesarean section, indications for booking inductions and a maternal care committee
- ◆ assess the impact of the hospital's practices on departmental budgets.

Each team member then individually assessed the hospital's labour and delivery practices in their particular area of specialization/expertise. They met with other staff in their field and observed staff as they worked.

HOSPITAL	DELIVERIES*	C-SECTIONS*	PERCENT*
RURAL: Woodstock General Hospital	543	66	12.2%
LEVEL 1: Scarborough Hospital — Grace Division **	2708	452	16.7%
LEVEL 2: St. Catharines General Hospital	1758	249	14.2%
LEVEL 3: St. Joseph's Health Centre, London	3708	647	17.4%

* Based on 1997-98 data

** The Scarborough Hospital — Grace Division functions as a Level II facility, although it is not funded by the Ministry of Health and Long-Term Care for a Level II nursery. The hospital now has support for paediatric inpatients at both sites and is working towards a short stay unit of up to 48 hours and a formally recognized and funded Level II nursery at both sites.

4. SURVEYING MATERNAL/PRENATAL PROGRAM STAFF

In addition to the information gathered from the hospitals and their observations, the Working Group asked staff to list the factors that they perceive contribute most significantly to the hospital's low caesarean section rate.³

5. ANALYZING THE FINDINGS

To identify the factors that contribute to the relatively low rates of caesarean sections, the Working Group analyzed the background information provided by each hospital, the information gathered during site visits, staff survey or poll results and members' individual observations of practice. This data, combined with current research, clinical practice guidelines for maternal care and caesarean sections, and the members' extensive experience and knowledge of evidence-based best practices in the use of caesarean sections,⁴ allowed the Working Group members to systematically and critically evaluate the programs in place at each hospital. From this analysis they identified a list of critical success factors for achieving and maintaining low caesarean section rates.

6. DEVELOPING RECOMMENDATIONS

The Working Group then developed a series of recommendations and strategies designed to help other Ontario hospitals attain and maintain low caesarean section rates and improve the quality of their maternal/newborn care. Recognizing that policies developed within the larger health care system can have a significant impact on maternal/newborn programs, the Working Group also developed recommendations aimed at the broader health care system.

³ The responses from the four hospitals were compiled and analyzed, and are listed in Appendix II.

⁴ See Appendix III for an overview of current research findings and best practice guidelines.

FINDINGS

CRITICAL SUCCESS FACTORS FOR LOW CAESAREAN SECTION RATES

In its systematic review and analysis of four “best practice” hospitals, the Caesarean Section Working Group identified some common strategies and approaches that allow these hospitals to provide the best possible labour care and to maintain relatively low caesarean section rates. The group organized the hospitals’ learnings and experiences into the following 12 critical success factors.

1. PRIDE IN A LOW CAESAREAN SECTION RATE

Hospitals with a low caesarean section rate take pride in their accomplishment, and invest time and effort in developing and nurturing the policies and practices that keep the rate low. This pride and commitment is evident in the processes they put in place to monitor the caesarean section rate, report it to others, question any changes and take action to adjust the rate when other factors (e.g., cutbacks, changes in key staff) appear to have a negative impact on it.

The leaders in all four of the settings visited recognize that a low caesarean section rate is a key indicator of quality and success. They share a common drive to be the best, and are not willing to settle for being medium or average. These hospitals have identified aggressive targets, and they are willing to adjust recommended practices and identify solutions in order to achieve and maintain a low caesarean section rate. Furthermore, they do not allow the reasons that many hospitals may use to justify higher caesarean section rates — such as program level (1, 2 or 3), demographics, medical legal concerns and financial cutbacks — to prevent them from attaining a lower caesarean section rate.

For example, each of the four hospitals provides a different level of maternal/newborn care (from rural to level 3), but each has been able to achieve low caesarean section rates. Each serves a very different client group, including a homogeneous rural popu-

lation (Woodstock General), multicultural lower income clients (the Scarborough Hospital — Grace Division), a young population (St. Catharines General), and a large urban population with higher medical risk (St. Joseph’s). Yet each has been able to achieve and sustain low caesarean rates.

Each of the four hospitals has also experienced legal suits and coroners’ inquests, and recognizes the growing pressure of client expectations and liability. However, to ensure that concerns about liability do not prevent them from achieving their goals or lead to unnecessary caesarean sections, they have all developed strong working teams and adopted an evidence-based approach to care delivery.

Each facility, faced with cutbacks in funding, has adjusted staffing levels. However, a low caesarean rate continues to be a priority in all four settings and, based on that priority, each hospital has made decisions that allow it to maintain best practice labour care (e.g., providing funding required to support one-to-one nursing care in their maternity units). To do this, they have often had to make tough decisions to cut elsewhere in the hospital or to reduce the number of beds or programs they can afford to provide.

2. A PHILOSOPHY OF BIRTH AS A NORMAL PHYSIOLOGICAL PROCESS

Childbirth is considered a joyful life event. However, it may also be a stressful experience for women and their families. To reduce the potential for stress, the four best practice hospitals visited make a determined effort to “normalize” birth by giving women a sense of control over the process and by minimizing the presence and use of medical technology. Their policies acknowledge childbirth as an empowering event for the woman and her family. In their view, this event requires personalized care and support, but rarely intervention. This attitude helps reduce anxiety, which may contribute to the decision to have a caesarean section.

The positive birth culture in these settings is reflected in language used. For example, at Scarborough

Hospital — Grace Division, “family-centred care” has become “woman-directed care,” which recognizes that the woman is the primary decision-maker in childbirth. It is also reflected in prenatal interviews and classes, in the physical environment, in the measures used for physical comfort and pain relief, and in staff attitudes towards caring for women and their families.

Prenatal interviews (pre-admission)/Prenatal classes: Best practice hospitals use prenatal interviews and classes as an opportunity to promote realistic expectations of labour and a relaxed attitude toward birth. Women are told about the range of methods of labour support available to them. Women are educated about physical comfort measures and the supportive care which will be available to them.

Interviews also allow staff to gather information about each woman’s wishes (see *Appendix IV: “Getting to know me and my family,” Scarborough Hospital* and *Appendix V: Excerpts from Woodstock General Hospital’s Pre-Registration Package*) and may help give women a greater sense of control. Some hospitals conduct these interviews in the maternity unit, which helps women become more familiar and comfortable with where they will give birth and acquaints them with what one midwife describes as the “noisiness” of labour. The women also meet some of the staff who will be with them during labour. Staff at Scarborough Hospital — Grace Division also make themselves available to meet with the women a second time after the initial pre-registration visit, or to respond to questions by phone any time during their pregnancy.⁵

Physical environment: When discussing the physical environment, one obstetrician said, “We try to keep things simple.” For example:

- ◆ Women labour and give birth in the same room so they can have a greater sense of privacy and the support people they choose around them.
- ◆ Rooms are home-like and large enough to allow the mother to move around during labour and

family and other support people to be present.

- ◆ Equipment used only occasionally, such as fetal monitors, IV poles and pumps, and infant warmers are kept close by, but not in the patients’ rooms.
- ◆ Some hospitals provide showers and tubs/jacuzzis, birthing beds with squatting bars, other equipment and supplies such as birthing balls and stools, and aromatherapy.
- ◆ Some hospitals provide a spacious family room which can be used for early labour, as well as for family members.

Scarborough Hospital — Grace Division was able to provide all these physical features with only minimal renovation. To “demedicalize” birth and equalize the power imbalance between labouring women and staff, the hospital also encourages nurses to wear street clothes. Encouraging women to wear their own clothing during labour can also give them a greater sense of control and reinforce that birth is a normal process, rather than a medical condition.

Measures for physical comfort and pain relief:

All four sites use a variety of non-pharmacological techniques to provide comfort and help to reduce pain, including providing water therapy (showers and/or Jacuzzi), encouraging labouring women to walk and change positions, teaching breathing techniques, using a birthing ball and stools, and using an assortment of massage tools. They are also open to other methods of pain management suggested by the patient. This approach to pain control is part of a culture of birth as normal, and it allows the birthing process to unfold more naturally. At the same time, it gives physicians the confidence that the woman’s pain is being managed, which reduces their sense of urgency to make things happen and may reduce the likelihood of a caesarean section. The support and commitment to “patience” also enables women to have more influence and control over their delivery.

The hospitals’ attitude towards birth and pain management during labour is reflected in their low overall levels of epidural use, which ranges from 10% to 34% at community hospitals (rural and levels 1 & 2), and 65% to 75% at the tertiary care hospital.

⁵ See *Appendix VI* for a copy of Scarborough Hospital’s Labour and Birth Nursing Telephone Advice form.

Staff attitudes: At best practice hospitals, staff at all levels promote birth as a normal process. Leadership is essential in changing staff attitudes and actions. Strategies that the four hospitals have used to effectively shape staff attitudes include providing education (e.g., courses in labour support), recruiting nurses and obstetricians who see birth as normal, mentoring staff, evaluating individual nurses' role in supportive care and including supportive care in required documentation during labour.

In smaller units, positive staff attitudes may develop naturally or in an informal way, but larger hospitals may need a more structured process. For example, nurses at St. Joseph's Health Centre must write a review of a birth in which they provided supportive care and discuss this with the other staff. The hospital also held a "Learning Fair" in which one presentation was on labour support.

3. ONE-TO-ONE SUPPORTIVE NURSING CARE DURING LABOUR

Best practice hospitals are committed to providing one-to-one supportive⁶ nursing care during active labour. Because of the clear benefits of one-to-one supportive nursing care,⁷ best practice guidelines recommend "the sustaining presence of a professional during active labour" 80 to 90% of the time (SOGC, 1995). As a nurse at one of the best practice hospitals explained, with one-to-one care "patients trust my judgement" and are "ready to listen to me."

Hospitals that have low caesarean section rates manage to provide one-to-one supportive nursing care during labour despite financial constraints. In the St. Joseph's Labour Support Survey administered semi-annually, 91% of the women who had given birth at the hospital reported that their nurse was with them "all the time" and the remaining 9% reported the nurse was there "most of the time."

The hospitals' commitment to providing this level of care is reflected in their staffing, physical environment, education for nurses and attitudes of co-workers. It is also reflected in the approach to fetal health monitoring. They are willing to make this kind of commitment because they believe that one-to-one nursing makes a significant difference, and that it complements the social support provided by the partner, friends and/or family members.

Staffing: As one administrator commented, staffing for childbirth is related to the perceived status of women and it is important to "give a woman a nurse at the bedside." Furthermore, "women do not want things that beep, they want warmth and care." Each of the four hospitals expects that a nurse will be in the room of the labouring woman, and provides the funding that supports that level of nursing care.

In Canadian hospitals, nurses provide most of the ongoing care to women in labour. Therefore, it is important that hospitals and birthing centres maintain sufficient nursing staff to provide one-to-one care. Although each of the four hospitals uses different staffing systems, all have policies that ensure they are flexible enough to provide one-to-one nursing care and respond to any fluctuation of patients (see *Appendix VII: St Joseph's Family Birth Centre Staffing Philosophy*). For example, if the unit is quiet, nurses are sent home (three of four hospitals). The nurses' attitude towards being sent home is generally positive (e.g., One nurse said, "On July 30, I will be the first one to go home."). They often negotiate for the privilege (e.g., "Before you send the casual home, please send me home."). In some cases, the hours are banked or the staff member does committee work instead. Staff can take voluntary leaves of absence, or be dispersed to other units as needed. At one hospital, if extra personnel are called in at 2:00 a.m. or staff are cancelled with short notice, they receive premium pay recognition.

⁶ Supportive professional care for women in labour involves measures to ensure the woman's physical comfort, and provide her with emotional reassurance and advice/information. In one-to-one supportive care, continuous care is provided by the same nurse throughout his or her shift, and the nurse has had special training in labour support. The nurse assesses the woman's preferences, suggests various positions to improve comfort, uses a variety of techniques for non-pharmacological and pharmacologic pain relief, suggests coping mechanisms, provides information about labour progress and facilitates communication with other health professionals (e.g., anesthetist, family physician, midwife, obstetrician).

⁷ Women who receive continuous support from caregivers during their labour have significantly fewer caesarean sections (Hodnett, 1999) than those who do not. They also have lower rates of operative vaginal delivery (forceps, vacuum), require less medication for pain relief, and report greater satisfaction with their labour and delivery (Hodnett, 1999). Babies born to women who receive continuous support through labour are less likely to have low Apgar scores.

At all hospitals, staff reflect the principles that “you work for the whole division” and “everyone helps each other.” At the smaller hospitals, staff receive extensive cross-training (labour and delivery, postpartum, nursery, special care nursery) to increase the availability of nurses who have labour and birth experience. One hospital has a designated perinatal nurse who carries a pager and “floats” to the area where her assistance is needed most. The unit culture of professional support for one another is an important factor in enabling nurses to provide effective one-to-one supportive labour care.

Physical environment: At all four hospitals, nurses are expected to be in the labour/birth rooms, rather than at the nursing station. At three of the four hospitals, nurses chart in the patient’s room. The rooms are designed to have enough space for nurses to be comfortable providing one-to-one nursing support (i.e., there is a place for the nurse to sit).

Continuing education programs for nurses: All four hospitals report that “we train people” and provide continuing education for nurses. At each site, the majority of nurses had taken labour support workshops either from a regional perinatal education program or through dedicated in-house education. Preceptors are used to mentor new staff. One hospital provided a two-day “Learning Fair” led by the nurses; nurses were paid their salary to attend and 100% of nursing staff participated.

Co-workers’ attitudes: The continuous presence of nurses with women in labour is highly valued by the maternal/newborn program at all sites. Physicians consistently acknowledged the value of one-to-one supportive nursing care. A chief obstetrician claimed that “nurses are the backbone” of the system and what they say and do influences outcomes, including caesarean section rates. Another obstetrician noted that “there are a number of reliable experienced nurses with patience [who will take the time to] for example, turn patient on left side, use ice pack, and talk women through.” However, a nurse at one site did comment that, while she thought supportive labour care made a difference in outcomes, not all nurses at her hospital

valued it, and it’s important that staff receive ongoing education to get buy-in.

Fetal health monitoring policies and practices: Because the four hospitals are committed to providing one-to-one supportive care for women in labour, they are likely to focus less on technology than on the humanistic aspects of care. They have the staffing levels and attitudes that should help nurses use intermittent fetal auscultation as the preferred method of fetal health surveillance, and they promote and adhere to best practice guidelines for fetal monitoring.

Nursing and medical staff at all hospitals are aware of and attempt to follow the Society of Obstetricians and Gynaecologists of Canada (SOGC) guidelines for the use of intermittent fetal auscultation for low-risk women. In addition, staff at all the hospitals are aware of the usage rate of various fetal health surveillance methods. St. Joseph’s Hospital tracks the rate of electronic fetal monitoring (EFM) use as a standing item on its perinatal data system; Scarborough Hospital — Grace Division has conducted a chart audit. This kind of monitoring helps the hospitals to manage their EFM rates and ensure this method is used appropriately.

However, changing practice takes time and energy, and it requires leadership and support. For example, three of the four hospitals have updated their written policies since the 1995 SOGC guidelines. Staff at two hospitals report that they have made an overt choice not to have central EFM monitoring. At the one site with a central monitoring system, the nurse manager expressed concern that “they were nursing the monitor and not the patient.” At one hospital, an electronic fetal monitor was located in the labour room but according to the program manager was usually kept in the storage room. This nurse manager and the chief obstetrician regularly remove EFM monitors from the labour/birth rooms. Nurse managers are also continuing to educate staff, reminding them about the SOGC guidelines and asking them to have strong reasons for using EFM with a given patient.

At one site where only 30% of women receive EFM, staff reported that it took two to three years

of work for the staff to feel confident and comfortable with intermittent fetal auscultation. To support staff through the change, hospitals must provide appropriate equipment and training.⁸ For example, the nursing unit managers at three of the four hospitals ensure that there are a sufficient number of waterproof hand-held Dopplers available for intermittent fetal auscultation.

To train staff in appropriate fetal monitoring methods, all four hospitals use a number of continuing education and competence validation strategies, including:

- ◆ regular fetal surveillance workshops by a regional perinatal education program
- ◆ discipline specific and multi-disciplinary activities at all sites
- ◆ regular skill updates for fetal health surveillance for nurses — either on site or through the regional perinatal education program
- ◆ multidisciplinary rounds and case study discussion sessions.

At all sites, the nurses' willingness to pursue continuing education was striking. Individual nurses actively participate on the cutting edge of professional activities related to fetal health surveillance methods, including the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) and the SOGC. When there is an adverse event at these hospitals, staff take a proactive approach, and "try to learn from it and do better" by altering their practice.

4. STRONG LEADERS

Strong leaders, both formal and informal, play a key role in maternity units that exhibit best practices. They are advocates, facilitators, and implementers of continuous quality improvement (CQI) and evidence-based practice, and they continually challenge others to exhibit best practices. They have a vision and possess the desire, commitment and ability to translate the vision into action.

Effective leaders continuously evaluate current policies and practices, and identify opportunities for

improvement. They set clear expectations for their staff and monitor their achievements. They view staff as peers who possess valuable insight, and thus create an atmosphere where all voices can be heard. As a result, dynamic leaders are highly respected and able to manage more effectively. When hiring new staff, strong leaders look for people who share the philosophies of the unit, and provide training and mentoring which ensures new staff can put those philosophies into practice.

Formal leaders: Leaders in positions of authority can encourage staff to adopt desired philosophies and practices. They can also advocate with senior management for changes in funding or policy to support this model.

All four hospitals had leaders with a strong commitment to CQI and best practice. Several leaders select and train their staff in accordance with the philosophies of supportive and non-interventionist care. Their commitment to CQI and best practices was also reflected in the regular use of patient evaluation surveys, the implementation of CQI projects such as pre-registration and early labour assessment, and the implementation of protocols based on SOGC guidelines.

In an effort to promote best practices, leaders of the Maternity/Child Family Centre at St. Catharines General Hospital review formal quality indicators and conduct special investigations when warranted. For example, when the public became concerned about potential problems associated with vacuum extractions, St. Catharines did an audit of neonatal outcomes after vacuum extractions, and developed a series of recommendations to improve practice.

At each of the four hospitals, leaders create a supportive work environment in which staff have a strong voice. Front-line staff are then empowered to be leaders within their scope of practice. The following are some leadership initiatives at the different sites:

- ◆ Physicians receive individual and group statistics for various interventions, including caesarean sections, to see how they compare with their colleagues
- ◆ Family physicians with good statistics, such as low episiotomy rates, are asked to share their successful

8 See Appendix VIII for guidelines for Fetal Health Surveillance.

practices with other doctors

- ◆ The nursing program manager conducted a chart review of individual nurses' caesarean section rates and provided follow-up for those with high rates
- ◆ Individual accomplishments are acknowledged through Individual Achievement Awards
- ◆ Shared governance is promoted through Leadership Effectiveness Training courses.

Informal Leaders: Within a best practice maternal newborn program, all staff can be leaders within their own scope of practice. Staff who take responsibility for and pride in their work, and are committed to improvement, can be very effective in leading their peers toward the same goals. All four hospitals exhibited examples of informal leadership by front-line staff. For example:

- ◆ Nurses at St Joseph's Health Centre organized and taught a "Learning Fair" for fellow nurses
- ◆ At St. Catharines General Hospital, nurses pursue additional education at their own cost and network extensively through their membership in various professional organizations. One front-line nurse coordinated the program's recent involvement with an Medical Research Council-Society of Obstetrician and Gynaecologists of Canada research project on inductions, displaying her commitment to evidence-based practice.

Team Leadership: Within a maternal newborn program, leaders can form a multi-disciplinary team to promote best practices. Unity among leaders creates more impact within the organization and reduces the negative effect of any one leader leaving the organization. To be strong and effective, the members of the team must share a common vision, values and goals. This will allow the team to deliver consistent messages and develop the kind of depth that instills confidence and support in both staff and administration.

Whether or not they were formally structured as a management team, the leaders at each of the four best practice hospitals work together as a high functioning team:

- ◆ At Woodstock General Hospital, the VP of Patient Care and the Director of Obstetrics worked

together to endorse and subsequently implement one-to-one nursing

- ◆ At the Scarborough Hospital — Grace Division, the Maternal/Newborn Service Director collaborates with medicine in selecting new physicians, ensuring that any staff considered for employment will have a commitment to the unit's philosophy
- ◆ At St. Catharines General Hospital, nursing and obstetric leaders share responsibility for ensuring best practices are applied
- ◆ The Perinatal Coordinating Council at St. Joseph's Health Centre meets regularly to identify key indicators and outcomes in perinatal care and has established a mechanism for regular review with all team members.

5. EFFECTIVE MULTIDISCIPLINARY TEAMS

Maternal newborn programs operate by drawing on the expertise of a variety of disciplines. Effective multidisciplinary teams share a common belief that, through effective teamwork, communication, collaboration and consultation, each individual can achieve a higher level of performance. When a team functions at this level, the group can meet its common goals and targeted outcomes effectively. Shared decision-making between disciplines allows the team to examine different perspectives on a patient's situation. Better communication leads to better sharing of information and ideas, which can lead to improvements in practice. When staff feel comfortable with one another, they are more likely to raise issues, seek assistance and support one another. In addition, team members who have confidence in each others' skills and competencies, and respect each others' contributions, develop a more trusting and calming milieu for the labouring woman and her family.

There is also a significant link between organizations that emphasize teamwork, support, development of everyone's potential, a willingness to undertake some degree of risk, and the implementation of quality initiatives (*Shortell et al.*, 1995). Staff are more receptive to change when they know the impact on *their* day-to-day activities has been considered.

All four maternal newborn programs have high

functioning formal multidisciplinary teams. All sites employ multidisciplinary maternal/child care teams to ensure collaboration in clinical decision-making. For example:

- ◆ At St. Joseph's Health Centre and Scarborough Hospital — Grace Division, the nurse-managers are active participants in monthly obstetrics meetings
- ◆ At several hospitals, rounds and case reviews are multidisciplinary, allowing input and questions from all staff.

According to some of the hospitals, the size of the team may make a difference. The smaller the group of physicians and nurses, the more frequent their interactions, which may help to develop trust and confidence in each other's skills. In units that have a large patient volume, there may be value in breaking staff up into smaller teams to create a greater sense of familiarity and teamwork.

In addition to the above-mentioned formal teams, all hospitals have highly functioning informal teams. For example:

- ◆ The Maternal/Child Family Centre at St. Catharines General Hospital works closely with the local Public Health Unit to ensure evidence-based practice, and have recently conducted collaborative work on pre-term labour. As they each offer separate prenatal classes, they meet several times per year to ensure consistency and discuss changes to prenatal education
- ◆ At Scarborough Hospital — Grace Division, nurses review current literature and share research evidence with physicians, who are receptive to nurse-driven initiatives. Staff reported a high level of trust, communication and confidence between the two disciplines.

The quality of relationships observed at each site, in particular the high level of mutual trust and respect between nurses and physicians, is also worth noting. Physicians consider the nurses highly skilled and technically competent, and therefore feel comfortable allowing a long second stage of labour or attempting vaginal delivery with a potentially difficult presentation. Within this kind of relationship, nurses know their opinion is valued and are more

willing to raise concerns or make suggestions for improvement. At the same time, the nurses trust and value the physicians' expertise, and know they will be available when needed. This means that the nurses, especially those in the smaller hospitals, make an effort to use doctors' time wisely.

6. TIMELY ACCESS TO SKILLED PROFESSIONALS

Best practice hospitals have timely access to skilled obstetrical professionals. Having ready access to professionals helps a unit build confidence and develop more tolerance for risk. This, in turn, reduces the tendency to move to caesarean sections for any variation in normal labour and delivery.

Role of family physicians and midwives: Family physicians attend up to 20% of all births at the four hospitals while obstetricians manage the majority (80%). Although all four hospitals expressed an interest in having midwives on staff, only two of the hospitals visited presently do.

Staff members at each hospital regretted the fact that family physicians are now playing less of a role in intrapartum obstetrics, particularly given the ongoing relationship the family physician has with the pregnant woman and her family. Staff recognize that because of factors such as liability and its related costs, on-call coverage and lifestyle, more family physicians are withdrawing from labour care.

Despite this trend, all four hospitals continue to have a core group of family physicians who are active in obstetrical care. Of the four, St. Joseph's has the most active department of Family Practice Obstetrics, which grants its own privileges and awards its own credentials. Well known in the Canadian childbirth movement for his research and practices, the chief of the department led the way in the use of sterile water injections for analgesia in labour and introduced an intervention which decreased the episiotomy rate in his department.

Midwives are a relatively new addition to the health care team, and the profession is expected to grow in Ontario.⁹ The practice of midwifery embodies many

⁹ Midwives became regulated health professionals in Ontario in 1994. They attended approximately 2.9% of births in the province in 1998/99.

of the principles that characterize best practice care, including a philosophy of birth as a normal human event, the provision of one-to-one supportive care during labour, and informed decision making on the part of the woman.

Studies in North America comparing midwife and physician care for women at low risk for pregnancy complications indicate that women who receive care from midwives have a lower rate of caesarean section.. (Wagner, 1998) Other studies show that, compared to obstetricians, family physicians provide care that is as safe but lower in intervention for comparable groups of women at low obstetrical risk. (Houston, 1995)

The four best practice hospitals achieved low rates of caesarean section with relatively small numbers of births attended by family physicians and midwives. Greater involvement of these care providers could have a favourable impact on caesarean section rates.

Skills/Training: Staff at all the hospitals noted that the physicians providing obstetrical care are skilled, confident, and patient with variations in labour (e.g., vaginal birth after caesarean, dystocia, assessment of fetal heart variations, vaginal breech delivery, forceps and vacuum extraction, and the birth of twins). Physicians and midwives are also either skilled in external cephalic version or able to refer women prenatally to a skilled colleague.

Vaginal birth after caesarean (VBAC) requires confidence rather than an additional or specific technical skill. Obstetricians' attitudes influence women's readiness to labour after a previous caesarean. Programs can achieve a higher rate of VBAC when, as an obstetrician at St. Joseph's Health Centre stated, "the obstetricians buy into it" and encourage women to have confidence in their own ability to deliver vaginally.

Several of the best practice hospitals require or encourage all obstetrical caregivers — and, in one case, nurses — to take the SOGC "Advances in Labour And Risk Management" (ALARM) course to remain current on research and reviewing skills.

Unit staff at the four sites are also trained in neonatal resuscitation and care of sick newborns. When

paediatricians are not available, nursing, respiratory therapy and/or anesthesia staff provide this service. At Woodstock General Hospital and Scarborough Hospital — Grace Division, nurses and family physicians are expected to have current certification in neonatal resuscitation, and the Woodstock Hospital is providing advanced level training for two nurses in 2000.

Fetal scalp pH assessment was rarely used at the four sites. However, sites that use this assessment method should ensure that physicians have the necessary training.

In some maternal/newborn programs there is concern that, with the retirement of older, skilled physicians, certain skills, such as vaginal breech delivery and the use of forceps, will be lost. The appropriate availability of epidural analgesia also appeared to be an area of concern. While high levels of epidural analgesia use may have drawbacks, women should be able to access epidurals for pain relief, particularly for lengthy, non-progressive labours.

Staffing schedules/trust: The staffing schedule for obstetricians, as well as their trust in the skills of their colleagues, may influence caesarean section rates. Best practice hospitals use a number of different strategies to manage scheduling and access to skilled professionals:

- ◆ At Scarborough Hospital — Grace Division, obstetricians are on-call for 24 hours, which reduces the possibility they will be in a rush to return to a busy office. This also ensures obstetricians are available on-site, and the obstetricians trust one another to provide similar care
- ◆ Smaller units are creative in their efforts to ensure access to skilled professionals. For example, when Woodstock General Hospital has a concern about a fetal monitoring strip, it faxes it to the attending obstetrician for assessment. The obstetrician is confident in the skills of the nurses and family physicians and comfortable providing consulting advice in this way, and is available to mentor family physicians. At St. Joseph's Health Centre, a high level of trust in each others' skills has led to a "low anxiety" unit

- ◆ The on-site paediatricians at the Scarborough Hospital — Grace Division have been financially supported by the paediatric unit. This provided additional work for the paediatricians, in both Maternal & Newborn Services and Paediatrics.

7. EVIDENCE-BASED PRACTICE

Evidence-based medicine is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. This practice means integrating individual clinical experience with the best available external clinical evidence from systematic research.

The steps to develop evidence-based clinical practice guidelines are outlined in the 1997 Canadian Medical Association document entitled *Implementing Clinical Practice Guidelines: A Handbook for Practitioners*.

To date, the SOGC has used these steps to develop a number of best practice guidelines that have a direct bearing on caesarean rates, including:

- ◆ VBAC (vaginal birth after caesarean)
- ◆ Induction of labor
- ◆ Fetal health surveillance
- ◆ Post dates pregnancies
- ◆ Dystocia
- ◆ Breech presentation.

Each of the four hospitals is committed to evidence-based practice. It was clear from these four hospitals that neither size nor location is a limiting factor. For example, the Woodstock team saw themselves as early adopters of new evidence and are committed to being leaders in the field.

All four hospitals have endorsed and use the SOGC clinical practice guidelines for fetal health surveillance, dystocia, post date pregnancy, VBAC and labor induction. One unit has adopted the principle that all SOGC guidelines automatically become its standards.

With regard to the SOGC guidelines for fetal monitoring, all units are pursuing the goal of using intermittent auscultation for fetal health surveillance for low risk women. Among the four hospitals, Scarborough Hospital — Grace Division had reduced its overall EFM use to 30%.

8. CONTINUOUS QUALITY IMPROVEMENT

Programs are accountable to the hospital CEO and the hospital board for the quality of care they provide. To account for their services, they are usually expected to identify indicators and benchmarks, and then routinely monitor their ability to achieve them. A common means of doing this is continuous quality improvement (CQI).

CPG DEVELOPMENT AND DISSEMINATION	
STEP	ACTION
1	Select clinical problem Rank in order of priority Define and refine the problem Frame the clinical problem
2	Synthesize data Search the literature Develop consensus
3	Develop guideline statement Iterate-reiterate Distribute to a sample of clinicians
4	Endorse (sponsoring body)
5	Disseminate guidelines
6	Implement guidelines
7	Monitor and evaluate effect

The goal of CQI is to improve the effectiveness and efficiency of health care. Studies have shown that CQI is associated with better perceived patient outcomes and human resource development. Organizations that actively implement CQI have also been found to have a participatory, flexible, risk-taking culture (*Shortell et al.* 1995). Fundamental steps in CQI include establishing clinical standards, comparing current practice to these standards, modifying management and measuring outcomes. There must be a feedback loop linking outcomes to ongoing changes in management.

CQI projects are often chosen by the multidisciplinary team (i.e., they are decentralized) and come from a number of sources. Performance indicators can be taken from patient feedback surveys, critical incidents, evidence from the medical literature, accreditation, SOGC guidelines, and research projects, or they may be identified by staff. To be effective, CQI must have “buy-in” from the different disciplines. All staff must be actively encouraged to participate in CQI projects. Individual team members must have a voice and team leaders need to be adequately trained to head the initiatives. All those involved must be willing to look at new ideas and critically evaluate outcomes. They must also have a true desire to measure what they are doing and to make changes.

Regular staff performance appraisals, including both self evaluation and statistical comparison to peers, is part of CQI, as is patient feedback and ongoing evaluation of program outcomes, individual performance within the program and mentoring for those who fail to meet established guidelines.

All four best practice hospitals, regardless of size, demonstrated a commitment to continuous quality improvement at each level of the organization. The four hospital boards expect the maternal/newborn programs to identify and monitor indicators and benchmarks and have supported the training of staff in CQI. For example, several years ago, Woodstock General Hospital supported a five-day training program for all its managers, and this has paid large dividends in the organization’s ongoing quality assurance program.

Different hospitals choose quality indicators in different ways:

- ◆ One hospital used the accreditation process as a catalyst to establish the team’s indicators. New standards for accreditation, in general, provide an opportunity for CQI initiatives and require institutions to review their caesarean section rates among other indicators
- ◆ St. Catharine’s used recent public concerns about the safety of vacuum assisted deliveries as an opportunity to review their paediatric outcomes of 150 vacuum assisted births. This process culminated in a list of recommendations for the care of the infant following this type of birth
- ◆ St. Joseph’s family physicians’ concerns about high episiotomy rates led to an educational intervention, which lowered the episiotomy rates among family doctors and obstetricians.

In addition, the hospitals use a number of other tools to help assess and improve their caesarean section rates:

- ◆ All of the hospitals have some form of regular multidisciplinary rounds, which provide an opportunity to review cases and present new information.
- ◆ The hospitals all review their caesarean section rates on a monthly basis, along with other benchmarks.
- ◆ The chiefs of obstetrics at all the hospitals review individual physicians’ caesarean section rates and have the opportunity (although it is rarely used) to meet with individuals whose practice falls outside accepted guidelines and review contributing factors. This process also provides an opportunity for the unit to learn from individuals who are experiencing more success. However, in general, the statistics are used with the department as a whole, and the rates are seen as “our” rates (based on an attitude of mutual respect, not scape-goating).
- ◆ Neonatal outcomes are followed to ensure that there are no adverse neonatal consequences of their relatively low caesarean rates. This ongoing review enabled Scarborough Hospital — Grace Division to investigate the underlying reasons for a rise in vacuum assisted deliveries, and implement changes in policy which then restored previous

rates. As a result, they have a program which not only has a low caesarean rate, but also a very low rate of instrumental deliveries.

St. Catharine's General Hospital is also exploring the concept of nurse-specific caesarean section rates, a relatively new development in the literature. The hospital conducted an informal review and did find a relationship between fetal surveillance methods and caesarean section rates: nurses who relied more on continuous electronic fetal monitoring (in an institution where there is central monitoring) seemed to have a higher caesarean section rate and a higher rate of precipitous, unattended births. The hospital's willingness to question practices and self-evaluate is a critical factor in its ability to continuously improve and to maintain low caesarean section rates.

9. ACCURATE, ACCESSIBLE, INTERACTIVE DATA

A current, accurate, comprehensive, accessible and interactive database is essential to CQI. Data is a critical tool to support decision-making and change. Monitoring outcome data is the best way to ensure the highest quality of care for clients. The multidisciplinary team must be able to review monthly reports about obstetrical practices — by program and by individual — to monitor trends. The team must also be able to use the data/reports to adjust their programs and maintain best practice.

All four hospitals have developed interactive databases, which they use to access obstetrical outcome data and use that information to review and improve their programs.¹⁰ The teams examine monthly reports (including caesarean section rates) for both clinical and workload issues. Each hospital was also quickly able to generate reports to answer questions from the visiting team — further evidence of the accessibility and usefulness of their data.

The ability to maintain an accurate database depends on having the appropriate dedicated people and equipment, and all four hospitals provide this corporate support:

- ◆ In Woodstock General Hospital, a health record

analyst attends team meetings, provides regular reports and responds to individual requests for data and information.

- ◆ St. Catharine's General Hospital has invested dedicated resources as they move towards electronic charting with access in physicians' offices.
- ◆ St. Joseph's commitment to their database is exceptional. Whereas the other three hospitals rely on a combination of nursing and medical record staff to enter data and generate reports, the St. Joseph's maternal/newborn database is maintained by a dedicated, full time data entry person and overseen by a full-time or dedicated epidemiologist. This database was designed by the team and includes over 150 different fields which can then be used to answer questions for research, quality improvement and monthly reports.¹¹

10. CONTINUITY AND COORDINATION OF MATERNITY CARE

In all four hospitals, the maternal/newborn programs take a comprehensive view of maternal care as more than just labour and delivery. They make a concerted effort to provide continuity of care from early pregnancy through labour and delivery to postnatal care. In the way they are organized, their flexible use of staff and the range of services they provide, the best practice programs appear to focus more on the relationship with the woman and her family, than on the task of labour and delivery. They have thought about what women need leading up to, during and after delivery, and are committed to providing co-ordinated maternity care. This approach helps create a supportive, caring, enabling culture that may have a positive impact on caesarean section rates.

Flexible staffing: In many of the hospitals, nurses will provide the full range of care in the maternal/newborn unit. For example, at Scarborough Hospital — Grace Division and Woodstock, women may have the same nurse when they make their pre-assessment visit, when they are in labour and for postnatal care. This provides continuity which is extremely important to many women, and gives

¹⁰ As of March 2000, the Scarborough Hospital's obstetric database only tracks outcomes for vaginal deliveries. Caesarean section data is collected and analyzed manually. However, the database is being expanded to include data on caesarean sections.

¹¹ See *Appendix IX* for St. Joseph's Obstetrical Database Sample Report Layout and Screen Templates.

them a chance to develop a trusting relationship with the nurse so they may be calmer and respond better to the nurse during labour.

Preassessment services: Several of the best practice sites had a preassessment unit. Women and their families visit the unit early in the pregnancy, so they can connect with the maternal/newborn program and have an opportunity to experience and rehearse the steps that will occur at the onset of labor. Because families are able to “walk through” the maternity unit, they are able to overcome any fear they may have of the unknown and gain confidence in the team and the environment. The hospital programs use the preassessment visit to review the woman’s prenatal record and relevant laboratory data, to explain their culture and philosophy of care and what they have to offer, and to discuss the woman’s labour and delivery preferences.

Feedback on the Woodstock Hospital pre-registration (or pre-assessment) program, which provides information about labor for pregnant women greater than 30 weeks gestation, revealed that this program was well received and attended by 80 to 85% of women who gave birth in the hospital.

All the obstetrical programs have also developed partnerships with community-based prenatal education programs/services.

Birth planning: A pre-assessment visit or service provides the basis for the woman’s birth plans, and encourages her to play a more active role in making choices and decisions about the kind of birth she wants. In 1996, in conjunction with establishing its pre-admission program, St. Joseph’s Health Centre initiated the “Preference Plan” or birth plan for pregnant women. The aim is “for women to be informed of their options so that they can prepare their own birth plan.” Topics include selection of caregiver, support people, prenatal education classes, unexpected events (e.g., caesarean section), and care after birth (e.g., breast feeding). Each woman’s plan is kept on file in the assessment triage area and reviewed by nursing staff when the woman is admitted. The Preference Plan as well as other prenatal information is available on the

St. Joseph’s web site (www.sjhc.london.on.ca).

Additionally, Scarborough Hospital’s Labour, Birth and Postpartum Plan and excerpts from Woodstock General’s Pre-registration Package can be found in Appendices IV and V, respectively.

The four best practice hospitals have a range of strategies for informing and educating their clients, and encouraging women to be more active in decision-making.

Obstetrical assessment: All four best practice hospitals have a separate obstetrical assessment or triage unit, which is usually located near or at the entrance to the birthing unit. When women come to the hospital in the early stages of labour, they go to the obstetrical assessment unit, where they are assessed to determine their stage of labour. Only women in active labour are sent to the birthing unit.

Policies and protocols used in the units to guide the assessment range from simple to complex:

- ◆ The simpler protocols focus on ensuring that women who are not in active labor are not admitted to the birthing unit, but are either discharged home or sent to an early labour lounge
- ◆ The most detailed protocol stratifies patients into five different classes by the degree of urgent care required.

The obstetrical assessment units have a number of benefits. They help prevent the misdiagnosis of dystocia (i.e., dystocia diagnosed in the latent phase of labour) by admitting women to the labour suite only when they are in active labour. They also allow the programs some flexibility in their staffing plans as women in the assessment unit (i.e., not in active labour) do not need one-to-one supportive care.

Practice groups: In the four hospitals, the obstetricians/physicians who manage a large number of deliveries are organized in practice groups to provide intrapartum care. This ensures that obstetrical services are always available and eliminates the need to use caesarean sections as a time management tool. This type of organization is easier in larger units, which have more physicians available to provide coverage.

Family-centred care: The four sites share a common attitude that all aspects of maternity care should be responsive to the needs of women. The programs emphasize that the care they provide is either family-centred, family directed or woman directed. To ensure their programs meet needs, all four best practice sites actively seek feedback from the women they serve. According to St. Joseph's Labour Support Survey¹² (administered semi-annually to women, their families and care providers), women and their families report high rates of involvement in the decisions about their care (84%) and a sense that "nurses care" (94%). All sites recognize the multicultural issues that affect care and all have program initiatives to respond to these issues.

11. CONNECTIONS THROUGH NETWORKING

Within the best practice hospitals, it is noteworthy how many staff at all different levels are well connected to peers and organizations that can provide them with up-to-date clinical practice information, and how much time they devote to maintaining these relationships, sharing information and seeking counsel.

This networking forms the basis for making comparisons and acquiring new knowledge, and enables hospital staff to gain a broader perspective than their individual department. In some cases, staff use networking to connect with a larger referral hospital; in others, they use it to build relationships with career colleagues.

The resulting effect is the nurturing of a continuous learning environment. To develop this environment, staff must acquire the art of networking and the skills to give and share knowledge. The practice of asking networking questions, such as "Who do you know who knows about ...?" and "How can I help you?", encourages curiosity in staff as well as willingness to devote time to researching, developing and maintaining contacts as part of achieving best practice (Fisher *et al.*, 1992).

12. THE ABILITY TO MANAGE CHANGE

Change has become a norm for health care workers. Some changes are created by advances in medicine, some by financial challenges and others by the recent Directions of the Health Services Restructuring Commission. In some cases, the latter changes have resulted in closures of some long-standing organizations, and the mergers and consolidations of others, each with its own staff loyalties and ways of operating (i.e., culture). The effect of these new alignments has ranged from improving quality of care, to destabilizing consistent leadership, to paranoia and paralysis. In many restructured institutions, staff are involved in extensive, complex discussions about whose practices or combinations of practices will take precedence.

To date, the four best practice hospitals believe they have been able to manage change successfully. By continuously monitoring their performance and adjusting their strategies, they have been able to achieve and maintain their low caesarean section rates — despite funding reduction and staff changes. Each had created a depth or core of commitment to their objectives — from Program Managers and Chiefs of Service to front-line staff — that gave them the resilience and the ability to focus on their goals and, therefore, the ability to cope with change.

However, with the new Directives from the Commission there is a sense of apprehension from staff and management: how will the new relationships affect their outcomes? Who will have the authority to lead? The process of forming a new entity and identifying each member's new place and roles has the potential to distract staff from best practice and patient-focused care. In these times of mergers and consolidation, it is essential that all institutions affected by these changes develop shared learning opportunities which will benefit everyone.

12 See *Appendix X* for St. Joseph's Consumer Survey on Supportive Care during Labour, Birth and Postpartum Period.

ANALYSIS

The 12 critical success factors identified through the analysis of best practices at four hospitals can be organized into five key program features or themes.

The first three have to do with the program's culture or the **attitude** the hospitals take towards childbirth and the care they provide:

- ◆ pride in a low caesarean section rate
- ◆ a philosophy of birth as a normal physiological process
- ◆ a commitment to one-to-one supportive nursing care during active labour.

These attitudes and beliefs reflect a philosophy of labour and childbirth that shapes the hospitals' practice and ensures that women have every opportunity for a normal delivery.

The next three critical success factors have to do with the programs' **organization** and how staff work together to achieve goals:

- ◆ strong team leadership
- ◆ effective multidisciplinary teams
- ◆ timely access to skilled professionals.

When maternal/newborn staff work together, have strong consistent leadership and have ready access to the skills they need, they have the support they need to provide the best possible care. They can set high goals and achieve them.

The next three critical success factors reflect the vital importance of **knowledge** and information in an effective best practice program:

- ◆ a strong commitment to evidence-based practice
- ◆ programs to ensure continuous quality improvement
- ◆ an accessible and interactive database.

The four hospitals used information to help them make decisions and to continuously adapt and improve their programs to reflect new research and knowledge.

Two of the critical success factors reflected the need for **connections**, for both patients and staff:

- ◆ coordinated maternal/newborn services
- ◆ networking.

The four hospitals used their connections to ensure women have continuity in their care and in their

contact with the hospital, and to ensure staff can share information, stay up-to-date and avoid becoming isolated in their work. This approach helps ensure high quality care and nurtures a continuous learning environment.

The last factor in the success and effectiveness of a maternal/newborn program is its **ability to manage change**.

Change has become a norm in the health care system. Only those organizations that can adjust — by monitoring performance and adjusting their strategies — will be resilient enough to continue to attain and maintain goals, such as a low caesarean section rate, through times of significant change.

THE NEED FOR ADEQUATE FUNDING

While maternal/newborn programs must develop all these critical success factors to ensure best practice, they must also have adequate funding.

To achieve their desired outcomes, all four hospitals dedicated additional dollars to their maternal/newborn program. For example, the hospitals allocated funds — either from within their budgets or from other sources — to:

- ◆ provide one-to-one nursing care during active labour
- ◆ support the initial orientation and ongoing training of staff in the principles of supportive care
- ◆ renovate rooms and purchase furniture and equipment that creates a more welcoming and calming environment
- ◆ support CQI principles and processes.

As part of their CQI programs, staff of the maternity programs were aware of where/how their dollars were spent, and they made choices to reallocate funds from other components of care (e.g., from postpartum care to one-to-one supportive care during labour).

In some cases, hospitals reallocated funds from within their global budgets or closed inpatient beds and used the freed-up funds to support their maternal program. In others, they took advantage of special funding sources, such as one-time provincial funding

for nursing projects, research grants, designated donations and creative one-time funding arrangements.

According to the hospitals, reallocating funds to the maternal/newborn program was no small task. It took special effort on the part of many individuals. The leaders of each of the maternal/newborn programs advocated for additional financial support and actively sought out possible sources of funding. In all cases, senior management of the respective organizations supported their initiatives and encouraged evidence-based/CQI activities. As a result, the maternal/newborn programs received priority consideration.

During the review, it was apparent that all four hospitals made active, concerted efforts to ensure their maternal/newborn programs had the funding required to support best practice. However, it was beyond the mandate of the Working Group to assess whether, in providing financial resources to support best practice in active labour care, hospitals went into debt or sacrificed other components of the maternity program (e.g., postpartum care) or other programs/activities within the hospital.

In short, we do not know what impact their decision to support maternal/newborn care had on the bottom line, or what it cost the organizations in terms of other programs and services. Nor do we know whether the hospitals can continue to maintain these levels of funding. All four programs appear to work within a financial accountability framework that requires them to stay within their budget allocation. Despite their success so far in acquiring the resources they need, the sites expressed concern about their ability to obtain the financial resources required to sustain the momentum and continue ongoing training.

It is not reasonable to assume that all hospitals will be able to negotiate the creative funding arrangements that the best practice hospitals used to support their maternal programs, nor is it appropriate for best practice maternal care to be funded in this way. It is essential that maternal/newborn programs be funded at a level that supports best practices, including one-to-one supportive nursing care.

In particular, the Ministry of Health and Long-Term Care should coordinate a discussion with the Joint Policy and Planning Committee (JPPC), ICES and best practice hospitals to identify the base line funding required to support best practices, including one-to-one supportive care.

ENSURING BEST PRACTICE

However, that said, money alone is not enough. A hospital's success in attaining and maintaining best practice in the use of caesarean sections will depend on a combination of the program features and critical success factors described previously.

That is why it is crucial that any hospitals that have the financial resources within their budget allocations to provide one-to-one supportive nursing care during labour and are not achieving low caesarean section rates take steps to identify any problems in attitude or organization that may be affecting their ability to attain best practice. The hospitals can then work to develop the right mix and combination of critical success factors and program features that will help them succeed.

The goal of reducing inappropriate or unnecessary use of caesarean sections is achievable. The four best practice hospitals prove that it is possible to attain and maintain a low caesarean section rate, regardless of the level of care they provide or the population they serve. It is even possible to maintain these rates despite the dramatic changes in hospital organization and staffing that have occurred over the past few years.

Our research also shows that units that work towards and achieve the goal of a low caesarean section rate are rewarded with a proud, motivated staff who possess the confidence and curiosity to continuously evaluate their performance and look for opportunities to improve. In fact, staff in the four hospital units believe that, by working together, they have the potential to reduce their caesarean section rates even more, with no negative impact on health outcomes for mothers and their babies.

RECOMMENDATIONS

The Caesarean Section Working Group of the Ontario Women's Health Council has developed two sets of recommendations: one for hospitals and maternal/newborn programs and the other aimed at the broader health care system.

A. RECOMMENDATIONS FOR HOSPITALS AND MATERNAL/NEWBORN PROGRAMS

We recommend that hospitals and maternal/newborn programs in Ontario take the following steps to reduce their caesarean section rates and improve maternal/newborn care.

1. TAKE PRIDE IN A LOW CAESAREAN RATE

The leadership of the hospital and the maternal/newborn program should recognize and believe that a low caesarean section rate is a key indicator of the quality and success of their program, and they should take pride in achieving a low caesarean section rate and maintaining it over time.

1.1 The CEO and Quality Committee of the Board should:

- ◆ receive a report of the hospital's caesarean section rate quarterly, compare it to comparable best practice hospitals (i.e., similar level of care) and request the program to develop strategies that will allow the caesarean section rates in its program to match those of best practice hospitals
- ◆ expect the hospital's maternal/newborn program to set an aggressive target for caesarean section rates, based on best practices
- ◆ encourage and provide the financial support to develop and maintain an evidence-based, continuous quality improvement (CQI) learning environment.

1.2 Maternal/newborn leaders in the hospital should:

- ◆ adopt a low caesarean section rate as a key indicator of program success and develop aggressive tar-

- ◆ getted approaches to achieve and sustain the rate
- ◆ identify the reasons that limit the program from attaining a low caesarean section rate and network with best practice hospitals to overcome and address those concerns
- ◆ create a critical mass of staff who share the goal of a low caesarean section rate and create a sense of pride and celebration in achieving that goal.

2. ADOPT A PHILOSOPHY OF BIRTH AS A NORMAL PHYSIOLOGICAL PROCESS

Maternal/newborn units should adopt and embrace a philosophy of birth as a normal physiological process and an experience with far-reaching implications for a woman's life, and then support this philosophy with specific policies and goals.

2.1 Each maternal/newborn unit should work with a multi-disciplinary group, including "consumers," to develop a statement of philosophy of birth as a normal physiological process and make efforts to achieve "continuity of philosophy" within the unit.

2.2 Maternal/newborn units should develop policies which promote birth as a normal process, such as:

- ◆ offering prenatal interviews where a woman can discuss her wishes for birth and staff can work with her to develop a birth plan that respects those wishes
- ◆ welcoming support people chosen by the woman, including doulas¹³
- ◆ allowing women in labour to move around freely and giving them a choice of position for birth.

2.3 Maternal/newborn units should evaluate their physical environments and make changes that reflect their philosophy of birth as a normal process, such as:

- ◆ providing single-room maternity care (Labour Birth Recovery (LBR) or Labour Birth Recovery Postpartum (LBRP) rooms) for all women, with a shower or tub
- ◆ making the rooms as pleasant and home-like as possible, and keeping all medical equipment not needed for the birth, especially fetal heart monitors, elsewhere.

2.4 Hospitals should recruit and hire nurses, physi-

¹³ The term doula refers to a supportive companion (other than a friend or loved one) who is professionally trained to provide labor support (Doulas of North America).

cians and midwives who share and value the philosophy of childbirth as a normal process. They should also provide ongoing education and staff development to support this philosophy/attitude.

2.5 Hospital “customer” feedback surveys should be used to evaluate whether the care the woman received reflects the philosophy of birth as a normal process.

3. PROVIDE ONE-TO-ONE SUPPORTIVE NURSING CARE DURING LABOUR

All women in active labour in Ontario should receive one-to-one supportive nursing care.

3.1 Hospitals should ensure that their nursing service has a flexible staffing system, which can accommodate variability in patient population and provide planned coverage for meal breaks.

3.2 Hospitals should ensure their maternal/newborn units have a physical environment conducive to providing one-to-one nursing care (e.g., ample space, comfortable furniture, charts located in the labour/birth room).

3.3 Hospitals should invest in ongoing professional development for nursing staff, and provide access to continuing education programs on the art and science of supportive labour support. In-service education should include the relationship and communication aspects of care as well as tasks and procedures. Investing in continuing education in one-to-one labour support will help hospitals recruit and retain a skilled nursing workforce.

3.4 The continuing education programs offered by hospitals and regional perinatal programs should discourage the use of technology where there is no evidence of benefit. Orientation sessions for new staff should include training in fetal health surveillance, and hospitals should require staff to take certification courses and to continually update their training.

3.5 Maternal/newborn units should evaluate the competency of nursing staff in providing supportive labour care using methods such as feedback from women, individual reflective practice by nurses, peer review and appraisal review by managers.

3.6 Hospitals that are currently providing one-to-one supportive nursing care within their budget allocations but are not achieving low caesarean section rates should consult with the Women’s Health Council or best practice hospitals to identify the factors (e.g., program culture) affecting best practice outcomes.

4. ENLIST/NURTURE STRONG LEADERS

Maternal/newborn programs should enlist and nurture strong leaders who are committed to evidence-based best practice, support continuous quality improvement, and possess the desire and capacity to move new initiatives forward.

4.1 Maternal/newborn programs should develop a management structure based on multidisciplinary shared governance, in which leaders represent different disciplines but share a common program philosophy.

4.2 When recruiting, maternal/newborn programs should actively seek out physician and nursing directors who exhibit dynamic leadership qualities. While these qualities are particularly critical in positions of authority, they are also essential in all staff, and should be part of all recruitment/hiring efforts.

4.3 Front-line staff should be included in decision-making, and should have the opportunity to participate in developing CQI and research projects.

4.4 The hospital and maternal/newborn program should encourage and promote dynamic leadership by formally recognizing their leaders’ achievements.

5. DEVELOP AN EFFECTIVE MULTIDISCIPLINARY TEAM

Maternal/newborn programs should develop a high functioning multidisciplinary team approach, in which the input of all members is considered and members share common goals, values and a commitment to best practices for caesarean sections. All formal and informal teams that contribute to the maternal/newborn program — from the core clinical patient care team to the broader-based program management team — should adopt this team approach.

5.1 Maternal/newborn programs should create an environment that fosters an effective team approach. They should use multidisciplinary activities, such as shared rounds, case reviews and committees, to encourage communication, collaboration and consultation.

5.2 When hiring staff who participate in any aspect of the maternal/newborn program, the program should recruit staff and physicians who share the belief that low caesarean section rates are desirable and who display a commitment to the philosophies that support a low caesarean section rate.

5.3 The maternal/newborn program should make it mandatory for all staff to have training in the values and philosophies of the unit, and complement that training with staff support.

5.4 The maternal/newborn program should ensure that all staff have opportunities to provide ideas, comments, questions or suggestions, and consider their views in shaping the program. The program should also provide feedback to staff by, for example, recording staff ideas and management responses on feedback forms that are posted in the unit.

6. ENSURE TIMELY ACCESS TO SKILLED PROFESSIONALS

To reduce the tendency to move to caesarean section when confronted with variations in normal pregnancy and labour, the maternal/newborn program should ensure that professionals who are highly skilled in obstetrical and paediatric care, including providing obstetrical analgesia, are readily available.

6.1 To improve skills, confidence and the ability to manage risks, the maternal/newborn program should ensure the Advances in Labour and Risk Management (ALARM) or a similar course is available and require all providers to maintain current certification in neonatal resuscitation.

6.2 In recruiting and hiring physicians, maternal/newborn programs should take into account the physicians' experience and comfort with vaginal birth after caesarean (VBAC), appropriately managed dystocia, and vaginal breeches. This is particularly important in smaller hospitals where other physicians

are not available for mentoring. When new physicians lack experience, the program should ensure they have access to mentoring programs. When a caregiver lacks the appropriate experience to treat a client adequately (e.g., VBAC, breech), the woman should be referred to another caregiver with the necessary skills.

6.3 Maternal/newborn programs should assess the contribution of the practice of family physicians and midwives to the caesarean section rate.

7. IMPLEMENT EVIDENCE-BASED PRACTICE

Maternal/newborn programs should *accelerate* the process of implementing evidence-based practice guidelines, particularly those that have an impact on caesarean section rates and devise an implementation strategy to ensure that new guidelines are incorporated into practice in a timely manner.

In particular, hospitals should adopt the following evidence-based policies and practices.

Dystocia: The decision to perform a caesarean section for dystocia should only be made in the active phase of labour, and after augmentation with oxytocin and the offer of analgesia.

Vaginal Birth After Previous Caesarean Section (VBAC): Labour is recommended for women with a previous low-segment transverse caesarean incision in the absence of any contraindications for vaginal birth.

Fetal Surveillance: In the low-risk patient, intermittent auscultation is the preferred method for intrapartum fetal health surveillance.

Induction of Labour: Elective induction in the absence of maternal or fetal indications is not appropriate prior to 41 weeks gestation.

Epidural Anesthesia: Where possible, the administration of epidurals should be delayed until active labour.

7.1 Maternal/newborn programs should create a learning culture that would encourage staff to be more open and receptive to new practices supported by good evidence.

7.2 Hospitals should make the *Cochrane Library*¹⁴ available to all staff, and train leaders and practitioners to access and use this tool.

7.3 Once a year, maternal/newborn programs should evaluate their progress in implementing SOGC guidelines that have an impact on caesarean rates, and develop concrete plans/strategies to introduce and implement any guidelines not currently in practice in the unit.

7.4 Maternal/newborn programs should conduct a monthly audit of fetal health surveillance methods to ensure their practices are congruent with the SOGC clinical practice guidelines. Specifically, programs should review the frequency of intermittent fetal auscultation, continuous electronic fetal monitoring (EFM), fetal scalp sampling and any other surveillance methods. They should also evaluate nurses' individual rate of intermittent auscultation.

7.5 Maternal/newborn programs should provide the support and training staff will need to use appropriate fetal monitoring methods. For example, programs making the transition from EFM to a combination of intermittent auscultation and EFM will have to allow a period of adjustment for nurses to gain experience with intermittent auscultation. When hiring new staff, programs should provide orientation sessions and access to courses on fetal health surveillance, as well as mentoring. Programs should also require all staff involved in fetal monitoring to be certified and to attend "update" training sessions, and encourage ongoing multi-disciplinary case study discussion about the use of auscultation.

7.6 Maternal/newborn programs should ensure that sufficient hand-held Dopplers are available to perform intermittent auscultation. Programs should purchase waterproof models which allow fetal surveillance when women are using a Jacuzzi or shower.

7.7 Level 1 maternal/newborn programs should not purchase central electronic fetal monitoring systems and all programs should consider physically removing EFM machines from labour/birth room

for women with low-risk pregnancies (the majority of women) who are receiving one-to-one supportive care. Birth units with central electronic fetal monitoring systems should evaluate where nurses spend their time.

8. IMPLEMENT CONTINUOUS QUALITY IMPROVEMENT (CQI)

Maternal/newborn programs should actively participate in continuous quality improvement initiatives designed to achieve/maintain low Caesarean section rates and provide the highest quality care for their clients.

8.1 Maternal/newborn programs should have a defined process for identifying and monitoring indicators and benchmarks. Specifically:

- ◆ The maternal/newborn team should review caesarean section rates every month
- ◆ Individual practitioners' caesarean section rates should be shared with the practitioners and their respective supervisor every month
- ◆ The hospital board should review caesarean section rates every three months.

8.2 Maternal/newborn programs should ensure "buy-in" to the CQI process from the multidisciplinary team members by:

- ◆ involving team members in setting goals
- ◆ allocating resources for CQI training for program groups or arranging for a trained facilitator
- ◆ using the accreditation process to enhance capabilities.

8.3 Maternal/newborn programs should choose and evaluate team leaders based on their commitment and adherence to "best practice" initiatives.

8.4 Within the hospital budget, adequate financial resources should be allocated to creating a learning environment that supports best practice, including innovative projects and continuing education. Hospitals should also provide their maternal/newborn program with the necessary skills to coordinate projects such as research reviews, CQI initiatives and continuing education.

14 *The Cochrane Library* is an electronic resource that consists of four different databases and is designed to supply high quality evidence to inform people providing and receiving care, and those responsible for research, teaching, funding and administration at all levels. Information on the Cochrane Library can be found at the Internet site www.cochrane.co.uk.

9. DEVELOP A COMPREHENSIVE, ACCESSIBLE, INTERACTIVE DATABASE

Maternal/newborn programs should develop a current accurate, comprehensive, interactive database which is readily accessible to team members. The database must be capable of supplying timely and easily interpreted reports on caesarean section rates to respond to program inquiries and CQI initiatives.

9.1 Hospital boards should provide financial support to establish and maintain a maternal/newborn database, or to purchase an available database system.

9.2 The database manager should be an active member of the maternal/newborn team and attend meetings regularly.

9.3 Hospitals should explore the potential benefit of pooled databases in reviewing larger data sets and sharing expertise in data management.

10. ENSURE CONTINUITY AND COORDINATION OF MATERNAL/NEWBORN CARE

Maternal/newborn programs should review the full continuum of hospital services to assess their ability to affect the caesarean section rate.

10.1 The maternal newborn program should support, develop and evaluate the impact of each of the following aspects of care which may contribute to a low caesarean section rate:

- ◆ patient information
- ◆ a preassessment (birth planning) program
- ◆ early labour assessment
- ◆ practice groups.

10.2 Based on SOGC guidelines and information,¹⁵ maternal/newborn programs should develop information/decision aids for women on the indications and other factors that influence caesarean sections, and then evaluate their impact on the women's ability to make informed decisions and on the caesarean section rate.

11. MAKE CONNECTIONS THROUGH NETWORKING

Leaders and participants in maternal/newborn programs should develop links with peers and organizations committed to best practice initiatives, particularly in the area of caesarean section rates.

11.1 Staff in maternal/newborn programs should develop networking skills, seek out peers and organizations that can assist them in achieving a low caesarean section rate, and allocate time in their work schedule to nurture those relationships.

11.2 The CEO and the Quality Committee of the Board should use methods such as role modelling, coaching and training sessions to encourage staff to learn networking skills.

12. DEVELOP THE ABILITY TO MANAGE CHANGE

Hospitals undergoing significant change should develop a targeted strategy to ensure they will continue to implement best practice and achieve low caesarean section rates while the program is being restructured.

12.1 The MOHLTC, the Change Foundation of the OHA and ICES should discuss sponsoring joint research into the effect of restructuring, its impact on best practices and strategies that enable organizations to achieve and sustain best practice during major organizational change.

12.1 The CEO and Board Committee on Quality should request from the maternal/newborn program an action plan describing how the program will stay focused and diligent to the targeted outcome (i.e., low caesarean section rate) during major organizational change. The Board should provide the resources required to develop the plan.

¹⁵ The SOGC has a series of pamphlets for women that can help them become informed and act as decision aids, including: Inducing Labour Vaginal Birth after Caesarean Birth (VBAC) and Overdue Babies. They are available on-line at the SOGC web site (www.sogc.medical.org) or from the SOGC in Ottawa.

B. RECOMMENDATIONS FOR THE BROADER HEALTH CARE SYSTEM

According to the Working Group's review, hospitals can do a significant amount on their own and with existing resources to achieve a low caesarean section rate. However, the group recognizes that it takes considerable commitment and effort for hospitals to allocate the funds required to support best practice, including supportive labour care. We believe that hospitals will be more successful in implementing best practice maternal/newborn care if they have the support of the broader health care system.

To that end, the Caesarean Section Working Group of the Women's Health Council looks to the Ministry of Health and Long-Term Care, the Ontario Hospital Association (OHA), the Joint Policy and Planning Committee (JPPC), the Institute for Clinical Evaluative Sciences (ICES), the professional education and training system, and professional associations and unions to play an active, supportive role in helping to lower Ontario's caesarean section rates. The following recommendations are designed to reduce the systemic barriers that maternal/newborn programs face in their effort to develop the attitudes, organization, knowledge and information, connections and change management skills they need to achieve and maintain low caesarean section rates.

13. PROVIDE SYSTEMIC SUPPORT FOR BEST PRACTICE MATERNAL/NEWBORN PROGRAMS

The broader health care system should provide the policy, funding, monitoring, education and research support that will help Ontario hospitals achieve and maintain low caesarean rates throughout the province.

Policy/Funding

13.1 To ensure hospitals are funded adequately within their base to support low caesarean section rates, the Ministry of Health and Long-Term Care should coordinate a discussion with the JPPC, ICES and

best practice hospitals to identify the base line funding required to support best practices, including one-to-one supportive nursing care, and identify how to ensure those dollars are available to hospitals so they can attain and maintain low caesarean section rates.

13.2 The Ministry of Health and Long-Term Care, through funding negotiations with the Ontario Medical Association, should ensure the 24-hour availability of skilled obstetricians, anesthetists and paediatricians for maternal/newborn units. Where these specialists are not available (i.e., some rural areas), other care providers should be trained in the necessary skills and a well-established transfer policy should be established.

Education/Best Practice

13.3 Professional training programs should ensure that both medical and nursing education programs include a focus on birth as a normal physiological process and provide training in supportive care during labour. Professional schools and continuing education programs should provide training in how to work collaboratively with clients/patients.

13.4 Department Chairs in Obstetrics/Gynaecology should include in the core competencies for obstetricians (and as an option for family practice physicians who work in remote areas) the skills required for vaginal breech and twin delivery, forceps and vacuum extraction, and external cephalic version.

13.5 Representatives of the Canadian Nurses Association (CNA), Registered Nurses Association of Ontario (RNAO), SOGC and ICES senior staff should meet to discuss the possibility of developing a web-based best practice site where interested professionals could network, locate research material, ask questions and receive counsel from colleagues on how to achieve and sustain best practice initiatives.

Data/Monitoring/Evaluation

13.6 The Ministry of Health and Long-Term Care and ICES should formally discuss sponsoring and/or facilitating a joint conference on best practice databases.

13.7 The Ministry of Health and Long-Term Care should provide funding to support comprehensive maternal/newborn databases, which will allow hospitals to monitor benchmarks and indicators for their programs, including caesarean section rates.

13.8 The Ministry of Health and Long-Term Care should require hospitals to provide regular reports on their caesarean section rates, and should examine these reports to assess the need for research or policy changes.

Change Management

13.9 The Ministry of Health and Long-Term Care, the Change Foundation of the Ontario Hospital Association and ICES should discuss sponsoring joint research into the effect of restructuring, its impact on best practices, and strategies that enable organizations to achieve and sustain best practice during major organizational change.

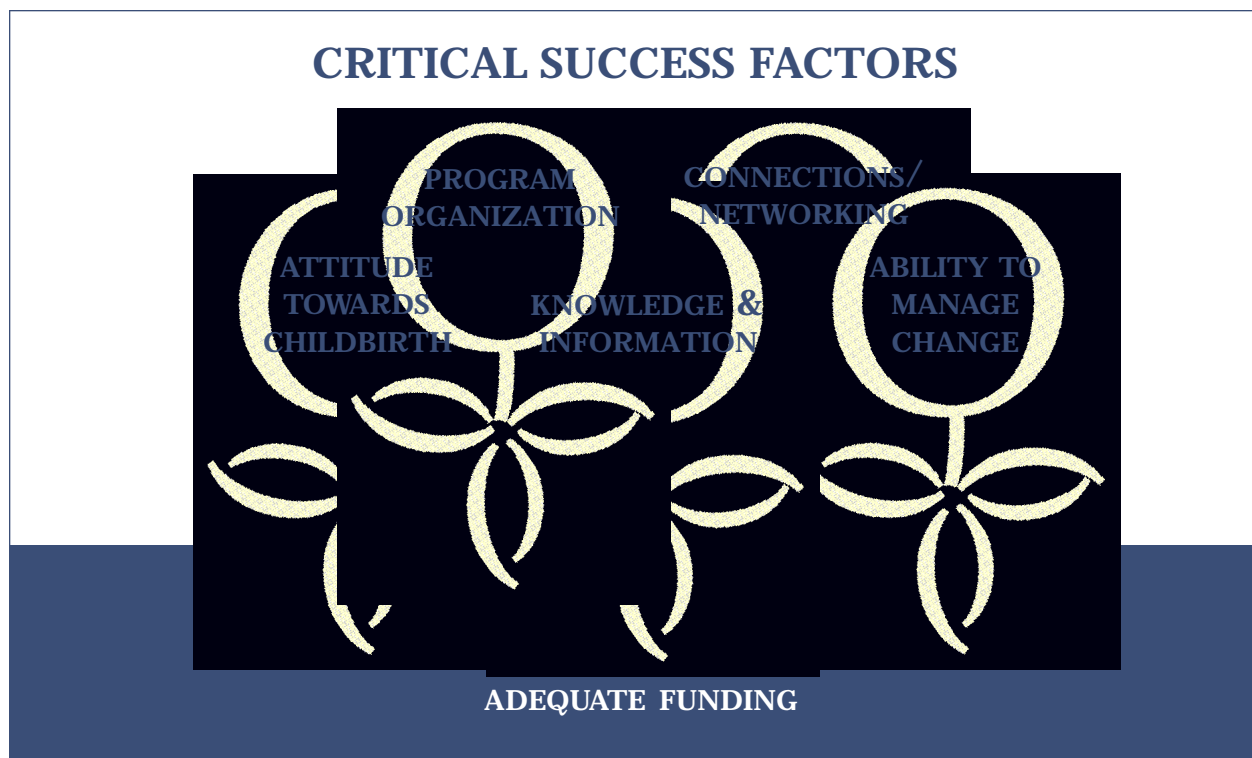
CONCLUSION

The four best practice hospitals reviewed for this report — like a number of other hospitals in the province — have been successful in their efforts to attain and maintain low caesarean section rates. They have been able to achieve this goal in large part because they embrace the belief that supportive labour care and the least intervention possible create the best opportunity for a good birth experience. They have also been diligent in their efforts to set targets for caesarean sections, monitor their progress, and assess and adjust their practices to achieve their targets. They have developed programs with a combination of features that ensure best practice, as illustrated below.

The members of the Caesarean Section Working Group congratulate these leaders in the field, and

encourage them to continue to develop and share their knowledge and experience. We also challenge other maternal/newborn programs across the province to take action now to attain best practice in the use of caesarean sections. We encourage Ontario hospitals and birthing centres to adopt the culture, attitudes, organizational structures, practices and continuous quality improvement programs that will allow them to match and possibly surpass the low caesarean section rates achieved in the four best practice hospitals analyzed for this project.

We also suggest that the approach used by best practice maternal/newborn programs could be a template for best practice programs in other aspects of health care.



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APPENDIX I

QUESTIONS AND INFORMATION REQUESTS FOR THE HOSPITAL REVIEW/OBSERVATION PROCESS

HOSPITAL REVIEW QUESTIONS

Assessing Hospital Practices

The best practice hospitals were asked to respond to the following questions.

- ◆ What are the hospital policies and routine practices (policies may be different from actual practice) concerning:
 - ◆ Booking elective caesarean
 - ◆ Induction of labour
 - ◆ Pharmacological and non-pharmacological pain relief options during labour
 - ◆ Fetal monitoring
 - ◆ Diagnosis and management of dystocia
 - ◆ Management of breech presentation
 - ◆ Eating and drinking in labour
 - ◆ Ambulation in labour.
- ◆ How is physician coverage of Labour & Delivery organized?
- ◆ What is the level of nurse staffing in Labour and Delivery? What, if anything, is done to try to ensure that all women receive one-to-one nursing support during labour? Have Labour and Delivery nurses received formal training in labour support? What mechanisms, if any, are in place for regular performance appraisals and reinforcement of the importance of nursing support? What labour support tools are available for patients (tubs, showers, birthing balls, massagers, heat and cold packs, etc)? Approximately how many patients have doulas during labour? What are the policies regarding doulas?
- ◆ If one-to-one nursing support is routinely provided during labour, what administrative changes had to be made to enable this to happen? For example, are there elements of flexibility in the staffing model?

- ◆ Does the hospital monitor its caesarean section rates on a regular basis and what, if any, quality assurance procedures are in place, to facilitate early detection of a rise in the rate?

- ◆ Is there 24-hour obstetric anaesthesia service? What pharmacological and non-pharmacological pain relief options are available for women in labour? How do the caregivers feel about these options? Do they have obvious preferences?

The team completed a qualitative assessment of the hospital's organizational culture to answer the following question:

- ◆ Is the organization's culture rooted in a belief that pregnancy and childbirth are fundamentally normal life processes needing support and ongoing assessment, or events that are only low-risk in retrospect (and require constant surveillance for detection of problems)?

An assessment of the physical environment was also conducted, looking specifically at aspects that promote or inhibit the desired behaviours.

APPENDIX II

HOSPITAL STAFF SURVEY RESULTS

FACTORS CONTRIBUTING TO A LOW CAESAREAN SECTION RATE

Results of a survey conducted with hospital staff

Hospital staff involved in maternity care at all levels of the organization were asked to list the factors they perceive to contribute most strongly to their hospital's low caesarean section rate. Examples of the types of hospital staff include anesthesiologists, health records staff/database coordinators, nurses, obstetricians, family physicians, nurse educators, human resource staff, hospital VPs, managers, etc. In total, 48 staff members at the four sites were asked to participate, and 39 responses were submitted. There were 119 comments from hospital staff about their views of the factors contributing to their hospital's low caesarean section rate. Table 1 displays the majority 67 % (80/119) of the coded items. All other coded categories had a total of five or fewer comments distributed across the four hospitals. Top factors contributing to low caesarean section rates include one-to-one supportive care in labour, physicians' practices and skill level,

continuous quality improvement, and an interdisciplinary team approach. Examples of the hospital staff's comments are listed below:

1:1 supportive care in labour

"Commitment to 1:1 labour support"

"1:1 care in active labour"

"Supportive care in labour where 1:1 nursing care in labour is provided"

Physicians' practices and skill level

"High level of surgical/operative skills, vaginal breech skills, and forceps skills"

"Good support, assessment and follow-through of care by obstetricians"

"Physician practices — open and willing to change their practices based on evidence"

"Well-trained, technically facile obstetricians who feel comfortable allowing a long 2nd stage, who are competent at delivering breeches vaginally, who use Syntocinon, when required, at appropriate doses, and who encourage VBAC's"

TABLE 1. LOW CAESAREAN SECTION RATES: FACTORS PERCEIVED BY HOSPITAL STAFF AS CONTRIBUTING MOST STRONGLY TO THEIR HOSPITAL'S LOW CAESAREAN SECTION RATE

MOST FREQUENTLY CITED FACTORS	NUMBER OF RESPONSES	PERCENTAGE OF TOTAL RESPONSES
One-to-one supportive care in labour	15	12.6%
Physicians' practices and skill level	13	10.9%
Continuous quality improvement through evidence-based practice and continuing education	13	10.9%
Interdisciplinary team approach	12	10.1%
Philosophy of labour as a normal event	7	5.9%
Support from management and dynamic leadership	7	5.9%
Nurses' skill level, acquired through continuing education	7	5.9%
Commitment to family-centered, caring approach	6	5.0%

Continuous quality improvement through evidence-based practice and continuing education

“Embracing of evidence and the drive to continually improve”

“Commitment of organization to ongoing education/supported by Director”

“A commitment to continuous quality improvement such that great effort has been made to ensure that staff are aware of national standards and guidelines, and are encouraged to work collaboratively to decide how to get there”

Interdisciplinary team approach

“Collaboration amongst interdisciplinary team”

“Teamwork that occurs between patient, doctor and nurses”

“Working together as a team, knowing that everyone’s voice will be heard, and action is taken at every level of the organization”

Philosophy of labour as a normal event

“Philosophy of a natural experience; being a support person/advocate rather than a technician”

“Belief that labour is a normal event”

“Philosophy/attitude: birth as normal”

Support from management and dynamic leadership

“Leadership to encourage best practice, develop critical pathways for critical care, encourage self-evaluation”

“Commitment of the management team to true quality care, i.e. the patient comes first”

“Support from Management to deal with change, stress and conflict management”

“Institutional support for the program”

“Strong leadership role model within a shared governance model”

Nurses’ skill level; acquired through continuing education

“Experienced nursing staff”

“Experienced nursing staff who are committed to ongoing education”

“Nurses’ ability to practice independently and make decisions for patient’s care, and to be involved with medicine for all decisions”

Commitment to family-centered, caring approach

“Family centered philosophy”

“Caring approach, supportive to all team members, from patient to support staff to obstetricians”

“A philosophy grounded in client-driven service and a team approach based on mutual respect, trust, advocacy, empowerment and respect of the client and the team”

“Culture of caregiving”

APPENDIX III

REFERENCE LIST — OVERVIEW OF BEST PRACTICES FOR THE LEADING INDICATIONS FOR CAESAREAN SECTION

DYSTOCIA

Am Coll Obstet Gynecol Technical Bulletin No. 218. *Dystocia and the Augmentation of Labour*. 1995.

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Soc Obstet Gynecol Can Policy Statement No. 57. *Induction of Labour.* 1996.

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APPENDIX IV

THE SCARBOROUGH HOSPITAL — GRACE DIVISION MATERNAL & NEWBORN SERVICES



MATERNAL & NEWBORN SERVICES (Labour, Birth & Postpartum Plan)

Getting to know me and my family

To enable us to meet your own unique needs we would like to get to know more about you, your family and your concerns and preferences for labour, birth and postpartum. Every attempt will be made to meet your choices, however, unplanned events may occur which may change the plan of care you need. **Please make sure you also discuss this plan with your doctor.**

What you need to know about me and my family (including any cultural specific preferences).	Discussed on Admission	Goals Met and Discussed Postpartum
_____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>
My translator: Name & Phone #: _____	<input type="checkbox"/>	<input type="checkbox"/>
My support people and what they would like to do: _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>
My diet: <input type="checkbox"/> regular <input type="checkbox"/> vegetarian <input type="checkbox"/> other _____	<input type="checkbox"/>	<input type="checkbox"/>
Comfort measures I hope to use during labour: <input type="checkbox"/> breathing / relaxation <input type="checkbox"/> nubain <input type="checkbox"/> music <input type="checkbox"/> nitronox <input type="checkbox"/> shower <input type="checkbox"/> epidural <input type="checkbox"/> whirlpool <input type="checkbox"/> other	<input type="checkbox"/>	<input type="checkbox"/>
If you are planning to have a natural birth (no medication) how important is it that you succeed? Please circle on scale. 1 2 3 4 5 not very important important	<input type="checkbox"/>	<input type="checkbox"/>
What is most important for labour: _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>
Please turn over....	_____ RN Signature _____ Date	_____ RN Signature _____ Date

Patient Name: _____ Unit #: _____

Concerns or fears about labour:	Discussed on Admission	Discussed Postpartum															
_____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>															
What is most important for the birth: <input type="checkbox"/> cutting the cord (partner) <input type="checkbox"/> specific birth positions <input type="checkbox"/> other _____	<input type="checkbox"/>	<input type="checkbox"/>															
Concerns or fears about the birth of our baby: _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>															
If I require a Cesarean birth I would like _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>															
Concerns or fears about a Cesarean birth: _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>															
What is important to us after our baby's birth (including cultural specific practices) _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>															
If our baby is sick and needs special care we would like: <input type="checkbox"/> to stay overnight in the parent sleeproom (if available) <input type="checkbox"/> be called to feed / care for our baby <input type="checkbox"/> other _____	<input type="checkbox"/>	<input type="checkbox"/>															
How we plan to feed our baby <input type="checkbox"/> breast <input type="checkbox"/> bottle If you are planning to breastfeed your baby, how important is it that you succeed? Please circle on scale. <div style="text-align: center;"> <table style="margin: auto;"> <tr> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> </tr> <tr> <td colspan="2" style="text-align: center;">not important</td> <td></td> <td colspan="2" style="text-align: center;">very important</td> </tr> </table> </div>						1	2	3	4	5	not important			very important		<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5													
not important			very important														
If I have an uncomplicated labour and birth, I am planning to leave the hospital: <input type="checkbox"/> before 12 hours <input type="checkbox"/> 12 - 24 hours <input type="checkbox"/> 24 - 36 hours <input type="checkbox"/> 36 - 48 hours	_____ RN Signature _____ Date	_____ RN Signature _____ Date															

APPENDIX V

EXCERPTS FROM WOODSTOCK GENERAL HOSPITAL'S PRE-REGISTRATION PACKAGE

WOODSTOCK GENERAL HOSPITAL *"Partners in Excellence"*



Patient Information

PRE-REGISTRATION CLINIC - OBSTETRICAL SERVICES

What is the pre-registration clinic?

The obstetrical pre-registration clinic is a 1 hour session at the hospital to help you prepare for the birth of your child.

You will:

- have nursing information taken
- be informed about your options and care available
- meet some of the nurses that will be involved in your care
- have teaching started with baby care and post partum care
- become informed about family-centred care approach
- be offered a brief tour of the unit
- have an opportunity to ask questions about your hospital stay
- be able to watch videos of your choice or borrow videos to take home.

The goal is to get to know you and your family needs in a relaxed setting.

Is it essential to attend this clinic?

We do **encourage** you to attend. It provides us with an opportunity to help you by obtaining health information in advance of your admission. You will also have an opportunity to ask questions and review birthing options. Our family survey found that the pre-registration program was effective in increasing knowledge about options and the care available.



How do I book my 1 hour appointment at the clinic?

Call 421-4210 between 9:00 a.m. and 12:00 noon, or 5:00 p.m. to 9:00 p.m., Monday to Friday, after your 30th week of pregnancy. An appointment will be made when you call in. Appointments are available during day time, evening and some weekend hours.

What if I am unable to attend at the scheduled time.

Please notify the obstetrical unit at 421-4210 so that we can re-book your appointment.

What do I need to do?

1. Review all the enclosed literature.
2. Fill in as much information as you feel comfortable doing so.
3. Bring the following information to your appointment:
 - a) the contents of this envelope
 - b) your health card
 - c) any additional health information such as insurance coverage;
and
 - d) a list of medications you may be taking.

Where do I go for my obstetrical pre-admission visit?

Please report to the 3rd floor obstetric unit. You will meet a nurse and use a private room.

Should I come by myself?

Your labour coach or partner is welcome to join us.

WOODSTOCK GENERAL HOSPITAL

"Partners in Excellence"
Patient Information



Maternal /Child Unit Triage (Assessment) Program

What is a triage program?

The purpose of an assessment area is to provide an area for you to be assessed for signs of early or active labour. The area is also utilized if you require a "non-stress test" during your pregnancy. Non-stress tests are used to monitor your baby's activity and heart rate. The program is for pregnant women who are more than 20 weeks pregnant with obstetrical concerns. If you are less than 20 weeks report to the emergency department.

Who will assess me?

The area is staffed by experienced obstetrical nurses. The nurses work in all areas of obstetrical care and are trained in vaginal exams and fetal monitoring.

What happens following the assessment?

The nurse will contact the physician and report her findings. Depending on the information, your location (i.e. distance from the hospital) and your supports, the physician will decide whether you are to be admitted, or allowed to return to the comfort of your home.

Key Points

1. Please call the unit , if it is possible, before you come in to be assessed (421-4210).
2. You are welcome to bring a family member/support person with you.
3. Please ask any questions at any time.
4. Most women are encouraged to walk around once the assessment is completed. Your nurse will advise you about staying in bed if required.



WOODSTOCK GENERAL HOSPITAL
"Partners in Excellence"

PERSONALIZED BIRTH PLAN



Addressograph

We the staff of Woodstock General Hospital know your birth experience is important to you and your family. This Birth Plan will aid in the communication of your wishes to the nurses and physicians who will care for you.

DUE DATE: _____

PHYSICIAN: _____

During childbirth, things may not always go as you have planned. In those situations, it is important for you to understand that your physician may have to make quick decisions that may not follow your original plan. This is for the welfare of both you and your baby.

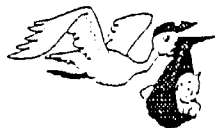
1. Who do you plan to have with you during labour & delivery?

2. Comfort measures available during labour & delivery:

- | | |
|--|---|
| <input type="checkbox"/> Freedom of Movement | <input type="checkbox"/> Narcotics |
| <input type="checkbox"/> Use of music, tapes, CD's | <input type="checkbox"/> Epidural |
| <input type="checkbox"/> Hot blankets/Ice packs | <input type="checkbox"/> Sterile Water Injections |
| <input type="checkbox"/> Shower/whirlpool bath | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Birthing Ball | <input type="checkbox"/> Other _____ |
| | <input type="checkbox"/> Other _____ |

3. Would you or your support person like to cut the cord?

- Yes No



4. Are you planning to photo/video the actual birth of your child?

Yes No

If "yes", please discuss with your physician at one of your prenatal visits.

5. Are you planning to breast-feed the baby?

Yes No

If "yes", how long do you plan to breastfeed? _____

6. Are you interested in early discharge (less than 24 hours)?

Yes No

The Community Care Access Centre (CCAC) may be contacted for information about early discharge programs. Call 539-1284 for more information.

7. These are the obstetrical hospital services that are available to you, if required during labour & delivery.

- 24 hour obstetrical consultation
- 24 hour anaesthesia consultation

8. List below any other choices you wish to consider:


Signatures:

Client: _____

Nurse Reviewing Birth Plan: _____

APPENDIX VI

THE SCARBOROUGH HOSPITAL — GRACE DIVISION MATERNAL & NEWBORN SERVICES

 <p>SCARBOROUGH GRACE HOSPITAL</p>	<p>LABOUR AND BIRTH NURSING TELEPHONE ADVICE</p>	
Name: _____	Date of Call: _____	Time of Call: _____
<p>Antenatal I & II reviewed: <input type="checkbox"/> Yes <input type="checkbox"/> No If No, instruct patient to go to their MD or come to hospital for assessment.</p> <p>Comments: _____</p> <p>E.D.C. _____ (Gestation _____ weeks)</p> <p>G _____ P _____ Attending Physician _____</p> <p>Reason for Call _____</p> <p>_____</p> <p>_____</p>		
CONTRACTIONS		
<p><input type="checkbox"/> No <input type="checkbox"/> Yes If yes, frequency _____ duration _____ strength _____</p>		
MEMBRANES		
<p>Intact _____ Ruptured _____ Leaking _____ Time _____ Colour _____ Amount _____</p>		
BLEEDING		
<p><input type="checkbox"/> No <input type="checkbox"/> Yes If yes, amount _____ describe _____</p> <p>Activity prior to bleeding _____</p>		
FETAL ACTIVITY		
<p>10 Fetal Movements felt in last 2 hours: <input type="checkbox"/> Yes <input type="checkbox"/> No If no, is this your baby's usual rate of activity <input type="checkbox"/> Yes <input type="checkbox"/> No</p>		
ANY PROBLEMS WITH THIS PREGNANCY		
<p>Healthy _____ Placenta Previa _____ Increased BP _____</p> <p>Decreased Fetal Movement _____ Diabetes _____ Prem Labour _____</p> <p>Poor Growth (IUGR) _____</p> <p>Other (specify) _____</p> <p>_____</p> <p>_____</p>		

844664 (Rev. 11/96) FF

ANYTHING SIGNIFICANT ABOUT YOUR PREVIOUS PREGNANCY, LABOUR OR BIRTH?

Describe _____

NURSING ADVICE

ADVISED PATIENT TO COME DIRECTLY TO THE HOSPITAL DUE TO THE FOLLOWING PRESENTING COMPLAINT (CHECK THE APPLICABLE INDICATION):

- Primip Q 5 min. contractions X 30 - 40 seconds (37 - 42 weeks)
- Multip Q 8 - 10 min. contractions X 30 - 40 seconds (37 - 42 weeks) or previous history of rapid labour
- Ruptured Membranes or uncertain
- < 10 fetal movements in last 2 hours (25 - 42 weeks)
- Bright Red Bleeding > 2 tbsps. (37 - 42 weeks)
- < 37 weeks pregnancy related concerns (i.e. prem labour etc.)
- Any medical complication of pregnancy (i.e. signs of PIH etc.)
- Unavailable antenatal records
- Other concerns (ie. anxiety, previous poor obstetrical outcome, has made more than one call to the department for advice, travel, etc.) _____

If patient advised *not* to come directly to the hospital, indicate the rationale and instructions (advice) given: _____

Nursing Signature _____ RN

APPENDIX VII

ST. JOSEPH'S HEALTH CENTRE FAMILY BIRTHING CENTRE

FAMILY BIRTHING CENTRE STAFFING PHILOSOPHY

- * Staff are scheduled based on available resources
- * If workload increases (increased volumes or acuity) staff determine what resources are required and call in additional staff
- * Staff make decisions about staffing on a shift by shift basis
- * Decisions are based on standards and ensuring the provision of 1:1 care for women
- * Staff both Full Time and Part Time go home voluntarily when workload is down
- * If a decision needs to be made to send staff home and nobody is willing to decision is made based on the collective agreement (casual and Regular Part Time following 4 hours of worked time)

Maternal Newborn Services

NUMBER: 5-f-10**FETAL HEALTH SURVEILLANCE (FHS)**

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9. The CPG: Non-reassuring Fetal Heart Rate/Intrapartum Fetal Scalp Blood Sampling (Appendix C) should be referred to as applicable.

INTERMITTENT AUSCULTATION PROCEDURE**EQUIPMENT**

Fetoscope and/or Doptone

GUIDELINES

See Minimum Standards of Care Intrapartum Policy (5-i-30) for frequency of auscultation. When using auscultation only a numerical rate, the presence of a regular rhythm, bradycardia, tachycardia, accelerations and decelerations can be assessed. Variability and some dysrhythmias cannot be detected. One to one nurse to fetus staffing ratio is required when using auscultation as the primary means of fetal assessment in active labour. This support is complementary to the role of family support and covers 80-90 percent of the time the woman is in active labour.

NURSING ACTIONS

On admission count the FHR between contractions for at least 60 seconds to identify the baseline rate.

Perform the following with each FHR assessment:

1. Palpate the maternal abdomen to determine fetal presentation and position. (Leopold's manoeuvres).
2. Place the bell of Fetoscope or Doppler over the area of maximum intensity of fetal heart sounds (usually over the fetal back).
3. Place a finger on the mother's radial pulse to differentiate maternal from fetal heart rate.
4. Palpate for uterine contractions during the period of FHR auscultation in order to clarify the relationship between FHR and uterine contraction.
5. Count FHR immediately following a contraction for one full minute. For low risk women, auscultate FHR q30-60 minutes in the latent phase, q15-30 minutes in active labour, q5 minutes during 2nd stage and following any labour event which has potential influence on fetal oxygenation (i.e., vaginal examination, rupture of membranes).
7. If distinct differences are noted between counts, recounts for longer periods are appropriate to clarify the presence and possible nature of periodic FHR changes, such as abrupt versus gradual changes.
8. To clarify accelerations, recounts for multiple brief periods of 6-10 seconds may be helpful.

Maternal Newborn Services

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FETAL HEALTH SURVEILLANCE (FHS)

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Note: Findings that traditionally have a reassuring connotation and that may be identified by auscultation include:

- i. normal baseline rate (110-160 bpm)
- ii. presence of accelerations
- iii. absence of decelerations

Non-reassuring findings include:

- i) a baseline rate of <110 bpm
- ii) tachycardia, bradycardia
- iii) presence of decelerations
- iv) technical inaudible/inadequate FHR

A 20 minute fetal monitor strip should be performed if any one of the above non-reassuring findings are noted. Refer to pages 19-23 and Appendix C for management of non-reassuring findings. If the EFM strip is abnormal, consult with the attending physician and maintain continuous EFM.

RECORDING AND REPORTING

- Document the baseline FHR in the admission section of the Labour and Birth flow.
- Record the fetal heart rate heard following contractions on the Labour and Birth flow including rate and rhythm. Check (✓) whether accelerations or decelerations were heard. If any decelerations are heard a corresponding note must be made in the comments section indicating the action taken and effectiveness of those actions.
- Document maternal pulse as per fetal heart rate assessments.

PATIENT/FAMILY TEACHING

1. Explain rationale for fetal health surveillance.
2. Explain rationale for electronic fetal monitoring as needed.
3. Inform patient of findings of fetal heart auscultation.

REFERENCES:

Journal SOGC (1995). Fetal Health Surveillance In Labour. Policy Statement. SOGC AWOHNN. (1993). Fetal Heart Monitoring Principles & Practices, Washington, D.C.

ELECTRONIC FETAL MONITORING PROCEDURE**EQUIPMENT**

Fetal monitor
 External transducer and water soluble gel, or scalp electrode with ECG pad
 External tocometer, or IUPC cable

Maternal Newborn Services

NUMBER: 5-f-10**FETAL HEALTH SURVEILLANCE (FHS)**

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APPENDIX A**ELECTRONIC FETAL HEART MONITORING**

THESE ARE GUIDELINES, AND AS SUCH MUST NOT BE CONSTRUED AS BEING THE ONLY REASON FOR ELECTRONIC FETAL MONITORING:

A 20 minute admission strip is performed on **ALL HIGH RISK WOMEN** and/or **WITH ANY NON-REASSURING FINDINGS** at any time.

Indications for application of EFM include, but are not restricted to, the following:

1.
 - PIH
 - preterm labour
 - bleeding
 - decreased fetal movement
 - IUGR (documented)
 - decreased Amniotic fluid volume (documented oligohydramnios)
 - dysfunctional labour
 - thick, particulate meconium stained liquor
 - maternal fever $> 38.5^{\circ}\text{C}$
 - no antenatal care
 - Postmaturity (> 42 wks)
 - poor previous OBS history
 - multiple pregnancy
 - prematurity (< 36 wks)
 - history of decreased FM
 - medical conditions (insulin dependent diabetes)
 - as ordered
2. Induction or augmentation of labour with oxytocin (continuous).
Magnesium Sulphate Therapy (continuous).
3. Regional (spinal or epidural) anaesthesia if auscultation criteria not met.
4. Non-reassuring FHR characteristics detected by auscultation, ie., tachycardia, bradycardia or decelerations.

Maternal Newborn Services

NUMBER: 5-f-10**FETAL HEALTH SURVEILLANCE (FHS)**

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**MANAGEMENT OF NON-REASSURING FETAL HEART RATE PATTERNS
STANDING ORDERS****THE FOLLOWING STANDING ORDERS MAY BE INITIATED, AS NEEDED, FOR
NONREASSURING FHR PATTERNS IN THE ABSENCE OF A PHYSICIAN.****(Please also refer to CPG: Appendix C)**

Standing Orders include:

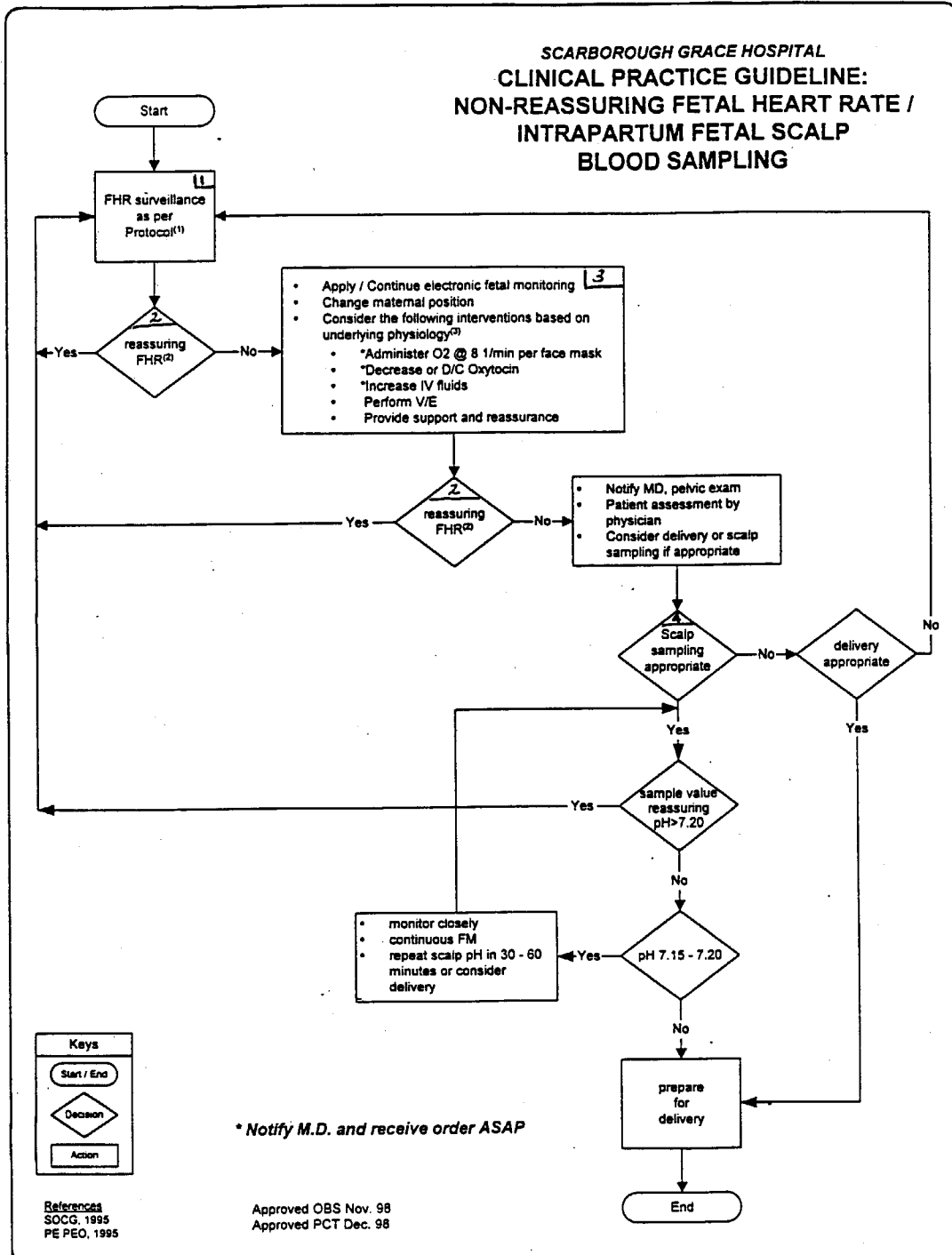
1. Administration of *oxygen at 8-10 l/min per tight face mask.
2. Initiation of an intravenous of Ringers Lactate, give 300-500 cc bolus, run at 150 cc/hr. If I.V. insitu, increase infusion rate to achieve a maximum of 500 cc bolus.
3. If a Caesarean section is anticipated, insert a #14 foley catheter to straight drainage and administer 30 cc of Na Citrate p.o.

These orders may be initiated by nurses certified in the above skills when a physician is unavailable. A physician's order sheet will be initiated by the nurse and signed by the physician as soon as the situation allows.

NOTE: *If oxygen is administered it will take a minimum of 6 minutes for any change in fetal oxygen levels. Oxygen should be discontinued as ordered and/or once a reassuring fetal heart pattern is noted.

APPENDIX C

SCARBOROUGH GRACE HOSPITAL
CLINICAL PRACTICE GUIDELINE:
NON-REASSURING FETAL HEART RATE /
INTRAPARTUM FETAL SCALP
BLOOD SAMPLING



Maternal Newborn Services

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APPENDIX C continued**Clinical Practise Guidelines: Intrapartum Fetal Scalp Sampling**

1. Refer to policy 5-f-10 for fetal monitoring/assessment guidelines.
2. Characteristics of reassuring FHR - **Auscultation**
 - Baseline FHR 110-160 bpm
 - Regular rhythm
 - Presence of accelerations (15 bpm x 15 sec)
 - No decelerations

Characteristics of reassuring FHR - **Electronic Fetal Heart Rate**

 - Baseline FHR 110-160 bpm
 - Average long term variability
 - Short-term variability present (if scalp electrode applied)
 - Accelerations (15 bpm x 15 sec)
 - No decelerations
3. Physiologic causes of non-reassuring F.H.R.:

Baseline Bradycardia	Decreased FHR after Contractions	Prolonged Decelerations	Baseline Tachycardia
• Excessive uterine activity	• Excessive uterine activity	• Excessive uterine activity	• Maternal/fetal temp. elevation
• Rapid labour progress	• Maternal hypotension	• Maternal hypotension	• Drugs (i.e., Atropine, Ritodrine)
• Advanced gestational age	• Maternal condition affecting the placenta	• Cord prolapse	• Prematurity
• Congenital heart block	• IUGR	• Regional anesthesia	• Fetal anemia/hypovolemia
	• Cord compression	• Abruption	• Chronic hypoxia and acidosis

4. The decision to perform scalp sampling or delivery will depend on a number of variables, e.g., stage/progress of labour, maternal infection, FHR tracing, etc. If scalp sampling is not carried out, the nurse will continue to follow physicians's orders and document.

Approved Obstetrics, November 25, 1998

Approved Maternal Newborn Patient Care Team, December 4, 1998

Total Births:
Total Deliveries: Primiparous: % Multiparous: %
 Low Risk Deliveries: % of Total Deliveries

Number of Inductions:	% of Total Deliveries
Elective Inductions:	% of Total Inductions
London/Middlesex residence:	% of Elective Inductions
Residence outside Middlesex:	% of Elective Inductions
Post-dates Inductions:	% of Total Inductions
Hypertension:	% of Total Inductions
With Mild Pre-Eclampsia:	% of Inductions for Hypertension
With Severe Pre-Eclampsia:	% of Inductions for Hypertension
Non-progression of labour at < 4 cm cervical dilatation:	% of Total Inductions
PROM:	% of Total Inductions
Diabetes:	% of Total Inductions
Bleeding:	% of Total Inductions
Previous C-section:	% of Total Inductions
Multiple gestation:	% of Total Inductions
Malposition:	% of Total Inductions
Other conditions affecting maternal health: (includes ITP, hemolytic disease, recurrent herpes)	% of Total Inductions
Possible fetal distress:	% of Total Inductions
IUGR/oligohydramnios:	% of Total Inductions
Hydramnios:	% of Total Inductions
Fetal anomalies:	% of Total Inductions
Other conditions affecting fetal health:	% of Total Inductions
Intra-uterine death:	% of Total Inductions
Lethal anomalies:	% of Total Inductions
Other: (includes previous adverse outcome)	% of Total Inductions

Number of Augmentations: % of Total Deliveries

Notes: Inductions with reason given as post-dates must be 41 completed weeks, if not, the reason is coded as elective in the database

Total Births:

Total Deliveries:	Primiparous:	%	Multiparous:	%
--------------------------	--------------	---	--------------	---

Low Risk Deliveries:	% of Total Deliveries
----------------------	-----------------------

Anaesthesia/Analgesia:

General Anaesthesia:	% of Total Deliveries
Epidurals:	% of Total Deliveries
Spinal:	% of Total Deliveries
Pudendal Block:	% of Total Deliveries
Nitronox:	% of Total Deliveries
Narcotic:	% of Total Deliveries:

Continuous Electronic Monitoring:

Total Monitored Deliveries:	% of Total Deliveries
External Monitoring:	% of Monitored Deliveries
Internal Monitoring:	% of Monitored Deliveries
Both:	% of Monitored Deliveries
Monitored Low Risk Deliveries:	% of Low Risk Deliveries

APPENDIX IX

(CONTINUED)

ST. JOSEPH'S HEALTH CENTRE FAMILY BIRTH CENTRE SCREEN TEMPLATES

SEE OPPOSITE PAGE

The following nine screen templates are used at the St. Joseph's Health Centre to enter information on individual births into the Family Birth Centre's Obstetrical Database.

MATERNAL RISK FACTORS / DEMOGRAPHICS FORM:											
HOSPITAL:	3850	LEVEL:	2								
Surname:	THIS IS A TEST CASE		Postal code:								
M.I. No:	000000	Infant: 1 of: 1	County:								
Admit Date:		Time:		Marital status:	M						
Infant DOB:	10/20/57	A/N stay:		days	Maternal DOB:		MAGE:				
Antenatal Transfers:		LEAVE BLANK IF U/K:									
Transferring Hospital:		Height:		inch		cm					
Transfer Reason:		Pre-pregnancy wt:		lb		kg					
Deliv phys:		T:		P:		A:		L:		# Prev C/S:	
Adm phys:		Gest Age: 40 Wk 0 Days									
I/P OB consult:											

ANY RISK FACTORS? <input type="checkbox"/> At presentation? <input type="checkbox"/> Developing intrapartum?		<input type="checkbox"/> Previous death <input type="checkbox"/> Previous IUGR <input type="checkbox"/> Previous anomaly		<input type="checkbox"/> Previous diabetes <input type="checkbox"/> Previous pre-eclampsia	
Amniocentesis: <input type="checkbox"/>	Prenatal care: <input type="checkbox"/>	Smoking: <input type="checkbox"/>			
Reproductive technology: <input type="checkbox"/>	Social services: <input type="checkbox"/>	Alcohol use: <input type="checkbox"/>			
		Drug use: <input type="checkbox"/>			
Carbohydrate disorders: <input type="checkbox"/> Hypertensive disorders: Chronic Hypertension <input type="checkbox"/> Pre-Eclampsia / Eclampsia: <input type="checkbox"/> Select highest code which applies Htx Complications: <input type="checkbox"/> Select highest code which applies					

Isotimmunization: <input type="checkbox"/>	Multiple gestations: <input type="checkbox"/> 1= Twin-twin transfusion 4=Discordance 5=Fatal loss	
A/N steroids: <input type="checkbox"/>	Abruption: <input type="checkbox"/>	PROM: <input type="checkbox"/>
Tocolysis: <input type="checkbox"/>	Placenta Previa: <input type="checkbox"/>	Chorioamnionitis: <input type="checkbox"/>
	Coagulopathy: <input type="checkbox"/>	Group B Strep: <input type="checkbox"/>
	Other a/p haem: <input type="checkbox"/>	I/P antibiotics: <input type="checkbox"/>
Uterine condition: <input type="checkbox"/>	Intrapartum fever: <input type="checkbox"/>	Infection: <input type="checkbox"/>
CODES: A = Fibroids B = Abnormality C = Surgery (exclude prev cis) D = Other	(≥ 38.0 C on 3 readings over 6 hrs) Maternal cardiac condition: <input type="checkbox"/> C-P Disproportion: <input type="checkbox"/>	CODES: G = Chicken Pox J = Parvo B19 K = Hepatitis V = Vaginosis D = CMV T = TB L = HIV M = HPV H = Herpes S = Other STD Z = Other

ENTER CODE ONLY IF APPLICABLE:

Abnormal intrauterine growth:

Fetal growth disorders:

Polyhydramnios:

Oligohydramnios:

A/N conditions leading to deliv:

Codes:
 2 = Decreased movement
 6 = Non-reactive non-stress test
 7 = Abnormal biophysical profile score
 8 = Spontaneous decels

Non-reassuring FHR

Codes:
 T = Fetal tachycardia
 D = Fetal bradycardia
 B = Late decelerations
 C = Variable decelerations
 V = Decreased FHR variability

Meconium:

Hydrops:

OTHRISK:

Go To Delivery/Outcome Form

DELIVERY / INFANT OUTCOME FORM: Return to Demographic Form

THIS IS A TEST CASE 1 1

Pain Relief None

Non-pharmacologic
massage, hydrotherapy, TENS, hypnosis, etc.

Narcotic Nitrox
 Epidural PCA
 Local Pudendal
 Spinal General
 Other Unknown

Membrane rupture:

Fluid colour:

Labour:

Induction reason:

Booking:

Delay reason:

Cervical ripening:

Foley
 Prostaglandins
 Misoprostil
 ARM induction only
 Oxytocin induction or augmentation

Continuous monitoring:

Reason for continuous monitoring:

External reason:

Internal reason:

Scalp sample

Presentation:

Delivery:

Vacuum:

Forceps:

C/S reason:

Shoulder dystocia:

Internal version:

Cord complications: <input type="checkbox"/> 0=None 1=Neck 2=Knot 3=Body 4=Protruded 5=Laceration 6=Short 7=2 vessel 8=Velamentous 9=Other	Placental weight: <input type="checkbox"/> Placenta: <input type="checkbox"/> Uterus explored: <input type="checkbox"/> Uterine complications: <input type="checkbox"/>	
Blood loss at birth: <input type="checkbox"/> Source if >= 500 ml: <input type="checkbox"/> 1=Abrupcion 2=Previa 3=Rupture 4=Laceration 5=Atony 6=Accreta 7=CS 8=Other PP haemorrhage: <input type="checkbox"/> Transfusion: <input type="checkbox"/>	Laceration: Perineal tear: <input type="checkbox"/> Vaginal tear: <input type="checkbox"/> Cervical tear: <input type="checkbox"/> Other tear: <input type="checkbox"/> Episiotomy: <input type="checkbox"/>	Professional staff present at birth: NICU/PCCU: consultant: <input type="checkbox"/> support staff: <input type="checkbox"/> Anesthesia: <input type="checkbox"/>

Chronology: Date: Time: Continuous monitor: <input type="checkbox"/> <input type="checkbox"/> Membrane rupture: <input type="checkbox"/> <input type="checkbox"/> Induction: <input type="checkbox"/> <input type="checkbox"/> Labour onset: <input type="checkbox"/> <input type="checkbox"/> Augmentation: <input type="checkbox"/> <input type="checkbox"/> Full dilatation: <input type="checkbox"/> <input type="checkbox"/> Birth of infant: <input type="checkbox"/> 10/20/57 <input type="checkbox"/> LABOUR DURATION: 1ST: <input type="checkbox"/> 2ND: <input type="checkbox"/> TOT: <input type="checkbox"/> Duration of ROM: Hours: <input type="checkbox"/> Days: <input type="checkbox"/>	Cord blood gases: <input type="checkbox"/> sample sent Arterial: PH: <input type="checkbox"/> PCO2: <input type="checkbox"/> PO2: <input type="checkbox"/> HCO3: <input type="checkbox"/> TCO2: <input type="checkbox"/> Base excess: <input type="checkbox"/> Buffer base: <input type="checkbox"/> Venous: PH: <input type="checkbox"/> PCO2: <input type="checkbox"/> PO2: <input type="checkbox"/> HCO3: <input type="checkbox"/> TCO2: <input type="checkbox"/> Base excess: <input type="checkbox"/> Buffer base: <input type="checkbox"/>
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Apgar scores: <input type="checkbox"/> 1 min <input type="checkbox"/> 5 min		Resuscitation: <input type="checkbox"/> Free flow O2 <input type="checkbox"/> Bag/mask ventilation <input type="checkbox"/> Intubation <input type="checkbox"/> Chest compression <input type="checkbox"/> Drugs		Infant J#: <input type="text"/> Birthweight: <input type="text"/> Sex: <input type="text"/> Anomaly: <input type="text"/> A/N diagnosis: <input type="text"/> NICU/PCCU: <input type="text"/>	
Outcome: <input type="text"/> Neonatal transfer: <input type="text"/> Reason: <input type="text"/>					
For all stillbirths:		Stillbirth time of death: <input type="text"/>			
		Gestational age at death: <input type="text"/> wks (-8=wk)			
For all neonatal deaths:		Date of death: <input type="text"/>			
For all deaths:		Autopsy: <input type="text"/>			
		Cause of death: <input type="text"/>		1=ABRUPTIO 2=PREM 3=IUGR 4=ANCM 5=CORD 6=OTH 3=UNK	

<p>Post-partum complications: <input type="text"/></p> <p>0 = none 1 = lacerations 2 = wound dehiscence 3 = anemia 4 = endometritis 5 = UTI (include retention) 6 = wound infection 7 = positive blood culture 8 = other pp comp 9 = other</p> <p>Discharge date: <input type="text"/> Time: <input type="text"/></p> <p>Post-partum stay: <input type="text"/> days (0=same day)</p> <p>Post-partum stay: <input type="text"/> hours</p> <p>Maternal PP transfer: <input type="text"/> select hospital code</p>	<p>Post-partum OB referral: <input type="text"/></p> <p>Reason: <input type="text"/></p> <p>Community Follow-up:</p> <ul style="list-style-type: none"><input checked="" type="checkbox"/> Breastfeeding support<input type="checkbox"/> Public health<input type="checkbox"/> Home care<input type="checkbox"/> Social services
<p>Breastfeeding: Leave blank for deaths and NICU admissions:</p> <p>Intended to breastfeed at admission? <input type="text"/></p> <p>Initiated breastfeeding in hospital? <input type="text"/></p> <p>Breastfeeding status at discharge <input type="text"/></p>	<p><input type="button" value="Review"/></p> <p><input type="button" value="Exit Form"/></p>

APPENDIX X

ST. JOSEPH'S HEALTH CENTRE FAMILY BIRTHING CENTRE

Consumer Survey Supportive Care During Labour, Birth & Postpartum Period

Good morning/afternoon Ms. _____, my name is _____ and I am visiting on behalf of the Perinatal & Women's Nursing Division at St. Joseph's Health Centre. Congratulations on the birth of your baby.

We are currently conducting a survey of women who have their babies at St. Joseph's Health Centre. The purpose of this survey is to help us learn about how we can improve our service for women and their babies.

We would like to ask you to provide feedback to us by answering some questions about your care while you were in hospital for the birth of your baby. You were probably seen by many care providers and we would like to know how your nursing team of care givers were able to meet your needs.

Your feedback will be confidential and would be of great help to us. It will require about 10 minutes of your time to complete. If you choose not to participate your care will not be affected.
(Pause)

If no, why? _____

Each question will require you to think back to the time you were in labour and then to the time you spent on this unit, the mother-baby unit. I will provide you with several possible answers for each question and ask you to select the answer that best reflects your opinion.

PART I

THE FIRST FOUR QUESTIONS ARE ABOUT HOW CARED FOR YOU FELT DURING YOUR STAY.

	All of the Time	Most of the Time	Some of the Time	Not at All
1a. How often did the nurse(s) treat you with respect during your labour and birth experience?	4	3	2	1
b. How often did the nurse(s) treat you with respect during your stay after the birth of your baby?	4	3	2	1
2a. How often did you feel that you had a say in the care provided during your labour and birth	4	3	2	1

	All of the Time	Most of the Time	Some of the Time	Not at All
b. How often did you feel that you had a say in the care provided during your stay after the birth of your baby?	4	3	2	1
3a. How often did caregivers introduce themselves while you were in labour?	4	3	2	1
b. How often did caregivers introduce themselves during your stay after the birth of your baby?	4	3	2	1
<i>(Describe new scale)</i>	Always	Often	Sometimes	Rarely
4a. During the time you were in labour, did you experience a sense of feeling that your nurse(s) cared?	4	3	2	1
b. During the time you spent on the mother-baby unit, did you experience a sense of feeling that your nurse(s) cared?	4	3	2	1

PART 2

THE NEXT TWO QUESTIONS ARE ABOUT THE INFORMATION YOU RECEIVED DURING THIS HOSPITAL STAY.

<i>(Describe new scale)</i>	All of the Time	Most of the Time	Some of the Time	Not at All
5a. How often did you receive information that you needed during your labour and birth?	4	3	2	1
b. How often did you receive information that you needed after the birth of your baby?	4	3	2	1
<i>(Describe new scale)</i>	Very Comfortable	Moderately Comfortable	Somewhat Comfortable	Not at All
6a. How comfortable did you feel in requesting information during your labour and birth?	4	3	2	1
b. How comfortable did you feel in requesting information during your stay on the mother-baby unit?	4	3	2	1

PART 3

THE NEXT FOUR QUESTIONS EACH HAVE TWO PARTS AND ARE SPECIFICALLY ABOUT THE NURSING CARE YOU RECEIVED DURING THIS HOSPITAL STAY.

	Very Satisfied	Moderately Satisfied	Somewhat Satisfied	Not at All
7a. How satisfied were you with the relationship you had with your nurse(s) during your labour and birth?	4	3	2	1
b. How satisfied were you with the relationship you had with your nurse(s) during your stay on the mother-baby unit?	4	3	2	2
	All of the Time (≥ 80%)	Most of the Time (50-80%)	Some of the Time (20-50%)	Not at All (<20%)
8a. How often was/were your nurse(s) with you during your labour and birth?	4	3	2	1
	To a Great Extent	To a Fair Extent	To a Small Extent	Not at All
9a. To what extent did the nurse(s) help you cope with the discomforts associated with your labour and birth?	4	3	2	1
b. To what extent did the nurses help you cope with your discomfort(s) after the birth of your baby?	4	3	2	1
	Very Satisfied	Moderately Satisfied	Somewhat Satisfied	Not at All
10a. How satisfied were you with the amount of time the nurse(s) spent with you during your labour and birth?	4	3	2	1
b. How satisfied were you with the amount of time the nurses spent with you during your stay on the mother-bay unit?	4	3	2	2

PART 4

THE LAST THREE QUESTIONS DO NOT HAVE A RATING SCALE. WE WOULD LIKE TO KNOW ABOUT ANY SUGGESTIONS YOU MAY HAVE ON HOW WE CAN IMPROVE THE QUALITY OF NURSING CARE FOR WOMEN AND THEIR FAMILIES.

11. Is there anything the nursing team did that enriched your labour, birth and postpartum experience?

12. Please tell us about what the hospital could do to improve the quality of the care and services you received.

13. Is there anything else you would like us to know?

I would like to thank you for participating in our satisfaction survey. Your feedback is greatly appreciated.

APPENDIX XI

HOSPITAL CONTACT INFORMATION

WOODSTOCK GENERAL HOSPITAL

270 Riddell Street

Woodstock ON N4S 6N6

Phone: (519) 421-4211

Fax: (519) 537-8369

Obstetric Department

Contact: Director of Patient Care,

Obstetrics and Rehabilitation

ST. JOSEPH'S HEALTH CENTRE

268 Grosvenor St, PO Box 5777 N6A 4V2

London ON N6A 4L6

Phone: (519) 519 646-6000

Fax: (519) 646-6014

Family Birthing Centre

Contact: Team Leader/Manager, Perinatal

and Women's Health

Phone: (519) 646-6100

Fax: (519) 646-6007

ST. CATHARINES GENERAL HOSPITAL

142 Queenston St

St. Catharines ON L2R 7C6

Phone: (905) 684-7271 Ext. 3283

Fax: (905) 684-1468

Maternal/Child Family Centre

Contact: Program Manager, Medical

Program Manager, Nurse Educator

THE SCARBOROUGH HOSPITAL -

GRACE DIVISION

3030 Birchmount Rd.

Scarborough ON M1W 3W3

Phone: (416) 495-2400

Fax: (416) 495-2567

Maternal Newborn Services Program

Contact: Director, Maternal Newborn Services