

Ontario Maternity Care Expert Panel

Appendix E

Improving Maternity Care in Ontario: Measuring Performance in a Maternity Care System

Why is an Evaluation Framework Needed for Maternity Care?

Evaluation is necessary in order to understand whether a program is progressing towards achieving its goals. Quantitative and qualitative measures or indicators are often used in this process of evaluation. Based on OMCEP's scan of existing indicators in the area of maternity care, we propose a set of performance measures that might be used to monitor and evaluate Ontario's maternity care system on an on-going basis and provide feedback as to whether the system is meeting its objectives. Consistent with the OMCEP's vision for maternity care, the proposed indicators reflect the entire continuum of maternity care from pre-pregnancy counselling through to postpartum care.

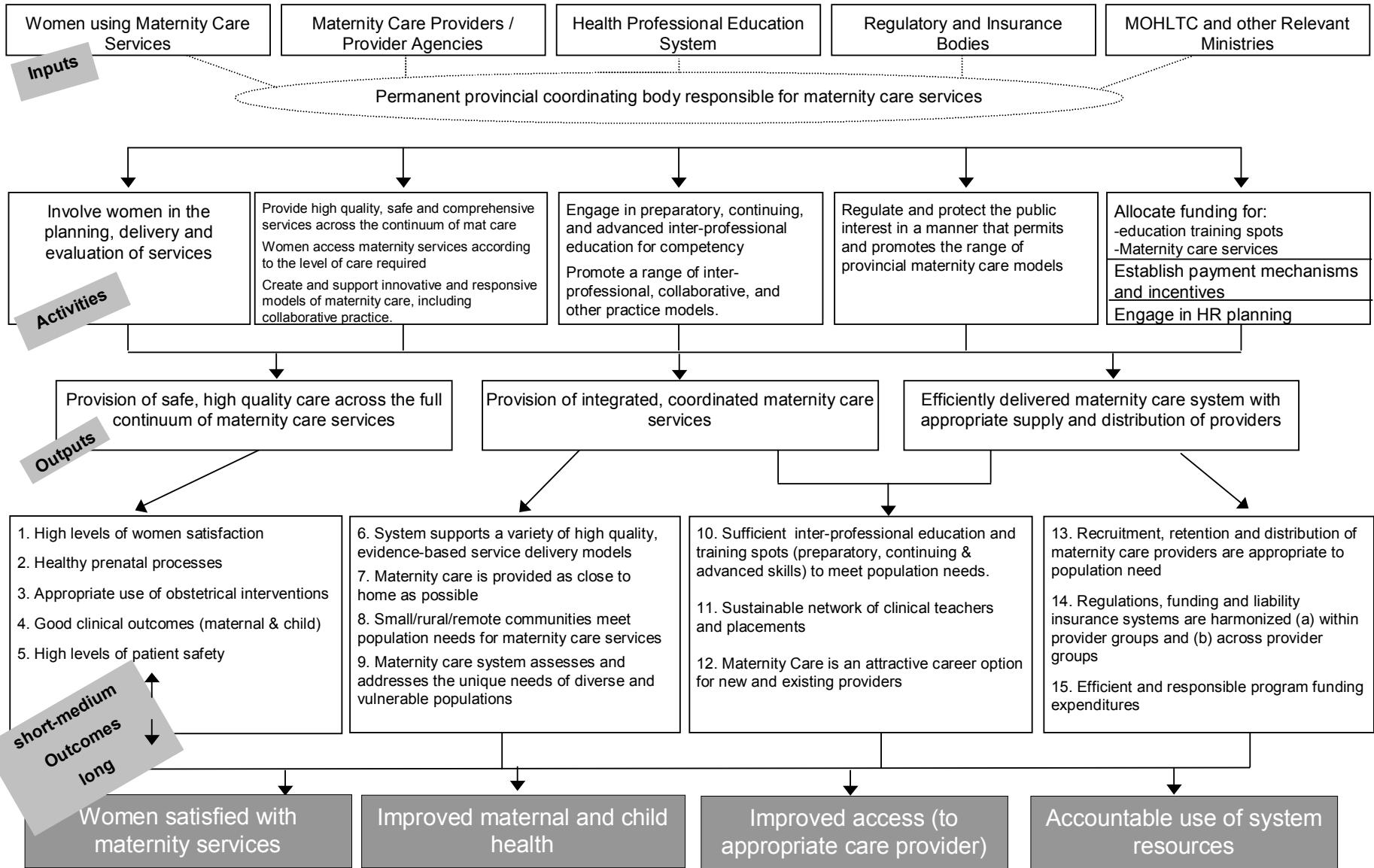
For Government to implement and rely on a maternity care strategy, it is imperative for the system to focus on improvements to maternity care monitoring and evaluation for a sustained period to accumulate sufficient data for trend analysis

Program Logic Model

Identification of a meaningful set of performance indicators first requires knowledge of a program's goals as well as consideration of the steps or processes involved in achieving program objectives. Program logic models are often used to ensure performance indicators are consistent with and reflective of program goals. Logic models that are used in program evaluation use an outcome approach and (1) provide a visual roadmap of what a program does and why, (2) demonstrate the intended linkages and relationships within a program, (3) display links between specific program activities and their outcomes, and (4) provide a basis for developing indicators that can be used to demonstrate how a program is performing.

OMCEP developed the attached Program Logic Model as the basis for an evaluation plan for Ontario maternity care. We recommend that it be used to confirm an ongoing evaluation plan for the maternity care system in Ontario.

Vision: Every woman in Ontario has access to high quality, woman and family-centred maternity care as close to home as possible



What Does a Logic Model Tell Us?

The logic model starts with the Program vision that “Every woman in Ontario has access to high quality, woman and family- centred maternity care as close to home as possible”. Next the inputs to the program are defined including women receiving maternity care services, providers and provider agencies, the health professional education system, regulatory and insurance bodies, and the relevant government ministries. The logic model then outlines the activities that the program engages in and the outputs (reflecting the size or scope of the services delivered or provided by the program).

Finally, a series of specific and measurable outcomes are identified reflecting changes in attitudes, behaviours, knowledge, skills, etc that are expected to result from program activities. Short-medium term outcomes are within the control of the program and are expected to occur with 1-4 years. Long-term outcomes reflect more fundamental changes in communities or systems occurring within 5-10 years that cannot be solely attributed to the program. Accordingly, short-medium term outcomes drive the selection of performance indicators, as they are more appropriate for monitoring whether the program is achieving its objectives.

Characteristics of Performance Indicators

Performance indicators can provide information on system inputs (e.g. supply of maternity care providers), processes (e.g. vacuum delivery rates or percentage of women with a first trimester visit) and outcomes (morbidity and mortality, patient or provider satisfaction). Performance indicators can also reflect different levels of the system. For instance, patient satisfaction can be measured and reported at the hospital level or at the system level (The NRC+Picker instrument is designed to do the former and the Maternity Experiences Survey administered by Statistics Canada is designed to do the latter). Other indicators may be most appropriately measured at the LHIN or Regional Perinatal Partnership level (e.g. supply of maternity care providers). The Ontario Hospital Report Project,

which presents performance indicators for several areas of Ontario’s health system, uses similar principles of scientific soundness, feasibility, and relevance for the indicators it presents.

Good performance indicators are:

- Clear and understandable
- Actionable – the data provide direction for change and information needed to make decisions
- Valid and Reliable – it measures what it is intended to measure and the measure is repeatable over time
- Cost effective – the benefit of collecting the data outweighs the cost of data collection
- Timely – the data can be collected, processed and distributed within a useful timeframe

The Need for Clarity of Purpose for Performance Measurement

It has been suggested that there are “three faces” of performance measurement: measurement for improvement, measurement for accountability and measurement for research (Solberg et al., 1997). Solberg and colleagues draw attention to the fact that there are different audiences for each of these purposes, each with different data needs and, for each of these three purposes, the type of measure, degree of rigor required, and reporting methods are different and sometimes conflicting. For instance, providers want outcomes data on the technical aspects of quality and they expect these data to be subjected to complex risk-adjustment procedures; consumers, however, have difficulty understanding these data and, instead, state preferences for data on satisfaction and access to care. Eddy (1998) argues that trying to use a measure that was designed with one thing in mind for something else simply does not work. He discusses several factors that affect how good a performance measure is and he highlights the fact that attention must be paid to the purpose, the entity being measured (hospitals, physicians, health plans), the dimension, and who will use it.

Care needs to be taken to ensure that performance indicators generated to monitor progress toward achieving the objectives of Ontario’s maternity care system are used appropriately. It should be recognized that performance indicators, which are collected and used for accountability purposes may undermine any coexisting improvement aims that hospitals, providers, LHINs, or Regional Perinatal Programs may have in mind. The reason for this is that “Accountability data are intended to be non-confidential. They are intended to be used for judgment. The generation and reporting of these data will commonly result in fear and defensiveness” (Solberg et al., 1997: 142). Others have noted that: “there remains a difficulty of developing a framework for public reporting that can heighten acceptance of the measures for improvement activity rather than produce a defensive response or participants’ denial of the validity of the measures” (Rogers & Smith, 1999: 251). Any evaluation initiatives stemming from the work of this panel need to consider these potential tensions.

Proposed Indicators for Evaluating a Redesigned Maternity Care System in Ontario

Based on the process undertaken by OMCEP and the indicator and data sources described in here in this appendix, one to four indicators have been identified for each of the 16 short-medium outcomes identified in the program logic model.

These indicators reflect desired inputs; processes and outcomes of a redesigned maternity care system for Ontario. Although some of these indicators can be measured at the hospital level or provider group level, most are appropriate for regional or system-level measurement and could therefore be used by the proposed Regional Perinatal Partnerships and the Office of Maternal Newborn Health. Details regarding the status of the suggested indicators (e.g. whether there are existing indicators or existing data that could be used to construct these indicators), the source, the level at which the indicator could be measured, and brief notes to guide measurement in these areas can be found in the next sections of this appendix.

BOX 1

1. High levels of women satisfaction
 - Percentage of respondents reporting they were able to get the provider type (MW, OB, FP) they wanted
 - Satisfaction with access to Care
 - Satisfaction with Information, Education, Communication about Infant
2. Healthy prenatal processes
 - Adequacy of prenatal care (APNCU Index)
 - Percentage of women with a first trimester visit
 - Smoking during pregnancy
 - Percentage of women taking folic acid while trying to become pregnant
3. Obstetrical Outcomes
 - Perinatal mortality and morbidity
 - Trauma to the Perineum
 - Rate of episiotomy
 - Percentage of all c-sections done under general anaesthetic
4. Clinical outcomes (maternal & child)
 - Incidence of low birth weight
 - Patient reports of information and postnatal screening for depression
 - Identification and treatment of mental health problems pre- and postpartum
- 4b. High levels of patient safety
 - Patient perception of patient Safety
 - Percentage of births that result in maternal transfer due to lack of physician or nurse coverage
 - Adverse Events - Maternal and Infant
5. Regulations that support new Maternity Care models
 - Proportion of communities where midwives are able to practice to their full scope
 - Proportion of hospitals with restrictions on midwifery scope or number of midwives
6. Collaborative and other new practice models
 - Percentage of midwifery consults required only by physician protocol
 - Percentage of hospitals with midwife / physician shared call networks
7. Interprofessional and other education and training programs (preparatory, continuing, and advanced skills)

- Percentage of education and training programs with interprofessional maternity care modules
- Percentage of hospitals without 24/7 anaesthesia with a plan for obtaining advanced anaesthesia skills for FPs

8. Expansion and support for clinical teachers and placements

- Percentage of rural and community clinical teachers with access to continuing professional education and teaching skills (learning to teach)

9. Maternity care providers, birth setting, and location is appropriate for risk status

- Percentage of high-risk newborns born in the appropriate high-risk setting
- Percentage of cases transferred out of maternity care region
- Percentage of low risk deliveries taking place in birthing centres
- Percentage of low risk deliveries taking place in tertiary care centres
- Percentage of low risk deliveries attended by FP, MW and OB
- Percentage of women receiving most or all of their prenatal care from a midwife or nurse practitioner

10. Maternity care system with harmonized funding (a) within provider groups and (b) across provider groups

- Trends in the number of payment schemes within provider groups
- Attitudes toward dominant or emerging payment models

11. Maternity care system assesses and addresses the unique needs of diverse and at-risk populations

- Proportion of teens who smoked during pregnancy
- Preterm birth rates and fetal growth (small and large for gestational age) among: 1) teens, (2) those with low SES, (3) women with low education, (4) aboriginals
- Funding models that attract maternity care providers to diverse and at-risk populations

12. Training spots proportionate to population delivery risk levels

- Percentage change in funded training positions in midwifery, FP-OB spots, FP-anaesthesia, perinatal nursing, & OBGYN
- Percentage of hospitals that are clinical education sites for BScN nursing and RPN nursing maternity care rotations and Family medicine OB rotations, and midwifery

13. Maternity Care is an attractive career option for new and existing providers

- Percentage change in # of FPs providing full continuum of maternity care
- Percentage change in the number of maternity care providers (FP-OBs, Midwives, OB/GYNs)
- Provider satisfaction: perceived quality of work-life, including sufficient coverage and time off
- Provider satisfaction: Provider reports of plans to continue to provide maternity

care

14. Access to maternity care providers as close to home as possible

- Percentage of "women at increased risk and "women not at increased risk", who gave birth greater than a "reasonable distance" from their home community.
- Percentage of "women at increased risk and "women not at increased risk", who receive their prenatal greater than a "reasonable distance" from their home community.
- Percentage of small communities with hospitals receiving protected funding for maternity care

15. Small/rural/remote communities' are able to meet population needs for maternity care services

- Percentage of small communities with access to epidurals for elective pain relief in labour 24/7
- Percentage of patients in small, rural, remote communities with first trimester prenatal visit
- Percentage of small / rural / remote hospitals with maternity care as a stated service commitment from the hospital board
- Trends in number of births occurring in hospitals without obstetrical beds

16. System & Sustainability

- Cost of prenatal care under various provider models
- Unit cost per maternity, adjusted for market forces factors and case mix.
- Proportion of all maternity cases for which complete data are submitted to the proposed minimum data for maternity care
- Percentage of hospitals where 24/7 C-Sections are not available

Additional Indicator Areas for Consideration

Numerous indicators are already being collected by various perinatal databases in Ontario including discussion by the evaluation working group and consideration of existing and new sources for maternity care data yielded a list of other possible indicator areas for consideration.

Steps Necessary to Evaluate Ontario's Maternity Care System

1. Evaluating the Utility of Existing Data Sources

As noted, some of the data that would be required to construct a series of indicators to evaluate Ontario's Maternity Care System can be drawn from existing sources. While existing data can be an important and efficient source of information for constructing indicators, how useful the data are depends on whether the database (a) captures all the variables needed to calculate the indicator, (b) captures data for the population to be included in the indicators, (c) timeliness of the data and (d) the accuracy and completeness of the data in the database. Databases that do not contain all the necessary

variables but do capture a unique subject identifier may be able to be linked to other databases that do contain the missing information.

Our assessment of the utility of existing data sources for the evaluation and indicator measurement process is that despite the presence of several good data sources, there are important gaps in the available data on care, services, cost and experiences, data quality considerations persist for several NIDAY and OHIP variables, data from many existing sources are often 2-4 years old, and Ontario is presently limited in its ability to link data on cost, care and services, and experiences.

If we consider existing Maternity care databases in Ontario and examine what data are available regarding care and services provided for a typical maternity care patient several limitations become clear. If you consider the case of a woman cared for by a physician under a fee-for-service payment model, data on the number and timing of prenatal visits can be gleaned from OHIP billing data. These data will not provide any details about these encounters such as whether discussions of genetic screening took place or whether the woman was instructed to take folic acid. If the woman saw a nurse practitioner during any of her encounters this would also not be apparent from the OHIP data. Data on certain procedures that are associated with physician billing could also be gleaned from OHIP data. Using the women's healthcare number as a unique patient identifier, data on certain aspects of intrapartum care and procedures captured in hospital discharge abstracts could be linked to this woman. Important data for the postpartum period related to coping and psychiatric well-being is unlikely to be captured in a manner that is detailed enough to measure such things as identification of or treatment for postpartum depression. Additional data on the prenatal and intrapartum period captured in Niday (if the hospital where the delivery occurs submits data to Niday) cannot be linked to this woman because no unique patient identifier is captured in Niday. In terms of the costs of care for this woman, accurate data on physician fees could be gleaned for this patient from the OHIP data; however no actual data are currently available reflecting the cost of her hospitalization. The Ontario Case Cost Initiative might in the future be able to provide cost data on a patient specific basis but capability in this area is currently very limited in Ontario.

If a physician cared for this same woman in an alternate payment plan, data on the true costs of physician services or services provided by other health professionals for prenatal and postpartum care would not be readily available. If this woman was cared for by a midwife, fees payable per course of care are available and could be linked to hospital discharge abstract data if the delivery took place in a hospital. This scenario reveals some of the limitations associated with using data for purposes other than those for which it was captured.

What about linking data on care, procedures, and cost to data on women's experiences with maternity care? Despite the fact that data on women's experiences with maternity care are currently or soon to be collected in two ways in Ontario, the current data systems do not allow us to link women's experience data with clinical encounter or cost data. Although the NRC+Picker Maternity Satisfaction Survey is conducted with women

identified from individual hospital patient databases, the health card number which is the unique patient identifier that could be used to link women's responses to other data on care and services they received, is not currently attached to the survey data. Statistics Canada is likely to take over the Maternity Experience survey initially developed and pilot tested by the Canadian Perinatal Surveillance System (Dzakpasu & Chalmers, 2005). When implemented these data will be collected from a sample of Ontarians (and other Canadians) that have given birth in a predefined period. Although Statistics Canada would likely have data identified by health card number, a smaller sample of women giving birth in Ontario will contribute data for this survey, thereby restricting the size of a linked dataset if it were created.

2. Creating New Data Sources

The advantages of creating new data sources for the purpose of evaluating Ontario's Maternity Care system have to do largely with being able to design data collection efforts to provide exactly the information from the specific population that is required for evaluation and indicator development purposes. Newly collected data also tend to be timelier than existing data that are collected for other purposes. The major drawback associated with creating new data sources is the resources (human and financial) that are required to collect the data.

To supplement the data on Maternity care and services in Ontario that already exist, it is the recommendation of this panel that additional data which reflects the perspectives of maternity care providers and those administering maternity care education at the college and university level in this province needs to be collected as part of any comprehensive initiative to evaluate Maternity Care in Ontario.

3. Maternity Care Provider Work-life Survey

Ad hoc initiatives to assess satisfaction, workload and work-life of maternity care providers (e.g. the current initiative through the Ontario College of Family Physicians) may provide the basis for instrument development for a Maternity Care Provider Work-life Survey that could be carried out on a recurring basis (bi-annual or every 5 years). Ideally, such a survey would target Maternity care providers in the nursing profession, midwives, family physicians providing prenatal care or obstetrics, GP anaesthetists, obstetricians, anaesthesiologists and paediatricians. The survey would be designed to collect data on satisfaction with payment models and incentives, satisfaction with the nature of the work they do, intention to continue or change current intensity of practice, appropriateness of incentives to care for various diverse and at-risk populations, perceptions of collaborative and other practice models, satisfaction with any new models of maternity care that are implemented and corresponding perceptions of legal protection, in addition to other potential areas. Data gleaned from this survey would be used to help construct performance indicators to assess various short-medium term outcomes on the program logic model such as Maternity Care is an attractive career option for new and existing providers (outcome 13), System & Sustainability (outcome 16), Collaborative and other new practice models (outcome 6).

4. Education & Training Program Director Survey.

In order to evaluate Ontario's Maternity Care system, data are required about several aspects of maternity education and training programs in the province. A recurring survey of the Directors of programs in nursing, midwifery, and medicine (undergraduate and postgraduate) would provide important information about supply and demand for maternity care providers, the presence of interdisciplinary modules and other initiatives, support for placements in rural and community settings, availability of training in advanced procedures, and other areas. Data gleaned from this survey would be used to help construct performance indicators to assess various short-medium term outcomes on the program logic model such as Interprofessional and other education and training programs (outcome 7), Expansion and support for clinical placements (outcome 8), and Maternity Care is an attractive career option for new and existing providers (outcome 13).

5. Hospital Survey

Two existing surveys designed to obtain data from hospitals on maternity care services have been devised, one as part of OMCEP's work (the Hospital Environmental Scan Survey) and one as part of the Province's Hospital Report Series to measure the performance of Ontario hospitals in a number of settings and clinical areas. One of these surveys could be used as the basis for ongoing assessment of hospital services and activities. Modifications or additions could be made to the Environment Scan Survey to collect data on the presence of shared midwife-physician call networks, maternity care as a stated service provision, the presence of protected maternity care funding, etc.

Managing the Data and Evaluation Processes

Evaluation of Ontario's Maternity Care system will require a substantial amount of attention and stable resources allocated to the on-going processes of data collection, analysis and information management, and maintenance of the evaluation system. However, steps are already underway by programs in the ministry and other programs affiliated with regional perinatal networks to substantially improve Ontario's current data and evaluation situation.

Data Collection.

In order to create a comprehensive set of performance indicators such as those proposed in this report, a variety of data collection processes are required. The system would need to become mandatory and routine data quality assurance tests would be required, at least in the initial stages of system development.

Processes for collection of survey data including questionnaire design and on-going instrument validation, obtaining and managing sample lists, questionnaire distribution, follow-up, data entry and analysis, would have to be put in place. Methodological support would be required to ensure sampling is adequate and processes are carried out in a manner that will maximize response rates. Given that three surveys are proposed (Maternity Care Providers, Hospitals, Education & Training program leaders) these processes can be quite costly and onerous. For instance, the job of obtaining sample lists

for the Maternity Care Provider Work-life Survey alone will require substantial liaising with the relevant colleges.

Analysis and Management through a Minimum Maternity Care Data Set

As more and more attention is being paid to the collection of data and its use in informing the decision making process, and as the Maternity Care framework is being put in place an opportunity exists to establish a platform for all data collection relating to Maternity Care in Ontario. A comprehensive framework to collect, validate, clean, report and analyze data should be implemented. This framework would enable the collection of relevant clinical, financial, and stakeholder data. Additionally, performance indicators could also be put in place. A robust reporting and analysis system would help various stakeholders to plan, monitor, evaluate and manage expenditures and outcomes. The Ontario Hospital Report Project has put a similar system in place, and the response from stakeholders has been very encouraging.

The proposed system would also be used to facilitate the collection of some of the data inputs from disparate sources (such as surveys, STATISTICS CANADA, other MOHLTC sources etc.). For instance, it would be ideal to have some sort of Maternity Care Minimum Data Set where data on all clinical encounters and case cost data were entered into one database at the point of care. Maternity Experience Survey data could be entered into the same system provided that women's health card number was used as the unique identifier on the Women's Experiences / Satisfaction Surveys.

Maintenance of the Evaluation System

Extensive and permanent resources would be required to collect and maintain this kind of data system. Consider that a full-time staff of 5-10 people may be required to collect data on an annual or bi-annual basis, carry out analysis, maintain and update a platform for province wide data entry of clinical and costing data, assess compliance and data quality, and disseminate / share information with multiple stakeholders.

How Maternity Care Data can be Used

The kind of comprehensive on-going evaluation recommended by this panel requires that a centralized body oversee the process. Accordingly, the ownership and ongoing management of the evaluation of Ontario's Maternity Care System, including management of the data and on-going performance measurement, must reside with the Office of Maternal and Newborn Health. The Office will require performance data to aid in their own decision making, to pass on to the regional networks and related ministry programs to help them in the planning process, and to demonstrate accountability.

Earlier in this chapter we drew your attention to the work of well-known physician and health policy analyst, David Eddy (1998) who suggested that four factors affect how

good performance indicators will be. He argued there is a need to pay attention to (1) the purpose of measurement, (2) the entity being measured (hospitals, physicians, health plans), (3) the dimension, and (4) who will use the performance indicators. The proposed set of performance indicators was designed so that certain indicators can be used for different audiences and different purposes. Note that several areas have been listed for more than one audience.

Finally, once the data achieves appropriate levels of data quality and completeness, the proposed data system could be used to populate submissions to CIHI and CPSS. This approach would eliminate duplication currently found in the overlap in data fields currently entered by staff into Niday and also abstracted by health records for CIHI submission.

Ontario Maternity Care Expert Panel
Appendix F
Summary – Hospital Survey, October 2005

OMCEP members recognized that one of the critical areas in maternity care was intrapartum care. In order to understand the magnitude of the issues related to intrapartum care a survey tool was developed, and sent to every hospital in Ontario for completion. The survey questions attempted to understand the relationships between number of births in a year and the health human resources needed to provide comprehensive maternity care.

Development of the Survey Tool

OMCEP members developed an original survey tool as an appropriate tool could not be found in the existing literature. In order not to overburden the people who were required to provide data some difficult decisions were made to exclude questions. The survey was developed with the goal of understanding the number of institutions who had funded intrapartum program and the health human resources required to support them. Many of the participants who provided data from their hospitals did not have the data we requested easily available, others clearly described that intrapartum care was integrated with other programs and so to identify nurses who only worked in one area was impossible, and who attended births on a regular basis as against those who occasionally attend was unknown. As a result some of the answers are difficult to interpret as participants were unable to differentiate between intrapartum and pre and post partum health human resources. We need to conduct the survey each year, but significant changes will need to be made to the survey to ensure the usefulness of the data for planning services in the future. These difficulties were also encountered when we tried to find health human resource data from other sources.

Methods

Hospitals that provided maternity care were identified through the Ontario Hospital Association. During the 18 months that the panel was working some hospitals in Ontario discontinued intrapartum services. Of the surveys that were returned, we were able to report on 98 hospitals in Ontario that provide intrapartum care for women.

Participants returned the survey to the panel and a research associate with maternity experience entered the data into a database. Data that was missing or appeared inaccurate was checked, by phone or email, with the person who provided the data. Some participants identified that the survey was difficult to interpret and took too long. Lessons learned for a future survey is to identify from where data may be obtained more easily and to only ask for hospital specific data. In addition, data from public health units, midwifery practices, Community Health Centres and other organizations will enable a more complete data set to be obtained. Further research is required to ensure the survey is reliable and valid and answers provide a true overview of the maternity services in Ontario.

Results: April 1st 2004 – March 31st 2005

Description	Number	Notes
Hospitals surveyed	103	
Intrapartum offered	98	
Intrapartum not offered	5	Discontinued 1998 - 2004
Births in hospitals (includes those who discontinued in 2004)		
1 –100	19	2 hospitals had no births in the fiscal year.
101-500	23	
501-1,000	16	
1,001-3,000	29	
3,001 +	14	
Number of hospitals with <u>no</u> coverage from:		
OB intrapartum	30	Of 98 hospitals surveyed, 30 have only FP and or midwifery coverage in labour and birth
FP intrapartum	7	
MW intrapartum	47	
Number of hospitals with expected change of on call rotation		
OB	24	5 decrease, 19 increase 13 decrease, 9 increase 4 decrease, 11 increase
FP	22	
MW	15	
Number of hospitals with no newborn admitting privileges		
Pediatrician	44	
FP	5	
Number of hospitals with no dedicated intrapartum maternity nurses	18	11 additional hospitals have less than 10 dedicated maternity – care nurses
Number of hospitals who identified a lack of maternity nurses for care	26	
Number of hospitals who anticipated a change in nursing complement		
Decrease in numbers	12	
Increase in numbers	24	
Number of hospitals with all three professions who attend births	51	2 have OB and MW 17 have OB and FP 3 have FP and MW

One hundred and three surveys were sent to hospitals across the province. Five institutions identified that they no longer provide intrapartum services. Several institutions are part of a corporation that offers intrapartum services as more than one site. This accounted in part for the differences in hospitals and sites where births take place. We identified 98 sites where births occurred that are recognized as funded intrapartum units. Babies continue to be born in some institutions where services are not funded, as all maternity care providers will understand. We have reported in charts a summary of the six proposed regional perinatal regions in the province and as can be seen different issues will be a priority for the regions. For some regions offering caesarean sections at each site will never be possible and so plans for pregnancy risk assessment is paramount to avoid unnecessary transfers in labour. We identified 10 small hospitals that have caesarean section limitations, but this does not include those who never have locally available caesarean section capability. Of interest 8 hospitals identified limited caesarean section service in institutions where there are more than 250 babies are born each year.

Service Capability

Description	Number of hospitals	Notes
Caesarean section 24/7 Intermittently Not locally available	64 29 9	Of those with intermittent availability 15 had more than 30 days a year when they could not offer a c/section
Hospital personnel who perform caesarean sections OB FP Surgeon	74 5 9	Not all hospitals provide c/section capability
Hospitals with Epidural/Spinal availability 24/7 for pain relief and c/section 24/7 for c/section only When staff available	59 8 25	Not all hospitals responded to this question
Hospitals with obstetrical ultrasounds availability 24/7 for all obstetrical ultrasounds 24/7 for some ultrasounds Day time only	28 30 27	Not all hospitals responded to this question

Participants who completed the survey were asked which caregiver group most limits the hospitals c/section capability. Of those who answered the question, 40 hospitals identified anesthesia as the limiting group most often, 23 identified having an appropriate surgeon (OB, FP or Surgeon), and only 3 as lack of nursing staff. In hospitals where epidural anesthesia/analgesia is available the majority reported that they are provided by anaesthetists (n = 71). In addition GP anaesthetists provide epidural services at 23 hospitals.

Support Services

OMCEP reviewed the list of key services that should be available locally for a comprehensive support system for maternity. Many hospitals did not provide these services or services were intermittent. Prenatal education programs offered by hospitals have not been a priority for many years as Public Health Departments have taken a lead role in providing these classes. Many hospitals did identify that they had joint programs with outside agencies.

Description	Number of Hospitals	Notes
Hospital availability of Breastfeeding Support		
24/7 – by the hospital	19	2 hospitals did not respond to this question
Clinic/limited hours	55	
Not provided	12	
Referral out	15	
Hospital availability of Social Work		
24/7 in hospital	5	2 hospitals did not respond to this question
Clinic/limited hours	61	
Not provided	22	
Referral out.	13	
Hospital availability of Prenatal Education Classes		
In hospital	25	2 hospitals did not respond to this question
Not provided	13	
Partner with outside agency	50	
Referral out	13	
Hospital availability of Routine Antenatal Screening		
In hospital	59	3 hospitals did not respond to this question
Not Provided	11	
Referral out	30	
Hospital availability for mental health assessments (mood, depression)		
In hospital	30	2 hospitals did not respond to this

Not provided	20	question
Referral out	51	

Future Maternity Care Capacity

Participants were asked to indicate anticipated changes in capacity to provide maternity care in the future. The information is important and would be part of the regional organizations to monitor so that plans can be implemented to understand the implications for the region. This is particularly important in areas where there is an anticipated reduction in services. Of interest three hospitals that identified that the number of births is anticipated to increase also identified that their caesarean section capacity is expected to decrease, but 26 hospitals identified that their caesarean section capacity and number of births would increase in the future.

Two hospitals identified that the number of births is anticipated to increase but the capacity to provide epidurals and or spinals is expected to decrease, while 27 hospitals identified an increase in both numbers of births and epidural/ spinal capacity.

Description	Number of Hospitals	Notes
Hospitals birth capacity		
Will increase	45	6 hospitals did not answer this question or indicated that it was not applicable
Will decrease	7	
Stay the same	45	
Hospitals c/section capacity		
Will increase	34	10 hospitals did not answer this question or indicated that it was not applicable
Will decrease	8	
Stay the same	51	
Hospitals epidural/spinal capacity		
Will increase	36	10 hospitals did not answer this question or indicated that it was not applicable
Will decrease	3	
Stay the same	54	
Hospitals ultrasound performance capacity		
Will increase	33	6 hospitals did not answer this question or indicated that it was not applicable
Will decrease	3	
Stay the same	61	
Hospitals neonatal care capacity		
Will increase	31	9 hospitals did not answer this question or indicated that it was not applicable
Will decrease	2	
Stay the same	61	
Hospitals 24/7 post partum mood disorder, social work, and breast feeding support	3	2 hospitals refer out for all three services 17 hospitals have 24/7 mental

		health services, and clinics for social work and breast feeding with limited hours
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Education Capacity

A recurring theme in the deliberations of OMCEP from panel members and those who provided input through focus groups, interviews and written reports has been the difficulty of offering excellent maternity education for all learners. Several questions on the survey asked participants to identify which professional groups had access to clinical learning in their institutions, how many would designate their institution as an academic health sciences centre, and if they had capacity for more or different learner groups. If we require more maternity education spaces in clinical settings there is capacity within institutions that do not have learners that should be investigated by the educators of programs.

Description	Number of Hospitals	Notes
Hospital is part of an academic health science centre Yes No	13 87	3 hospitals did not know whether their hospital is part of an academic health science centre
Hospital is a clinical education site for obstetric residents/fellows Yes No	38 65	
Hospital is a clinical education site for undergraduate medicine learners Yes No	61 42	
Hospital is a clinical education site for family medical residents Yes No	56 47	
Hospital is a clinical education site for RPN learners Yes No	43 58	Registered Practical Nurses learners – college program
Hospital is a clinical education site for undergraduate (BScN) learners Yes No	70 33	Registered Nurses program offered through universities and in collaboration with some colleges
Hospital is a clinical education site for Midwifery learners		

Yes	60	
No	43	

The major issue for clinical education has been providing excellence in experience in intrapartum care. The analysis therefore included those learners who potentially could provide intrapartum care – physicians (OB and FP), midwives, and registered nurses. There are 16 hospitals that have no pre licensure (undergraduate) learners (nursing, medicine, midwifery) on a regular basis for part of the clinical rotation of maternity care.

The capacity of hospitals to provide quality maternity education could not be assessed through this survey but we do understand where there are potential sites that should be explored. Only 40 hospitals provide clinical experiences for all three pre-licensure learners, a further 6 are nursing and medical learner sites but not midwifery sites. Three hospitals provide clinical experience for medical and midwifery learners. Fifteen hospitals provide clinical experience for midwifery and nursing learners but not medical learners.

Conclusions

OMCEP members have had the opportunity to study a cross section of maternity services with reports from hospitals of the fiscal year 2004-05. The data clearly demonstrates instability in the system. Planning across the province will be important if women are to be informed of available institutions in which they can be admitted to give birth. There are always lessons learned from conducting a survey. As described in the introduction, panel members had to develop a new survey tool and there were some questions that participants found difficult to interpret. In another cross sectional study these questions should be modified and pilot tested prior to requesting information from hospitals.

One of the most difficult issues is to count the number of providers in maternity care. This is because nurses, midwives and physicians may work or have admitting privileges in more than one institution, especially in urban settings. It will be very important for future planning of new providers to fully understand the number who are working in more than one place, especially in light of the SARS outbreak that highlighted the importance of isolating staff from one institution from staff from other institutions if outbreaks are to be contained. In addition, it is important to know what the ‘right’ number of obstetricians, midwives, family physicians and nurses is to sustain a work force for the future. If we had data on the ‘right’ number for 130,000 births we would be able to predict how many more we need to provide care in the future for 157,000 births per year.

Ontario Maternity Care Expert Panel Breakdown of Hospital Data by Region

Ontario Maternity Care Expert Panel 2004-05 Hospital Survey

Provincial Overview (all regions)

Hospital birth volume	Hospitals providing intrapartum care	Hospitals with nursing staff below required levels	Hospitals where Caesarean section availability is limited*	Hospitals expecting a decrease in intrapartum on-call rotation	Hospitals expecting a decrease in paediatric on-call rotation
1-100	16	2	10	3	2
101-250	11	0	5	2	1
251-1000	28	4	8	5	6
1001-3000	29	3	1	4	5
3001-5000	12	1	0	3	1
5000+	2	0	0	1	1
Totals	98	10	24	18	16

*In hospitals offering Caesarean section, the service was not available for three or more days of the year due to provider unavailability.

Ontario Maternity Care Expert Panel Breakdown of Hospital Data by Region

Ontario Maternity Care Expert Panel 2004-05 Hospital Survey

Proposed Maternity Care Ontario region: CENTRAL

Hospital birth volume	Hospitals providing intrapartum care	Hospitals with nursing staff below required levels	Hospitals where Caesarean section availability is limited*	Hospitals expecting a decrease in intrapartum on-call rotation	Hospitals expecting a decrease in paediatric on-call rotation
1-100	0	0	0	0	0
101-250	4	0	2	1	0
251-1000	5	0	0	0	0
1001-3000	9	0	0	2	1
3001-5000	6	0	0	1	1
5001+	2	0	0	1	1
Totals	26	0	2	5	3

*In hospitals offering Caesarean section, the service was not available for three or more days of the year due to provider unavailability.

**Ontario Maternity Care Expert Panel
Breakdown of Hospital Data by Region**

Ontario Maternity Care Expert Panel 2004-05 Hospital Survey

Proposed Maternity Care Ontario region: CENTRAL WEST

Hospital birth volume	Hospitals providing intrapartum care	Hospitals with nursing staff below required levels	Hospitals where Caesarean section availability is limited*	Hospitals expecting a decrease in intrapartum on-call rotation	Hospitals expecting a decrease in paediatric on-call rotation
1-100	3	0	2	1	1
101-250	0	0	0	0	0
251-1000	4	0	1	0	0
1001-3000	6	2	1	1	1
3001-5001	2	1	0	0	0
5001+	0	0	0	0	0
Totals	15	3	4	2	2

*In hospitals offering Caesarean section, the service was not available for three or more days of the year due to provider unavailability.

**Ontario Maternity Care Expert Panel
Breakdown of Hospital Data by Region**

Ontario Maternity Care Expert Panel 2004-05 Hospital Survey

Proposed Maternity Care Ontario region: EAST

Hospital birth volume	Hospitals providing intrapartum care	Hospitals with nursing staff below required levels	Hospitals where Caesarean section availability is limited*	Hospitals expecting a decrease in intrapartum on-call rotation	Hospitals expecting a decrease in paediatric on-call rotation
1-100	2	1	0	0	0
101-250	2	0	0	0	0
251-1000	9	2	5	2	3
1001-3000	9	1	0	1	2
3001-5000	2	0	0	2	0
5001+	0	0	0	0	0
Totals	24	4	5	5	5

*In hospitals offering Caesarean section, the service was not available for three or more days of the year due to provider unavailability.

**Ontario Maternity Care Expert Panel
Breakdown of Hospital Data by Region**

Ontario Maternity Care Expert Panel 2004-05 Hospital Survey

Proposed Maternity Care Ontario region: NORTH EAST

Hospital birth volume	Hospitals providing intrapartum care	Hospitals with nursing staff below required levels	Hospitals where Caesarean section availability is limited*	Hospitals expecting a decrease in intrapartum on-call rotation	Hospitals expecting a decrease in paediatric on-call rotation
1-100	4	1	4	0	0
101-250	1	0	0	0	0
251-1000	3	1	0	0	1
1001-3000	1	0	0	0	1
3001-5000	0	0	0	0	0
5001+	0	0	0	0	0
Totals	9	2	4	0	2

*In hospitals offering Caesarean section, the service was not available for three or more days of the year due to provider unavailability.

**Ontario Maternity Care Expert Panel
Breakdown of Hospital Data by Region**

Ontario Maternity Care Expert Panel 2004-05 Hospital Survey

Proposed Maternity Care Ontario region: NORTH WEST

Hospital birth volume	Hospitals providing intrapartum care	Hospitals with nursing staff below required levels	Hospitals where Caesarean section availability is limited*	Hospitals expecting a decrease in intrapartum on-call rotation	Hospitals expecting a decrease in paediatric on-call rotation
1-100	5	0	2	1	1
101-250	2	0	1	1	1
251-1000	1	0	1	0	0
1001-3000	1	0	0	0	0
3001-5000	0	0	0	0	0
5000+	0	0	0	0	0
Totals	9	0	4	2	2

*In hospitals offering Caesarean section, the service was not available for three or more days of the year due to provider unavailability.

**Ontario Maternity Care Expert Panel
Breakdown of Hospital Data by Region**

Ontario Maternity Care Expert Panel 2004-05 Hospital Survey

Proposed Maternity Care Ontario region: SOUTH WEST

Hospital birth volume	Hospitals providing intrapartum care	Hospitals with nursing staff below required levels	Hospitals where Caesarean section availability is limited*	Hospitals expecting a decrease in intrapartum on-call rotation	Hospitals expecting a decrease in paediatric on-call rotation
1-100	2	0	2	1	0
101-250	2	0	2	0	0
251-1000	6	1	1	3	2
1001-3000	3	0	0	0	0
3001-5000	2	0	0	0	0
5000+	0	0	0	0	0
Totals	15	1	5	4	2

*In hospitals offering Caesarean section, the service was not available for three or more days of the year due to provider unavailability.

Ontario Maternity Care Expert Panel Schedule G - Methods, Focus Groups, Key Informants and Stakeholders

Methods: How the Panel did its Work

The Ontario Maternity Care Expert Panel (OMCEP) was created by the Ontario Women's Health Council and began its work in October of 2004. The Panel was made up of members from across the field of maternity health care including individuals reflecting all maternity care professions, regions of Ontario and the academic and broader community. The panel will report directly to the Women's Health Council and it is expected that the report will go to the Premier of Ontario in 2006, followed by broader dissemination.

In all, there were 15 panel members including advisory members. The Panel chose a four-member Executive Committee with representation from each of the four provider groups involved in maternity care: family practice, midwifery, nursing and obstetrics. The Executive Committee included Terry O'Driscoll, MD, CCFP, FCFP, Vicki Van Wagner, RM, MES, PhD (cand.), Jennifer Medves, RN, PhD, and Renato Natale, BSc., MD, FRCS(C). Wendy Katherine, of the Ministry of Health and Long-Term Care, was hired as Project Manager for OMCEP.

The full membership of the Panel is listed on page XX

Determining the Scope of the Panel's Work

One of the first tasks the Panel addressed was to confirm the scope for the project. The scope document served as a useful focus and agenda for the Panel's efforts over the next 18 months.

Ontario Maternity Care Expert Panel Scope Document

Goal: The Ontario Maternity Care Expert Panel is a multi-disciplinary group of maternity care professionals and consumers, which will develop recommendations for the creation of a coordinated province-wide system of essential maternity care services. The panel will consider:

Access & System:

Access to maternity and newborn care across the province, including rural and remote areas, aboriginal communities and special populations;

Strategies to promote effective, respectful inter-professional collaboration, consultation and referral practices;

Co-ordination of the maternity care system and evolving primary-care initiatives including local health system integration;

Governance & Advocacy:

Development of ongoing structures such as a multidisciplinary provider advisory group which can represent the interests of maternity care stakeholders and a central planning and funding body to coordinate the provision of maternity services at the provincial level;
Consumer input into ongoing development of the maternity care system;

Administrative Framework (human resources, fiscal, regulatory, legal):

Strategies to support the development of a co-ordinated human resource plan for maternity care including effective use of primary and secondary-care providers to serve low-risk and high-risk populations and recruitment and retention of care providers;

Development of remuneration models and mechanisms to support access, sustainability of maternity services and inter-professional collaboration;

Development of regulatory and academic frameworks to support inter-disciplinary models of care and education;

Medico-legal factors and the evaluation of their influence on the provision of maternity care;

Practice & Evaluation:

Strategies to promote best practices and quality care for childbearing women and families including woman-centred and family-centred care; and,

Data collection and reporting that can be used to evaluate the performance of maternity care across the province.

Organizing the Work of the Panel:

OMCEP created three subcommittees and two ongoing working groups to address the 11 issues identified in the Scope Document.

The *Delivery Models & Access Subcommittee* examined delivery models to determine which could provide the highest quality care to women and their babies, and focused on issues affecting the accessibility of maternity care services to women in all parts of Ontario and across society. These examinations included:

- the particular needs and services for women living in rural and remote areas, and for other women with barriers to health care access; and
- issues relating to the coordination of maternity care with evolving primary care initiatives in Ontario and new regionalization models, such as the Local Health Integration Networks (LHINs); and

- the role(s) of each of the main maternity care provider groups, both individually and when working inter-professionally: obstetricians, family physicians, midwives and nurses/nurse practitioners; and
- research into current operational models and proposed ideal models were explored with a view to outlining a template that communities could review and modify according to local needs and resources.
- models were examined to see which would work well in different settings, from advanced-care units in tertiary-care hospitals, to maternity care units in smaller or regional settings, to dedicated maternity care centres (either in hospital or stand-alone), and for home births.

Common themes were explored and recommendations about current systemic changes were developed.

The ***Human Resources and Education Subcommittee*** investigated the current state and future need for maternity care human resources and prepared recommendations for recruiting, training and retaining quality maternity providers to meet Ontario’s future needs. These examinations included:

- analysis of human resource trends to identify current and/or future shortages or mal-distribution issues across regions; and
- specific issues relating to aboriginal midwifery
- capacity issues among educational programs, i.e., are they able to meet Ontario’s demands?
- promoting maternity care as a worthwhile career goal to medical and nursing students;
- identification of opportunities to strengthen inter-professional and collaborative learning/teaching in Ontario including the possibility of crossover training, i.e., midwives sharing their expertise with obstetrical students and vice versa.

Recommendations were developed using the research and expertise of the panel.

The ***Structure Subcommittee*** examined Ontario’s systems for the management and payment of maternity care services with the aim of reducing structural barriers to optimal maternity care in the province. These examinations included:

- researching ways to streamline management and support for maternity services across ministries and programs; and
- identifying legislative, regulatory, funding, risk management or liability protection barriers that prevent the implementation of best practices in maternity care – including acting as barriers to team-based or collaborative care – and measures to overcome these barriers; and
- specific attention to “the culture of risk” – areas where rising liability protection costs and exposure deter best practices and, in particular, where they complicate team-based, collaborative service delivery opportunities.

Specific recommendations were developed that will require ongoing alignment of provincial regulatory colleges and national liability protection and risk management organizations.

The ***Consumer Issues and Vision Working Group*** focused on measures to ensure that women's perspectives informed all aspects of the Panel's work including:

- consultation with women about their experiences using both structured interviews and focus groups; and
- review of surveys and other efforts to measure women's satisfaction with maternity services; and
- consultation with maternity health service providers relating to measures that can ensure that the needs and preferences of women and their families are determining factors in maternity health care delivery in Ontario.

Extensive deliberation with panel members about the scope of the vision and consultation with other stakeholders occurred to ensure viability and accuracy.

The ***Evaluation Working Group*** faced the challenging task of developing recommendations to support the effective and systematic evaluation of maternity health services. The group's work included:

- developing an inventory of existing local, provincial, national, and international programs and datasets that currently contribute to evaluations of various aspects of maternity care systems; and
- designing a new maternity care evaluation system for Ontario, with measurable outputs, outcomes and indicators, following the format of a Program Logic Model and based on deliberations and recommendations from the other committees and working groups.

For outcomes where there were few or no existing indicators, we considered how existing, emerging or new data sources might be used to develop indicators and suggested measures in each of these areas.

Feedback on the draft logic model and the preliminary list of existing and new indicators was sought from the larger OMCEP panel.

Original Research

Original research done by the panel included:

- An extensive literature review and development of a reference library that will form the basis for future deliberations and planning
- A hospital survey of current, recent past and near future plans within the 100 facilities in Ontario that provide maternity care services
- A series of focus groups with women and health care providers. These sessions provided the panel with a broad sense of the issues facing women and their health care providers across the province. They also served as a testing ground for our vision and principles, the concepts and recommendations as they developed
- An online survey through the Ontario Women's Health Council website provided further information from the women of Ontario, the issues that they deemed important to their care, and a series of comments about the maternity care services in Ontario

The Panel's Environment:

The Panel had the advantage of being launched at a time of heightened awareness of primary health services and maternity health services in particular. The results of several key maternity care reports, many of which had recently completed literature reviews, were being released. This facilitated the environmental scan and provided current findings from other jurisdictions that helped the Panel to identify key areas of concern. Specific joint initiatives with the Ontario College of Family Physicians (Babies Can't Wait) and Ryerson/Rogers (Integrated Maternity Care for Rural and Remote Communities) funded provincially from the Primary Health Care Transition Fund (PHCTF) and the Multidisciplinary Collaborative Primary Maternity Care Program (MCP²) from the federal PHCTF ensured that all projects were working towards a common goal even though the approaches taken were quite varied.

In all aspects of its work, the panel has sought the most inclusive process possible. We have been open to all practitioners, to women and the community at large. We have consulted broadly across the field and, while we found much to concern us, we also found widespread and growing awareness of the importance of improvements in maternity care services.

A summary of the submissions we received, the groups and individuals consulted and the conferences attended throughout the Panel's work follows. The project bibliography is contained in Appendix B .

Focus Groups/Key Informant Interviews

Aboriginal Organizations - Toronto Aboriginal Midwifery Initiative, National Aboriginal Health Organization, Aboriginal High-Risk Newborn Services, Anishnawbe Community Health Centre, Anishnawbe Mushkiki Aboriginal Community Health Centre, First Nations and Inuit Health Branch, Health Canada

Midwifery Integration - Four consultants previously involved in Midwifery Integration Review Teams

Maternity Care Education Programs – Representatives from Association of Professors of Obstetrics and Gynecology, Consortium of Midwifery Education Programs, Nursing Programs

Professional Associations

Ontario College of Family Physicians, Association of Ontario Midwives, Ontario Medical Association – Association of Ontario Midwives Liaison Group, Ontario Nurses Association, Registered Nurses Association of Ontario (Childbirth Nurses Interest Group)

Hospitals/Centres

Guelph Hospital – representing Chief of Staff, Midwifery, Anaesthesia, Obstetrics, Nursing

Hamilton Maternity Centre- staff representing centre management, family practice, midwifery nurse practitioner

Owen Sound Hospital – staff representing obstetrical nursing, midwifery, public health, management, consumers, nutrition, prenatal education

St. Josephs Hospital, Toronto – representatives involved with services to uninsured women

Thunder Bay Hospital – staff representing obstetrics, hospital management, family practice, midwifery, nurse practitioners.

Others

Regulatory Bodies – including College of Physicians and Surgeons of Ontario, College of Nurses of Ontario, College of Midwives of Ontario

Women’s Groups – Evangeline Residence, Toronto, mother and infant drop-in; Anishnawbe Mushkiki women-infant group, Thunder Bay; Healthy Babies, Healthy Children mother-infant group, Norwest CHC, Thunder Bay.

Dr. Ruth Wilson, Ontario Women’s Health Council

Conferences/Presentations:

Best Start Annual Conference

Canadian Association of Midwives Conference

Family Health Team Action Group

Ontario Provincial Perinatal Partnership

Ontario College of Family Physicians, Maternity Care Day, 2004 & 2005

Ontario Hospital Association Conference

Perinatal Partnership Program of Eastern and South-eastern Ontario

South-west Ontario Perinatal Program