



Perinatal Services BC

An agency of the Provincial Health Services Authority

Needs-Based Planning Framework

November 2015

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About this Report

The intent of this report is to:

- provide a background on the topic of needs-based planning;
- describe the work that Perinatal Services BC (PSBC) has done in developing a starting framework for communities who wish to engage in a needs based planning process;
- outline the projects and initiatives of PSBC that support needs based planning on a provincial level.

Introduction

Health service providers and decision-makers may state that over the years, health services have been planned based on needs, often using target populations and their projections as the basis for the estimation and planning of needed services. As utilization projections are not necessarily the same as patient/client needs, this approach can fall short with regards to patient/client expectations, system performance and ultimately population health.

As noted in the *Framework Report for collaborative Pan-Canadian HHR planning (2007)*, traditional planning approaches are inadequate.

“The traditional approach to health human resources planning in Canada has relied primarily on a supply-side analysis of past utilization trends to respond to short-term concerns. This approach has a number of critical weaknesses:

- *Health care system needs are defined based on past utilization trends rather than emerging population health needs, so jurisdictions tend to plan for the past rather than the future*
- *planning is based on traditional service delivery models rather than considering new ways of organizing or delivering services to meet needs*
- *health human resources planning has tended to focus almost exclusively on physicians and nurses rather than the full range of health care providers*
- *planning has been based on weak data and questionable assumptions*
- *our planning models have tended to view health human resources as a cost rather than an asset that must be managed effectively (ie., decisions made to respond to immediate budget pressures are not always assessed for their long-term impact on recruitment and retention)*
- *there has been insufficient collaboration between the education system, which produces health care providers, and the health system that manages and employs them, so the number and mix of providers the education system produces each year are often influenced by academic priorities rather than population health or service delivery needs (eg. number of students required to maintain budgets, teaching programs and support research; educational trend to increasing specialization)*
- *in most jurisdictions, planning has not included effective strategies to ensure the availability of appropriate health human resources.”*

Planning to address patient/client needs collaboratively with communities, stakeholders and health planning decision makers has the potential to create a sustainable and cost effective system.

Background

In September 2012, a White Paper was commissioned with an independent consultant which was followed by engagement and interaction with the PSBC team. The framework outlined in this paper is directly taken from this body of work. **Appendix 1**

In February 2014, the Ministry of Health published “*Primary Maternity Care: Moving Forward Together*” which built on the *Primary Maternity Care White Paper (PSBC 2012)* and the Ministry’s *Primary Maternity Care Action Plan 2013*. These reports identified numerous issues to be addressed by the multiple partners and stakeholders involved in planning, implementing and providing primary maternity care. As the provincial agency that has oversight responsibility for perinatal services across the care continuum, from public health, to primary and community care, to hospital care, Perinatal Services BC was identified to “*start an ongoing **needs-based planning process** which would identify, in consultation with communities and service providers, geographic service requirements, projected maternal and newborn care human resource requirements, and preferred strategies for addressing gaps or sustaining services.*”

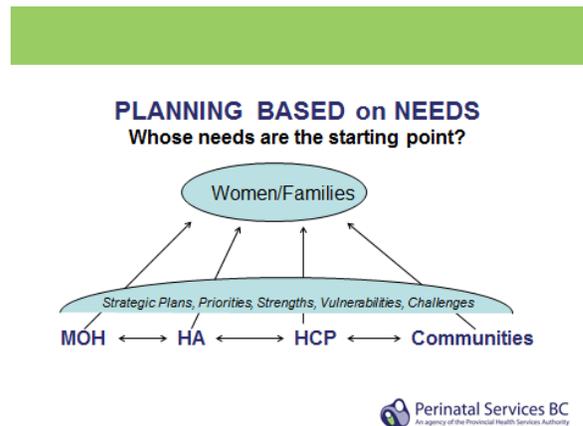
In addition to the *Maternity Care Action Plan*, there is strong support in planning for services from a needs based, client centric perspective. The *BC Health System Strategy Implementation: A Collaborative and Focused Approach April 2014* identifies a number of priorities including “Provide Patient Centered Care” and “Primary and Community Care”. These priorities directly touch upon the need and importance of needs based planning for primary maternity care.

In addition, **guiding principles** needed to be well articulated before beginning in order to direct and shape the process. The guiding principles that PSBC embraces in all of its work include:

- Women – Centered Services → that the mother and baby are at the center of care
- Access → that services and care should be available for everyone, regardless of social, financial and geographical barriers
- Choice of location and Method of birth → support a women’s right to choose how and where they deliver
- Team Work → work with Governments, Organizations, Health Authorities, Researchers, Communities and Individuals to identify and implement possible changes
- Maximize Human Health Resources → by utilizing the varied and complete set of skills, knowledge and expertise of all health care providers involved in maternity care, services and care can be delivered in a highly effective, responsive and cost effective manner.

Framework Development

Needs based planning in a patient centered environment should be based on the both the perceived and unperceived needs of the patient/client and in the case of maternity services, the women and families. In order for it to be effective, and potentially fruitful, the planning also has to account for the environment in which the community is situated.



Maternity services are a subset of overall health services with many common, but also several unique, dimensions. Identifying needs during the time when women would be receiving, or could receive, care related to a pregnancy or in the newborn period has the potential to generate specific time limited needs. For the vast majority of women this time period would encompass the immediate 6 months preconception, through to 8 weeks postpartum.

The time periods defined for a planning framework were:

- Preconception (6-12 months)
- Antenatal
 - 1st trimester (up to and including 14wk 6d)
 - 2nd trimester (15wk 0d – 26wk 6d)
 - 3rd trimester (27wk – labour initiation)
- Intrapartum (labour and delivery)
- Postnatal (8 weeks)
 - Maternal
 - Newborn

Identifying needs during these time periods *from the patient/client perspective* has the potential to fail to identify needs that are unperceived by women and their families. To ensure that the primary maternity health care needs that may be unperceived by women were not excluded, PSBC reviewed the following best-practice care based guidelines:

- PSBC - Maternity Care Pathway – Guideline #19 Feb. 2010
- PSBC – Postpartum Nursing Care Pathway – Guideline #20 March 2011
- PSBC – Newborn Nursing Care Pathway – Guideline #13 – March 2011
- PSBC – Public Health Nursing Prenatal Care Pathway (2014)
- MOH - Healthy Start Initiative: Provincial Perinatal, Child and Family Public Health Services – April 2012

- SOGC - Fetal Health Surveillance: Antepartum and Intrapartum Consensus Guideline - Sept 2007

Additional references identifying perceived and unperceived needs of women during the preconception, antenatal, intrapartum and post natal period were included in the review.

- MOH – Baby’s Best Chance / www.healthyfamiliesbc.ca
- SOGC – Rural Maternity Care Joint Position Paper #282 – October 2012
- PHAC - What Mothers Say: The Canadian Maternity Experiences Survey 2009
- OMCEP (OWHC) - Essential maternity care services 2006
- PSBC, UBC, PTP, BCW Cesarean Task Force - Turning the Tide 2011
- CMBC – College of Midwives of BC, Standards of Practice
- NICE - National Institute for Health and Care Excellence, Antenatal Care Guideline (CG62) → June 2010

Health care needs identified to be standard of care were identified and categorized into themes according to when the need could be best met in the time frames mentioned above. The themes were validated by pregnant women and their partners through focus groups. During the focus groups, further needs were identified and categorized into the themes.

The needs identified apply to all pregnant women whereas the type, implementation and magnitude of a response to meet a defined need will vary significantly between individual women and the community and resources available. The themes identified were:

1 Healthy Public Policies (Health Promotion/Disease Prevention)

- Public policies can address social inequities and the prerequisites of health such as income, housing, food security, employment, and quality working conditions. As such, some of the needs of women (eg. housing, safety, day care) are not isolated to the preconception, pregnancy, intrapartum and post partum time periods. Nonetheless, in the development of public policies which address social factors and the prerequisites of health, consideration of the parturient woman should be factored into the development and implementation of the policy.

2 Information (Health Promotion/Disease Prevention)

- Topics for which resources (eg. support, counselling, education, information) are provided in various formats (eg. classes, web based, by HCP) regarding personal health, health behaviours and environment, that contribute to optimal physical and mental health for parturient women and newborns.

3 Clinical Care – Sub themes for this set of needs were further defined:

a. Screening/Diagnostic testing

- Biological sampling of pregnant women, fetuses or newborns which contributes to optimal health for women and newborns in the pregnancy, delivery, postpartum and newborn period. (eg. maternal glucose screen, maternal blood type, arterial cord blood sampling, newborn metabolic screening).
- Procedures or administration of substances which contribute to the optimum health of the pregnant woman or newborn (eg. ultrasound,

newborn Vit. K injection)

b. Physical Care

- Physical care of women and newborns (eg. blood pressure, weight measurement, newborn physical exam at birth, APGARS, performing maternal and newborn vital signs)

c. Risk Assessment

- Assessment of potential risk factors which may contribute to a less than optimal childbearing experience or outcome. (eg environmental – occupation, SES; behavioral – nutrition, substance use, physical activity; medical – chronic physical/mental condition, OB and gynecological history; genetic – family history, ethnicity; emotional – EPDS, support system). The results of the assessments may result in the identification of women with increased needs.

4 Communication

- Topics which require communication between a woman and her care provider(s) (eg. discussion of women’s care/birth plan). Also included is reference to a woman’s medical records being available to any HCP from which she receives care as the communication of her medical history may provide integrated and enhanced overall care.

5 Support

- Assistance regarding physical, emotional, mental and spiritual needs which may or may not be specifically related to the pregnancy, delivery or intrapartum period. (eg. financial, social)

6 Relocation

- Support for local, regional and provincial transfer to access specialized programs/ services for acute care and repatriation. In some regions this may also include near term, resources for the patient and support person(s) to be closer to a birthing facility

Although needs listed under the themes of “Healthy Public Policies”, “Communication” and “Support” may not be within the purview of PSBC, they are included as input from pregnant women and their partners identified these as significant needs during the focus groups held prior to finalizing the needs list. Planning specifically for maternity care services, may not completely address the needs mentioned in these three themes, but consideration of these needs and the unique concerns and issues of parturient women should be included in the planning process done by other organizations, agencies and governments.

A Needs Matrix outlining the needs according to their theme and the time frame when the need can be addressed. **Appendix 2.**

Framework Implementation

In implementing a needs based planning approach, communities may find it helpful to start with a community engagement process to review the Needs Matrix and determine if there are needs which are not included in the Needs Matrix. This community process should be driven by those accessing maternity care services, namely women and their families and have representation of the population that is being planned for (eg. vulnerable women, women in rural areas, immigrants). This allows for a complete identification of the needs of the community. Having a comprehensive understanding of the needs can facilitate solutions which individually, have the potential to meet a number of needs. This may result in a number of downstream benefits including cost savings to the health care system and a better patient/client/ health care provider experience. For the planning process to be truly grounded in a needs based planning approach, it is important that the identification of needs does not end up being a reflection of the desires of the health care providers and their perceptions of women's needs, or predetermined by currently available resources or population projections.

A GAP analysis of how the identified needs are currently (or not) being met within the population and community being planned for informs the planning and may influence which needs to address. Other factors in determining which needs to address may be:

- Community priorities
- Health authority and institutional stated priorities and strategies
- Population health and demographic projections

The PSBC's Perinatal Data Registry (PDR) and other resources (eg. BC Stats) can provide data regarding the demographics and details of a specific community which may in turn help identify groups or populations where maternity services are lacking or are projected to fall short in the future. Available data sources and information includes:

- Perinatal Data Registry (PDR)
 - Eg. Current births by Hospital and resident Health Service Delivery Area (HSDA)
 - Facility specific indicators (Public indicators)
- Birth projections by Local Health Area (LHA) or Health Service Delivery Area (HSDA)
- Community Health Fact Sheets
- Local HA data
- SES tables
- Others

Once it is determined which need(s) to address, a number of potential responses to meet that need, can be identified by the population being served and the stakeholders. Each response should be carefully considered and weighed to determine the "optimum" response. The factors of Quality, Sustainability and Accountability all contribute to the determination of an "optimum" response. The guiding principles mentioned above (pg. 2) should also be considered in this process. Quality, Sustainability and Accountability can be further broken down into specific sub factors:

- **Quality** – consists of:
 - Access – is accessible to all women regardless of cognitive, physical, social, cultural or geographic barriers.
 - Effectiveness – is able to deliver its stated goal. "Doing the right thing."

- Efficiency – produces a specific outcome with a minimum amount of waste, expense, or unnecessary effort. “Doing things right.”
 - Safety – does not cause actual (or perceived) harm to the women, their families, care providers, community or the health system.
 - Appropriateness – is suitable for the women, their families, care providers, communities and the health system.
 - Acceptability – aligns with approved standards, guidelines and evidence-based best practice.
- **Sustainability** (holding the gains and evolving as required) – consists of:
 - Fiscal – response will be able to be sustained within the financial resources currently allotted and planned for in the future.
 - Political – response is endorsed by current health system and becomes integrated into future planning.
 - Social – response is meeting an identified need and is supported and endorsed by the population it is designed for.
 - Environmental – response protects the natural world and does not significantly pollute the environment.
 - **Accountability** Is the response (or the people/ system providing the response) accountable to:
 - the women/families the response serves
 - the community it lies within
 - the system that funds it
 - all of the above or some combination
 - other stakeholders

In addition **other factors** may have weight in determining an “optimum” response and could include:

- previous successes in other jurisdictions
- published literature

Response Assessment Matrix – **Appendix 3**

Based on these factors, an “optimum” response(s) to an identified need may be identified. Prior to planning for and implementing a specific response to a need, estimation of the magnitude of the response has to be determined. This may be facilitated by examining population projections, current community resources and the magnitude of the need itself. Engaging statistical modelers from the MOH or health authorities may provide assistance with estimating the possible human health resource (HHR) needs of a particular response.

Once a response has been implemented, ongoing evaluation and assessment to determine if the response is in fact meeting the need it was intended to rectify is essential. The process of evaluation and assessment with subsequent possible adjustments and refinements to the solution allow the response to remain sensitive to changes in the community and the population being served.

PSBC Projects and Initiatives That Support Needs-Based Planning on a Provincial Level

Planning for primary maternity care can occur on an local, community and provincial basis. PSBC, as a provincial agency has the expertise and mandate for provincial planning which can be, and needs to be, supported by community engagement and identification of priorities. Current PSBC initiatives and involvement in projects that support needs (maternal, fetal and neonatal) based planning include:

Community Engagement in Comox Valley (LHA 71-Courtenay)

The Division of Family Practice in the Comox Valley applied to the Shared Care Committee for funding for a project entitled – Enhancing and Integrating Perinatal Service Delivery in the Comox Valley. Through multidisciplinary engagement with the community, care providers, women and other stakeholders, the goal of the project and is to identify local solutions for planning and improving perinatal care in the Comox Valley. PSBC presented the needs based planning framework to the Division and the concept and approach was integrated into the proposal submitted to the Shared Care Committee. PSBC continues to be involved in this work as a member of the project steering committee providing input, feedback, data and a provincial perspective.

Tiers of Service

PSBC has refined and implemented a framework for defining, planning and coordinating acute maternal/fetal and newborn health care services in BC. The framework is grounded in clinical needs and describes responsibilities and minimum requirements for each tier of service. Responsibilities include clinical services, knowledge sharing & transfer/training and quality improvement/research and requirements include providers, facilities, clinical support services, minimum service volumes and interdependencies. There is the expectation that there will be a match between responsibilities and minimum requirements for each tier. All sites with planned maternity and newborn services in the province have recently completed a site self-assessment which will be used to assist in confirming or determining the current tiers of services available across the province. When complete, the identified needs of a maternal, fetal or newborn patient can be aligned with the available services at a specific site. This facilitates better care planning for the patient and efficient utilization of resources at a local and provincial level.

Neonatal Daily Classification

Daily classification of newborns in the NICUs around the province has occurred since 2011. This was initiated by the need to identify and document the acute care needs of these critically ill newborns and to match those needs to available services and resources. Out-of- province patient transfers and overall NICU resource/bed planning has significantly improved since implementation of daily classification of infants in NICUs. In order to identify the acute care needs of newborns not in a NICU and to subsequently use this information for planning for the needs of these lower acuity newborns on a local and provincial level, daily classification has been rolled out to all sites with planned maternity services around the province as well as the pediatric units that may admit these babies. As data becomes available, needed services and resources can be planned for across the province.

Level 1B Nursery Planning

Using the Neonatal Daily Classification data from maternity and pediatric sites, population projections and postal code linkages we are working to identify locations where there is currently (or projected to be) a significant number of mid-acuity infants. PSBC will then be able

to make recommendations to the Ministry of Health and the Regional Health Authorities where best to plan for nurseries in order to meet the current and projected needs. This analytic work has been completed and recently shared with the Perinatal Services BC Steering Committee for review and discussion.

Rural maternity surgical services

The availability of surgical services is a cornerstone for being able to maintain maternity services in a rural community. In order to meet the needs of women to have the option for delivering their babies in their home community, maternity surgical services have to be available. The availability of these services is often jeopardized by the low birth numbers in the rural communities. In order to meet the needs of women, PSBC brought together a “think-tank” working group to look at rural maternity surgical services and how these could be provided in a collaborative manner while meeting other surgical needs of the community. Through “out of the box” thinking, collaboration and planning it may be possible to maintain rural maternity surgical services and meet the needs of not only pregnant women, but also their families and communities. This work continues to gain momentum and has led to the commissioning of literature reviews by the Applied Policy Research Unit (APRU) at the Centre for Rural Health Research. *Optimal Perinatal Surgical Services for Rural Women* (Kornelsen et al, 2015) and *The Safety of Rural Maternity Services Without Local Access to Cesarean Section* (Kornelsen et al, 2015). Both papers provide the information to support planning decisions. As well a White Paper on the Sustaining Rural Maternity and Surgical Services in the Western Provinces is in final draft stages. This think tank work has been supported by the Specialist Services Committee grant funding.

Collaborative primary maternity care practice

It is well recognized that women receiving maternity care through an interdisciplinary, collaborative, maternity care program were less likely to have a cesarean delivery, had shorter hospital stays and were more likely to breast feed. Overall these women perceive their experience to be very positive. In a collaborative practice model of care, women benefit from the different expertise and professional support that occurs among family physicians, midwives, and nurses. The shared care model embraces working principles that are based on mutual respect, trust, teamwork, and aims to promote physiologic birth, patient education, and patient empowerment. Perinatal Services BC has supported collaborative primary maternity care practices in various communities across the province by working with the team at the South Community Birth Program to share their experience and knowledge with other teams during the visioning and initial implementation phases of practice set up. These innovative practice models are meeting the needs of women in their communities and are contributing to the sustainability of maternity services.

Maternal Experience Project - Assessment of Women’s Experience of Neonatal Transfer in BC

Although BC has a highly functioning neonatal network that is supported by the Patient Transfer Network and the Infant Transport Team (ITT) from BC Emergency Health Services (BCEHS), we have been asked to investigate the needs of women who’s infants have required transfer to higher levels of care outside of their home community. Listening to women and determining what needs are not being met allows us to work towards improving overall service. We are currently partnering with a Royal Roads Masters of Health Leadership student to gather information and learn more about the experiences of these families.

Appendix 1: Needs-Based Planning and Maternity Services

Introduction

This paper is designed to be a short, background reader on the subject of needs-based planning, with references and concise elaborations on key concepts. Health service providers and decision-makers may argue that all services have been planned on the basis of needs for many years since target populations and their projections are almost always used as a basis for program planning and estimating incremental resource requirements. However many services still continue to fall short in terms of expectations and performance, especially with respect to access, integration, sustainability and, most importantly, outcomes.

This paper will talk about an enhanced needs-based planning process that holds the potential to improve considerably on the current situation by documenting needs in a more client-centric fashion. Hopefully it results in a common understanding of the context and rationale, as well as the methodology and potential benefits, of incorporating this enhanced needs-based planning approach into the strategic planning process of Perinatal Services BC. The text will refer initially to health services generally, and then get more specific to maternity care before concluding.

The 'business' of health requires planning – dynamics, challenges

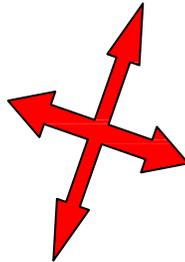
To fully appreciate the importance of needs-based planning, a framework for the relationship between health and health services is useful. The business of Health can be described as orchestrating an.... “optimal response to the assessed needs of the population on a sustainable basis”....at both the individual and population levels. Individuals and families in the population are of course seeking to maintain or improve their health status, and optimize health-related outcomes, throughout their life cycle. The business of Health has complex dynamics and its key dimensions are depicted below:

Social Context

- social values
- policy and legislation
- prevailing incentives (citizens, providers)
- supply of resources (\$, people, capital)
- public expectations and capacity (SES, education, etc)
- technological feasibility

Need

- type (functional, medical, social)
- scope (wellness to support to treatment to dying)
- volume
- sequence (time)
- 'agency' for need (expressed, who/what/when/where; derived, unmet, assessed)



Response

- why
- what (type)
- who
- when (time)
- where (locus)
- how (constellation of supporting infrastructure, etc.)

Optimality

(from individual and system perspectives)

- effectiveness
- Safety
- appropriateness
- accessibility
- allocative efficiency (do right things)
- technical efficiency (do things right)
- system-level: quality, accountability and sustainability

To achieve optimal outcomes for any health service, for the system as a whole or for a population, all of these dimensions require adequate consideration in planning to inform the strategic management of a particular enterprise, or the system as a whole. The components of each of the dimensions are relatively self-explanatory and so no further elaboration is presented here, except to emphasize that an optimal response to need occurs in a changing context. Often when existing infrastructure (policy, human resource supply, organizational structure, operational processes, etc.) is redesigned to improve performance, the impact of key elements of societal context, if overlooked, can become a major cause of failure generally, or in terms of subsequent integration efforts. The societal context not only contributes to 'need' in terms of determinants of health, but also informs how integrating 'responses' to the need can/should be scoped for 'optimality'. In turn, 'optimality' is a highly complex state which balances short and long-term outcomes for both the individual citizen and the system as a whole. Optimality is highly dependent on decision-makers *doing the right things* (policy and strategic direction), before providers subsequently proceed to do those right things right (operations and performance).

The major challenge in planning for optimal health and health services is the assessment and documentation of population need in functional terms that both reflect the prevailing or emerging social context, and are sufficiently generic to permit customized and sustainable responses. A secondary challenge comes during response formulation and implementation. It is zero-based thinking that allows existing or new resources to be used as creatively and effectively as possible, and then securing consensus among key stakeholders (governments, professions, providers, people, etc.) for altering traditional approaches in recognition of changing times (capacity and expectations).

Maternity services are a subset of overall health services with many common, but also several unique, dimensions. With pregnancy as an episodic event in a woman/family's life, needs-based planning properly done should generate more flexible, integrated and sustainable responses to the maternity care needs of the population, and hopefully optimal outcomes.

Traditional approaches to planning

Usually, the single biggest determinant of need for future services is the utilization of services in the recent past. But service utilization is actually demand, not need, since either the individual or his/her caregiver must make a decision to access some service before there is utilization. As well, many individuals do not have sufficient knowledge or information or access to a provider to determine what they need, or even what need requires a response for optimal health, and so needs do not always translate into demand. Using proxies of need like utilization for planning are very likely to miss key components of need that are new, were missed before, or have changed warranting a different response. Traditional planning efforts have focused on projecting the utilization of existing services (demand) based on population growth, but this rather simplistic approach has not only produced fragmented responses but also proven to be unsustainable. Beyond sub-optimal outcomes, access and costs continue to be of concern across the system. In recent decades, the incorporation of more prevention and promotion, and some selective redesign of the health services system, have allowed for a shift of services from higher-cost modalities, but access and sustainability continue to be major challenges in virtually all jurisdictions.

While the response to the episodic health need of an individual or population is often adequate, it is inadequate in a significant number of instances (e.g. some rural or cultural settings), and most likely not optimal in most cases when considered in the context of a person's life cycle (e.g. prevention or delay of chronic disease). This is so because the needs have been overlooked in part, or addressed often in terms of a traditional response (e.g. a hospital bed, a physician, etc) that is out-of-step with the changing societal context or dimensions of optimality. There has been an implicit but faulty assumption by decision-makers that more of what we have always done is appropriate, or less bother, or both. As well, the creativity of the response has been restricted by existing organizational structures or budgetary considerations, even when the overall resourcing available to the system is sufficient to provide for better outcomes. Instead, if need were to be better documented in more client-centric, socially relevant, functional terms, it is postulated that different, more appropriate and potentially more sustainable responses can be formulated and delivered.

While the inputs to an optimal response to need can comprise education, technological interventions, service delivery sites, pharmaceuticals, transportation, etc., approximately 75% of the cost of health services is human resources or health services personnel. Planning for an adequate supply and distribution of personnel continues to be a major challenge and has received lots of attention, but as noted in the *Framework Report for Collaborative Pan-Canadian HHR Planning* (2007), traditional planning approaches are inadequate:

“The traditional approach to health human resources planning in Canada has relied primarily on a supply-side analysis of past utilization trends to respond to short-term concerns. This approach has a number of critical weaknesses:

- *health care system needs are defined based on past utilization trends rather than emerging population health needs, so jurisdictions tend to plan for the past rather than the future*
- *planning is based on traditional service delivery models rather than considering new ways of organizing or delivering services to meet needs*
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- *in most jurisdictions, planning has not included effective strategies to ensure the availability of appropriate health human resources.”*

“Recently, there have been two exhaustive reviews of documented attempts at needs-based health human resource (HHR) planning worldwide (Tomblin, Murphy et al., 2004, Tomblin, Murphy et al., 2007a). One of the overall conclusions of both reviews was that HHR planning in Canada has tended to be based on utilization patterns, the supply of health care professionals, and/or budgetary capacity, rather than on the actual health care needs of the population or the health policies governing it. There are several limitations to this approach, two of which are that it does not account for trends in population health need or trends in provider productivity.”

“Planning health human resources based on system design and population health needs - as opposed to relying primarily on past utilization trends – will lead to more responsive health systems. This type of planning provides an opportunity to identify: the services needed, innovative ways to deliver those services, the types of professionals required, and how to deploy them to make the best use of their skills (i.e., maximize scope of practice).”

In summary, planning for health human resources specifically, and services generally, can be improved by a better documentation of needs so that the formulation of more optimal (effective, accessible, efficient, sustainable, etc.) responses is enabled. So how do we do that?

(Enhanced) Needs-based planning – why it is different; why it is better

Consistent with a client-centric orientation, needs-based planning is a continuous, multi-cycle process and capacity that potentially enables an organization to document the needs of clients, formulate the most optimal response to those needs, translate that response into required resources, formalize the required resource allocation (money, human resources, IT support, facilities, etc.) in strategic and operational plans, and then assess the optimality of the response

relative to emerging needs. But it is important to also document the assessed needs in generic, functional terminology (e.g. education, communication, access, diagnostics, treatment, counselling, etc.) rather than in the terminology of traditional provider responses. The latter approach is especially problematic when the particular response cited is exclusive to a particular provider, as the menu of mechanisms available to address the need is then limited to already existing options which may have proven to be unsatisfactory or unsustainable in the past. Rather, a generic statement of need could potentially be addressed by a different configuration of resources (e.g. different provider, technology enabled, improving communication, etc.) than in the past, thereby allowing for the innovation and flexibility required to ensure both quality and sustainability.

The enhanced process comprises several steps like the existing process, commencing with needs assessment, working through response formulation and resource allocation in the face of several challenges, and continuously looping back as the adequacy of the response is assessed for outcome and impact. Various documents that describe certain components of this process, as they are currently conducted, are listed under 'References'. Based on this explanation, you might think that this is already being done, and was the approach in the planning exercises with which you may have been involved in the past. So what's the difference?

If you have had any experience planning a program or service, take a few moments to recall how you assessed and documented the need of the target population, and then converted that evidence into a response, in order to determine the resources required.

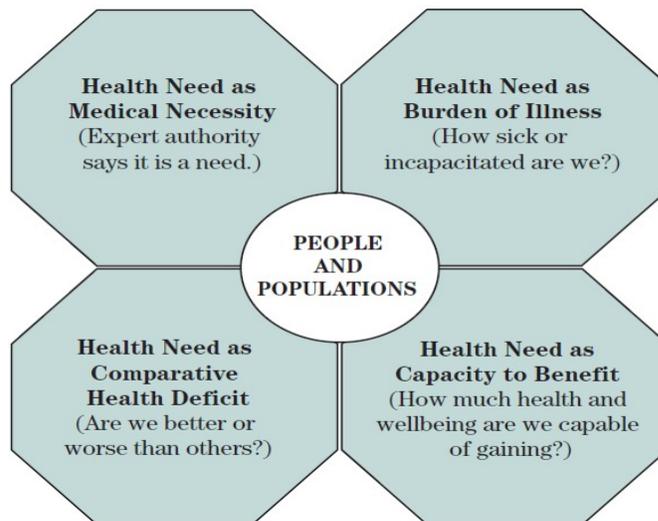
To ensure the most optimal response, needs-based planning must first document the assessed needs of the target population in client-centric, functional terms. The tendency to immediately convert and document a need in terms of a response (e.g. dietitian, PHN or physician instead of *prenatal nutrition counselling*) must be avoided. The statement of needs is also not contingent on the system's existing capacity or mandate. Some needs (e.g. education, emotional support, etc) may be satisfied by inputs from non-system sources, including family and acquaintances, but their formal acknowledgement at this stage can ensure that outcomes are not compromised because something that seems relatively trivial is overlooked. Documenting pertinent needs, especially in more generic terms, enhances the likelihood that they will be addressed by someone, and permits more flexibility in formulating optimal responses. Such more comprehensive and customized responses should certainly be better for individual clients and even populations, but they can also allow systems to use resources more creatively as well as build more appropriate capacity.

There is no question that doing needs-based planning in this way is more work and requires more knowledge and forethought, but the potential outcomes, and the enhanced optimality of the match between resources and needs, should prove to be worth the effort.

Components of needs-based planning

The elephant in the room around this topic is the concept of need itself. Some people are of the mind that we shouldn't discuss needs because we don't have the resources to meet all needs. The following graphic illustrates different categories of need that have been identified.

Figure 9: Definitions of Health Needs



However, a client-centric, population health approach to health services and health must acknowledge that such distinctions are artificial if we are seeking optimal health outcomes for individuals and populations. This does not mean that the formal health system is responsible for addressing all need, but jointly acknowledging what a client/patient is experiencing should inform attitudes and behaviors among all stakeholders. For the purposes of this paper, any pertinent need that potentially impacts the optimality of the health outcome is considered relevant to needs-based planning.

Needs-based planning is more than needs assessment; it is an ongoing process that comprises the following components:

- Needs assessment/documentation in functional terms
- Conversion of functional needs into potential service responses (units of resource input, enabling capacity, etc.)
- Formulation of optimal responses to needs for a particular population
- Determining resource requirements for optimal response
- Priority setting
- Resource allocation and implementation
- Evaluation - continuously looping back as the adequacy of the response is assessed for outcome and impact.

Needs –based planning provides a structured and ongoing process to link health needs with the resources available, to achieve positive health outcomes.

To enhance the efficiency and effectiveness of the needs-based planning process, and as an organization becomes more expert at the task, another potential component is simulation modelling which can be integrated to test potential responses for impact and outcome before they are actually implemented, as well as to project resource requirements. Depending on the comprehensiveness of existing data, a preliminary model can be constructed and improved over time. If the actual service inputs (utilization) for individuals are systematically captured and linked back to individual need profiles, both the optimality of responses to need based on outcomes, and the model itself, can be regularly assessed using hard data, and improved as required.

The scope of the needs-based planning process is determined before the process is designed, and is best defined by some population parameter eg. population of a community, the elderly, new immigrants, etc. Though it can be useful, a needs-based planning approach for a particular specialty or service runs the risk of making invalid assumptions about the appropriateness of that service as a response to the individual's need, relative to other potential responses. Where evidence suggests that a particular intervention is the best practice response for a particular parameter of need, then a streamlined version of this process for a population defined by that parameter can be informative.

Integrated and sustainable maternity services

Women of child-bearing age in BC expect to have access to a continuum of maternity services provided potentially by a myriad of individuals organized to respond to their needs wherever they live, in an integrated fashion, from preconception and through the pregnancy, delivery (45,000 deliveries/year) and post-partum periods. In January 2010, Perinatal Services BC recommended to the provincial Ministry of Health a Primary Maternity Care Framework which delineates the required enhancements for integrated and sustainable maternity care services in BC. As represented in their logic model, the mandate of Perinatal Services BC is to optimize birthing outcomes by orchestrating resources over time and across the entire continuum of care, in an integrated and sustainable fashion. The first step in delivering on their mandate is to ascertain the need for maternity related services across the province and over time.

For maternity services, the population for whom a needs-based planning process could be instituted would presumably be all women of child bearing age, or any subset of that group, defined by geography, culture, age, risk, etc. Since all of the services which an individual woman will require should she become pregnant is not necessarily known beforehand, needs-based planning for a population rather than a service (e.g. home delivery, NICU) is recommended, and then subsequent assumptions within the model or at some stage in the process can isolate a particular subgroup, but still link back to the original needs assessment for a profile of that subgroup. Certainly the primary maternity-related services which are likely to benefit all mothers-to-be is known, as is the more specialized services which some women will need due to risk arising during their pregnancies. With this knowledge and informed by experiences to date, and based on certain documented assumptions, a needs-based model can begin to be constructed.

The Federal Maternity Care Project (MCP2) Report contains a module describing Needs Based planning as a component of Environmental Assessment. Like most such documents however, the documentation of 'need' and the conversion of need into service response are assumed to be relatively obvious and automatic steps in the process. The error in this assumption is that need is very often documented in proxy provider terminology (e.g. C- sections) and so responses are most easily derived from existing service utilization, configurations or practices. Especially where previous responses have been either unsatisfactory or unsustainable or both, this approach doesn't allow a more optimal, client-centric response to be designed and implemented, and history repeats itself. This process deserves more thought.

Instead, it is important to document need in generic, client-centric terms (e.g. access, education, promotion, counselling, diagnosis, treatment, continuity of care, pain management, surgical intervention, etc.) so that more effective and sustainable responses (perhaps orchestrating different inputs, using different providers, utilizing technology creatively, etc.) can be designed. These are the two steps in a good needs-based planning process that are

different than the planning practices to date, and they require new thinking and a good knowledge of the sector to be done well.

A consensus among stakeholders on the terminology in which the elements of need will be comprehensively and generically documented is the first step. As mentioned previously, traditional provider biases about the best response to a particular need must be parked, so that other equally effective but more sustainable options can be postulated and assessed for optimality. It is an iterative process that can be fine-tuned over time with greater understanding and evidence.

Using a mix of population and geographic parameters, the need and the most optimal response must be both quantified and located, so that the appropriate resources can be subsequently marshalled and organized. Likely certain components of the ideal primary maternity service response could be delivered in every community regardless of scale, while other components would be scale dependent, while yet others would require travel out of all but the largest communities. Provincial arrangements for this cascade of services, including the potential for referral to secondary and tertiary services, as well as contingency provisions (e.g. for communication, transportation, etc.) would be made known to clients well in advance so that any need for family/community supports could be anticipated.

Unlike chronic diseases or mental illness which can span a person's lifetime, but manifest itself acutely without warning, pregnancy and childbirth is a relatively episodic event, that is contained within a given 12 month period with a clear beginning and end. This feature makes maternity care needs projections considerably simpler to make and reproduce once a valid and reliable planning model has been developed. The real ongoing challenge is formulating optimal, customized responses (ie. effective, integrated and sustainable) to the documented but changing needs from the resources available in the society (ie. various personnel, processes and structures, and technology in an enabling policy environment), and making representation when some dimension of capacity needs to change.

The steps in the needs assessment, and the conversion to optimal service responses, might follow the following logical sequence:

-First, the **need component terminology** for low-risk maternity care for the province of BC is documented ie. what each mother-to-be should reasonably be expected to need in services or supports:

- Based on previous experiences and best practice, and adjusted by more recent feedback from women/mothers, document needs for services from preconception to post-partum;
- start with a framework of generic terminology (e.g. access, information, communication, etc.) and then make each more specific (e.g. counselling – nutrition, genetic, post-partum etc.);
- avoid describing the need in provider oriented terminology that restricts the response to a particular provider, unless of course the governing legislation is prescriptive on the matter (e.g. surgical intervention; anesthesia; etc);
- the BC Maternity Care Pathway as well as the Ontario (OMCEP) project report appear to contain information about potential categories of generic need for every pregnant woman;
- (document assumptions);

-Second, using the terminology from above, **document the needs** using a mix of population and geographic parameters:

- identify population by location;
- identify women of childbearing age within that population;
- adjust for fertility rates;
- note size of community and its radial distance from a tertiary centre as they will need to be stratified later;
- estimate anticipated pregnancies for a particular timeframe from that sub-population in each location;
- attempt to quantify the projected needs in terms of discrete clients using the terminology above, but also by some measure of input like visits or hours etc. for each category/subcategory of need;
- as a start, assume all pregnancies will be delivered locally...where the woman resides – can be adjusted later based on risk factors e.g. age, etc;
- based on best practices, identify which needs can only be adequately met with the client in the physical presence of the provider e.g. delivery vs. remotely via websites, teleconferencing, etc.;
- plot the projected needs on a provincial map, using municipal boundaries for the larger communities, but other aggregated but recognized boundaries for rural and remote communities;
- (document assumptions);

-Third, propose **potential responses to the documented needs**:

- assign potential resources (people, technology, etc) to each category of need generically, and then by volume and location;
- if the capacity of the resource inventory is in the same currency (or terminology) as the needs profile,
- the matching of resources to need is simplified and likely more consistent across locations;
- review the resource assignments to identify and document potential substitutions among providers and technologies for particular categories or locations of need;
- (document assumptions);

-Fourth, begin to **assess the optimality of potential responses to needs** -

- sum the resource requirements by type (type of personnel, technology, etc) across the geographic boundaries to assess scale for any particular resource, and to document potential configurations of resources that would best meet the needs of populations, in rural and remote areas in particular;
- assumptions about existing or potential models of care and the productivity of providers will need to be made and documented;
- a framework for optimality, against which potential responses or service configurations would be tested, would be useful in this exercise to ensure that client centric but sustainable arrangements are identified. It would be helpful to draft such a framework before commencing the process as familiarity with the dimensions of optimality would inform response formulation.

From this point on, the process is iterative, as a province-wide profile of need and optimal response emerges. Thereafter, adjustments for risk, out of area referral, communication and transportation, etc. can be overlaid to estimate the incremental resources required for those

who cannot deliver in their home communities. On each iteration, the proposed profile can be reviewed to ensure that it remains true to the values and principles established for optimal primary maternity care. For all populations, but especially the marginalized in large communities, a zero-based approach to inventing/formulating responses will generate a profile which can then be assessed against what resources are currently dedicated, to inform changes required to improve access and outcomes.

Beyond the needs-based resource projections, assumptions and requirements for the infrastructure resources e.g. EHR, provider education, provider scopes of practice, models of care financing, etc that enable optimal maternity care across the province must also be documented and pursued in a separate process. The client-centric needs profile, and the kinds of response that it elicits, should also influence the design of the infrastructure resources (e.g. curriculum, health record functionality, etc).

Resource Requirements for Needs-based Planning

Some sort of planning takes place now as part of the existing strategic and business planning cycles, and so some resources are in place provincially and within PSBC for that purpose. A needs-based planning process may require enhanced inputs in the following areas:

- ❖ Business knowledge: service and support needs for ideal pregnancy from preconception to post-natal, e.g.
- ❖ Maternity Care Pathway; provider's scope of practice in terms of functions that allow translation of needs into resources; provincial resource inventory;
- ❖ Data/ Intelligence: demographics, epidemiology, women's preferences, activity patterns of each provider group (OB, GP, NP, GP surgeons, nurses/public health, midwives, doulas, etc.), models of care, geographic/ community considerations/ community profiles, socioeconomic & cultural considerations/ population profiles, Inventory of resources by location, etc
- ❖ Technical capacity: data capture, storage, linkage, simulation modeling
- ❖ Mechanisms for representation at provincial venues re system enablers (external to PSBC)

A needs assessment in individual communities is not necessarily required in order to begin to build a needs-based planning model and process. Certainly such an undertaking is possible where some intelligence about one or more inputs into the process is required (e.g. cultural preferences), but it is expected that existing data sources, complimented with key informant interviews (in collaboration with health authorities), are more than adequate to allow a valid model and process to be designed. The linkage of individual client record info (demographics, epidemiology, utilization, outcomes, etc) could also improve model performance as well as the process over time.

Conclusion and Next Steps

- ❖ Assess existing needs assessment process, to determine whether a new approach is required, or enhancements to key aspects would suffice;
- ❖ Get consensus on needs terminology for both documentation of need as well as conversion into response capacity (resourcing, etc);
- ❖ Begin to design a model for needs-based planning, with a focus on the quantification and

location of the need, as a future reference for formulating optimal responses ;

- ❖ Complete Inventory of services, with a focus on location and capacity, so that it can be matched against the needs profile;

References (by date)

- PRIMARY MATERNITY CARE PLAN WORKING PAPER , Perinatal Services BC, Jan 2012
- Ontario Population Needs-Based Physician Simulation Model , October 2010
- BC Maternity Care Pathway, BCPHP Guideline 19, Feb 2010
- Innovative Needs-based Approach to Family Physician Planning – Canada, Gail Tomblin Murphy, PhD*, Rob Alder, PhD, Adrian MacKenzie, September, 2008
- National Multidisciplinary Collaborative Primary Maternity Care Project (MCP2), June 2006
- The Health Planner’s Toolkit – Assessing Need (Module 2), Health System Intelligence Project, Ontario, 2006
- Ontario Women’s Health Council, Maternity Care in Ontario 2006, Executive Report of the Maternity Care Expert Panel (OMCEP), Sept. 2006

August, 2012

Appendix 2: Needs Matrix

<p>Healthy Public Policies (Health Promotion/ Disease Prevention)</p> <p>The primary means of health promotion occurs through developing healthy public policy that addresses the prerequisites of health such as income, housing, food security, employment, and quality working conditions.</p> <p>In this needs based planning, consider the areas that have particular relevance to parturient women and newborns.</p>		<p>Information (Health Promotion/Disease Prevention)</p> <p>Topics, for which resources (eg. support, counselling, education, information) are provided, in various formats, (eg. classes, web based, by HCP) regarding personal health, health behaviours and environment, that contribute to optimal physical and mental health for parturient women and newborns.</p>	<p>Clinical Care</p> <p>Includes screening and diagnostic testing as well as medical physical care of women and newborns. (eg. maternal glucose screen, maternal blood type, maternal blood pressure and newborn Vit. K injection) This category also includes the assessment of potential environmental (eg. occupation, SES) medical (eg. maternal chronic condition, past obstetric history, current pregnancy hx) behavioral (eg. nutrition, substance use) genetic (eg. family history, ethnicity) and mental health risk factors which may contribute to a less than optimal childbearing experience or outcome.</p>			<p>Communication</p> <p>Areas and topics which require communication between a woman and her care provider(s) and may result in additional consideration and planning during the pregnancy, delivery or newborn period. (eg. discussion of women's care/birth plan). Also included is reference to a woman's medical records being available to any HCP from which she receives care as the communication of her medical history may provide integrated and enhanced overall care.</p>	<p>Support</p> <p>Assistance regarding needs which may or may not be specifically related to the pregnancy, delivery or Intrapartum period. (eg. Financial support)</p>	<p>Relocation</p> <p>Facilitation of equal access for all women in BC to physical, emotional and mental health care that is appropriate for themselves and their fetus/newborn.</p>
<p>Screening/Diagnostic Testing</p>	<p>Physical Care</p>	<p>Risk Assessment</p>						
<ul style="list-style-type: none"> *Safe work environment *Housing *Personal safety *Food security/safety *Prevention of violence against women *Healthy lifestyle *Injury prevention *Maternity leave including EI policies *Day Care 	<p>Preconception (6-12 months)</p>	<ul style="list-style-type: none"> *contraception / fertility assistance *nutrition/supplements *food security/safety *oral health *physical activity *weight status *medications (OTC, herbal, prescription) *healthy sexuality *Intimate Partner Violence (IPV) 	<ul style="list-style-type: none"> *immunity for infectious diseases *PAP *vaginal swabs for infections 	<ul style="list-style-type: none"> *complete physical exam 	<ul style="list-style-type: none"> *alcohol use e.g.TWEAK *tobacco use *illicit and problematic substance use *nutrition *weight status *activity/exercise *support 	<ul style="list-style-type: none"> *what HCP is right for me/my baby? *what tests/investigations are appropriate for me/my baby? *is there anything I can do now to have a healthy pregnancy? *HCP easy access to 	<ul style="list-style-type: none"> *financial *psychosocial *emotional 	<ul style="list-style-type: none"> *to get to routine antenatal and intrapartum care *to another location to receive higher level of care/ programs/ services *transport during an acute emergency *if relocated, repatriation is then

<p>*HCP availability *MSP support for alternative therapies/ doulas</p>		<p>*illicit and problematic substance use</p> <p>*alternative HCP options eg. midwife</p> <p>*tests/investigations available for woman</p>			<p>systems</p> <p>*Intimate Partner Violence (IPV)</p> <p>*medication use (OTC, herbal, prescription)</p> <p>*physical or mental health condition (management, support, resources)</p> <p>*genetic (family hx, ethnic screening)</p> <p>*history of communicable diseases</p> <p>*influenza vaccination</p> <p>*past gynecological hx</p> <p>*past OB hx</p> <p>*medical hx</p> <p>*fertility hx</p>	<p>medical record</p>		<p>needed</p> <p>*accommodation at service location if not hospitalized</p> <p>*escort – can a family member join the patient? – necessary for women under age 18</p> <p>*support for family back at home – care of other children/family members normally under the care of the woman transported out of home community</p> <p>*geographically, above may be on a local, community, regional or provincial scale</p>
	Antenatal							
	<p>1st trimester (up to and including 14wk 6d)</p>	<p>*due date</p> <p>*normal pregnancy</p> <p>*nutrition/supplements</p> <p>*food security/safety</p> <p>*appropriate and sustained weight gain</p> <p>*physical activity</p> <p>*oral health</p> <p>*healthy sexuality</p>	<p>*blood work (type, antibodies, CBC, HgB, MCV, TSH, rubella, varicella)</p> <p>*blood work (HIV, syphilis, hep B)</p> <p>*TB in high prevalence population</p> <p>*urine for infections,</p>	<p>*blood pressure</p> <p>*weight</p> <p>*symphysis-fundal height</p> <p>*complete physical exam</p>	<p>*alcohol use e.g.TWEAK</p> <p>*tobacco use</p> <p>*illicit and problematic substance use</p> <p>*nutrition</p> <p>*appropriate and sustained</p>	<p>*what HCP is right for me/my baby?</p> <p>*what tests/investigations are appropriate for me/my baby?</p> <p>*how can I stay healthy through my pregnancy?</p> <p>*pts care plan</p>	<p>*financial</p> <p>*psychosocial</p> <p>*emotional</p>	<p>*to get to routine antenatal and intrapartum care</p> <p>*to another location to receive higher level of care/ programs/ services</p> <p>*transport during an acute emergency</p>

		<ul style="list-style-type: none"> *Intimate Partner Violence (IPV) *safety in pregnancy *psychosocial health *stress reduction *prenatal genetic screening *community resources *alternative HCP options eg. midwife *tests/investigations available for woman/fetus 	<ul style="list-style-type: none"> proteinuria *vaginal swabs for infections *ultrasound for dating 		<ul style="list-style-type: none"> weight gain *activity/exercise *stress *support systems *Intimate Partner Violence (IPV) *enhanced services through Nurse Family Partnership (NFP) program *medication use (OTC, herbal, prescription) *physical or mental health condition (management, support, resources) *genetic (family hx, ethnic screening) *history of communicable diseases *influenza vaccination *oral health *past gynecological hx *past OB hx *medical hx 	<ul style="list-style-type: none"> *HCP easy access to medical record 		<ul style="list-style-type: none"> *if relocated, repatriation is then needed *accommodation at service location if not hospitalized *escort – can a family member join the patient? – necessary for women under age 18 *support for family back at home – care of other children/family members normally under the care of the woman transported out of home community *geographically, above may be on a local, community, regional or provincial scale
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	<p>2nd trimester (15wk 0d – 26wk 6d)</p>	<ul style="list-style-type: none"> *normal pregnancy *nutrition/supplements *food security/safety *appropriate and sustained weight gain *physical activity *oral health *healthy sexuality *Intimate Partner Violence (IPV) *safety in pregnancy *psychosocial health *stress reduction *prenatal genetic screening *fetal movement count *VBAC *signs of preterm labour *where delivery to occur *community resources *breastfeeding *alternative HCP options eg. midwife *tests/investigations available for woman/fetus 	<ul style="list-style-type: none"> *as per 1st trimester - if not done *urine for infections, proteinuria *ultrasound - detailed *glucose screen/testing 	<ul style="list-style-type: none"> *blood pressure *symphysis-fundal height *fetal heart tones *weight *complete physical exam 	<ul style="list-style-type: none"> *alcohol use e.g.TWEAK *tobacco use *illicit and problematic substance use *nutrition *appropriate and sustained weight gain *rest/ physical activity/exercise *support systems *Intimate Partner Violence (IPV) *stress *medication use (OTC, herbal, prescription) *physical or mental health condition (management, support, resources) *genetic (family hx, ethnic screening) *history of communicable diseases *influenza vaccination *oral health *past 	<ul style="list-style-type: none"> *what HCP is right for me/my baby? *what tests/investigations are appropriate for me/my baby? *pts care & birth plan *HCP easy access to medical record 	<ul style="list-style-type: none"> *financial *psychosocial *emotional 	<ul style="list-style-type: none"> *to get to routine antenatal and intrapartum care *to another location to receive higher level of care/ programs/ services *transport during an acute emergency *accommodation at service location if not hospitalized *escort – can a family member join the patient? – necessary for women under age 18 *support for family back at home – care of other children/family members normally under the care of the woman transported out of home community *if relocated, repatriation is then needed *geographically, above may be on a local, community, regional or provincial scale
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					<p>gynecological hx</p> <ul style="list-style-type: none"> *past OB hx *medical hx *preterm labour risk assessment <p>*if care to be transferred</p> <p>*where delivery to occur</p>			
	<p>3rd trimester (27wk – delivery)</p>	<ul style="list-style-type: none"> *normal pregnancy *nutrition/supplements *food security/safety *appropriate and sustained weight gain *physical activity *oral health *healthy sexuality *Intimate Partner violence (IPV) *safety in pregnancy *psychosocial health *stress reduction <ul style="list-style-type: none"> *preparation for labour/ birth *where delivery to occur *fetal movement count *signs of preterm labour *possible interventions for variation from normal birth *VBAC *pain management options *doula care/ labour support <ul style="list-style-type: none"> *community resources *postnatal self care *"baby blues"/ PND *breast feeding *skin-skin benefits *newborn care 	<ul style="list-style-type: none"> *Group B strep testing *urine for proteinuria *blood work (type, antibodies, CBC, HgB, MCV) 	<ul style="list-style-type: none"> *determination of fetal presentation *blood pressure *fetal heart tones *symphysis-fundal height *weight *complete physical exam 	<ul style="list-style-type: none"> *alcohol use e.g.TWEAK *tobacco use *illicit and problematic substance use *nutrition *appropriate and sustained weight gain *rest/ physical activity/ exercise *support systems *Intimate Partner Violence (IPV) *stress *depression (?EPDS) *medication use (OTC, herbal, prescription) *physical or mental health condition 	<ul style="list-style-type: none"> *what HCP is right for me/my baby? *what tests/investigations are appropriate for me/my baby? *pts care & birth plan *discussion re non-birth plan *labour support *infant feeding plan *HCP easy access to medical record 	<ul style="list-style-type: none"> *financial *psychosocial *emotional 	<ul style="list-style-type: none"> *to get to routine antenatal and intrapartum care locally *to another location to receive higher level of care/ programs/ services *transport during an acute emergency *accommodation at service location if not hospitalized *escort – can a family member join the patient? – necessary for women under age 18 *support for family back at home – care of other children/family members normally under the care of the woman transported out of home community *if relocated, repatriation is then needed

		<ul style="list-style-type: none"> *"Back to Sleep" *infant safety *newborn screening *"Purple Crying" *alternative HCP options eg. midwife *tests/investigations available for woman/ newborn 			<ul style="list-style-type: none"> (management, support, resources) *genetic (family hx, ethnic screening) *history of communicable diseases *influenza vaccination *oral health *past gynecological hx *past OB hx *medical hx *preterm labour risk assesment *if care to be transferred *where delivery to occur 			<ul style="list-style-type: none"> *geographically, above may be on a local, community, regional or provincial scale
	Intrapartum	<ul style="list-style-type: none"> *breast feeding *newborn screening *"baby blues"/ PND *skin-skin benefits *newborn care *"Back to Sleep" *"Purple Crying" *infant safety *postnatal self care *appropriate HCP for woman/ newborn *tests/investigations available for 	<ul style="list-style-type: none"> *fetal health surveillance *arterial cord blood sampling *CBC, Group and screen 	<ul style="list-style-type: none"> *determination of fetal presentation *delivery of baby *maternal vital signs including BP 	<ul style="list-style-type: none"> *pain management *fetal health surveillance *labor progression *blood loss *if care to be transferred *where delivery to occur 	<ul style="list-style-type: none"> *what HCP is right for me/my baby? *what tests/investigations are appropriate for me/my baby? *pts care & birth plan *one-on-one labour/birth support *infant feeding plan *pain management *HCP easy access to 	<ul style="list-style-type: none"> *one on one labour /birth support *skin to skin *feeding plan *parenting skills *financial *psychosocial *emotional 	<ul style="list-style-type: none"> *to get to routine antenatal and intrapartum care locally *to another location to receive higher level of care/ programs/ services *transport during an acute emergency *accommodation at service location if not hospitalized

		woman/ newborn				medical record		<p>*escort – can a family member join the patient? – necessary for women under age 18</p> <p>*support for family back at home – care of other children/family members normally under the care of the woman transported out of home community</p> <p>*if relocated, repatriation is then needed</p> <p>*geographically, above may be on a local, community, regional or provincial scale</p>
	Postnatal (8 weeks)							

	Maternal	<ul style="list-style-type: none"> *nutrition/supplements *food security/safety *physical activity *oral health *healthy sexuality *Intimate Partner Violence (IPV) *contraception *psychosocial health *stress reduction *"baby blues"/ PND *community resources *postnatal self care *breast feeding *skin-skin benefits *newborn care *"Back to Sleep" *"Purple Crying" *infant safety *appropriate HCP for woman/ newborn 		<ul style="list-style-type: none"> *sleep/rest *physical exam *breast care 	<ul style="list-style-type: none"> *stress *depression eg.?EPDS *Maternal assessment and intervention (based on PSBC Postpartum Nursing Care pathway – OB Guideline #20) *alcohol use e.g.TWEAK *tobacco use *illicit and problematic substance use *nutrition/ weight status *rest/ physical activity/ exercise *support systems *Intimate Partner Violence (IPV) *medication use (OTC, herbal, prescription) *physical or mental health condition (management, support, resources) *medical hx 	<ul style="list-style-type: none"> *what HCP is right for me/my baby? *infant feeding plan *what do I need to know to care for my baby safely? *HCP easy access to medical record 	<ul style="list-style-type: none"> *breast feeding *feeding plan *self care *parenting skills *sleep *financial *psychosocial *emotional 	<ul style="list-style-type: none"> *to get to regular postpartum care locally *to another location to receive higher level of care/ programs/ services *transport during an acute emergency *accommodation at service location if not hospitalized *escort – can a family member join the patient? – necessary for women under age 18 *support for family back at home – care of other children/family members normally under the care of the woman transported out of home community *if relocated, repatriation is then needed *geographically, above may be on a local, community, regional or provincial scale
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	Newborn		<p>IMMEDIATE (within 48hrs)</p> <ul style="list-style-type: none"> *metabolic *Vitamin K *newborn eye prophylaxis *hyperbilirubinemia/ jaundice 	<ul style="list-style-type: none"> *physical exam *APGAR score at birth *weight 	<ul style="list-style-type: none"> *weight gain *Newborn assessment and intervention (based on PSBC Newborn Nursing Care pathway – Newborn Guideline #13) 	<ul style="list-style-type: none"> *HCP easy access to medical record 	<ul style="list-style-type: none"> *breast feeding *sleep 	<ul style="list-style-type: none"> *to get to routine care services locally *to another location to receive higher level of care/ programs/ services *transport during an acute emergency *if relocated, repatriation is then needed *accommodation at service location if not hospitalized *geographically, above may be on a local, community, regional or provincial scale
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Appendix 3: Response Assessment Matrix

Identification of Responses:

In determining the most appropriate response(s) to an identified need, consideration of its quality and sustainability must be weighted and evaluated by those involved in planning. Some factors of quality can only be determined in consultation with women, care providers and the community being served.

For the purposes of the Response Optimality Matrix, the following apply:

Quality – consists of:

- Access – is accessible to all women regardless of cognitive, physical, social, cultural or geographic barriers.
- Effectiveness – is able to deliver its goal. “Doing the *right* thing.”
- Efficiency – produces a specific outcome with a minimum amount of waste, expense, or unnecessary effort. “*Doing things right.*”
- Safety – does not cause actual (or perceived) harm to the women, their families, care providers, community or the health system.
- Appropriateness – is suitable for the women, their families, care providers, communities and the health system.
- Acceptability – aligns with approved standards, guidelines and evidence-based best practice.

A Sustainable Health Care System is designed to:

- meet the health and health care needs of individuals and the population (from health promotion and disease prevention to restoring health and supporting end of life);
- lead to optimal health and health care outcomes;
- respond and adapt to cultural, social, and economic conditions and demands; and
- deliver on its promise without compromising the outcomes and ability of future generations to meet their own health and health care needs.

April, 2012
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Health Care

Sustainability – consists of:

- Fiscal – response will be able to be sustained within the financial resources currently allotted and planned for in the future.
- Political – response is endorsed by current health system and becomes integrated into future planning.
- Social – response is meeting an identified need and is supported and endorsed by the population it is designed for.
- Environmental – response protects the natural world and does not significantly pollute the environment.

Accountability

Is the response (or the people providing the response) accountable to the women/families the response serves, the community it lies within and/or the system that funds it?

Response Optimality Criteria <small>(may be weighted depending on population, geography, etc.)</small>	Need: X			
	Proposed Response #1:	Proposed Response #2:	Proposed Response #3:	Proposed Response #4:
<u>Quality:</u> <ul style="list-style-type: none"> • Effectiveness • Access • Efficiency • Safety • Appropriateness • Acceptability 				
<u>Sustainability:</u> <ul style="list-style-type: none"> • Fiscal • Political • Social • Environmental 				
<u>Other Criteria:</u> <ul style="list-style-type: none"> • Published evidence • Previous successes 				