Proceedings from the International Symposium on Rural Maternity Services

Whistler Mountain, Nita Lake Lodge
April 22-25, 2009

Hosted by the Centre for Rural Health Research
Funded by the Canadian Institutes for Health Research

July 2009

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Contents

Agenda

Centre for Rural Health Research

International Research Symposium on Rural & Remote Maternity Services

Whistler, British Columbia
April 22-24, 2009

The goals of this event are to bring together representative Canadian and international rural maternity care researchers, whose work is grounded in meeting the needs of rural women, to:

1. Discuss the current evidence supporting the planning of rural maternity care;
2. Consider future directions in the rural maternity care research agenda across Canada and internationally; and
3. Foster national and international research partnerships in the area of rural maternity care.

Wednesday, April 22

12:00	Bus pick up from Vancouver Airport to travel to Whistler
12:45	Bus pick up from Centre for Rural Health Research office
1:30	Sight-seeing stop at Shannon Falls
3:30	Arrive at Whistler Mountain, Nita Lake Lodge *Check into hotel*
3:30	Free time to settle in and visit Whistler village (optional)
7:00	**Welcome reception** & poster presentations *A selection of appetizers [light dinner] will be served and a cash bar will be available.*

Thursday, April 23

8:00-8:30 Breakfast and Coffee

8:30-9:00 Welcome & Introductions

9:00- 9:45 **Setting the Stage:** 1. What are the key research questions that need to be answered? 2. Background: Overview of key issues and research priorities in rural maternity care in British Columbia

9:45-10:45 **The Canadian Landscape: Challenges and Innovations from across the country (in small rural communities)**

- Ontario: *Dr. Peter Hutton-Czapski*
- Manitoba: *Kris Robinson*
- Nova Scotia: *Rebecca Attenborough*
- Newfoundland: *Dr. Kris Aubrey*

10:45 BREAK

10:45-12:30 **Broader Horizons: Insights from our International Colleagues**

- USA: *Dr. Laura Mae Baldwin*
- Australia: *Sue Kildea & Susan Stratigos*
- New Zealand: *Jean Patterson*
- Norway: *Dr. Bjorn Backe*

12:30-1:30 LUNCH

1:30-2:45 **How Safe are Rural Maternity Care Services?**

- Defining Rural Service Catchments: *Dr. Stefan Grzybowski*
- Findings from research on maternal and newborn outcomes in rural British Columbia, 1994-2007: *Dr. Stefan Grzybowski*
- Findings from Lofoten hospital project: *Dr. Bjorn Backe*
- Discussion

2:45 Break

3:00-4:30 **How Safe are Rural Maternity Care Services? (Continued)**

- The safety of small primary units & the perceptions of risk in Australia: *Sue Kildea*
- The safety of rural maternity services in New Zealand: *Jean Patterson*
- Discussion

4:30-5:00 Closing Comments and Discussion

6:30 Taxi pick up from Nita Lake Lodge

7:00 Group dinner at Stefan Grzybowski's cabin

Friday, April 24

8:00-8:30 Breakfast and Coffee

8:30-9:00 Summarize Day 1, Review Goals and Objectives for Day 2

9:00– 10:30 **Creating a Sustainable Environment for Rural Care Providers**

- Identify the common challenges faced by care providers in rural settings and discuss innovative models of care
- Issues in Rural Nursing in British Columbia: *Karen Mackinnon*
- Issues in Rural Midwifery: *Judy Rogers*
- Issues in GP Surgery in British Columbia: *Dr. Nancy Humber*
- Discussion

10:30-10:45 BREAK

10:45-12:30 **Challenges & Innovations in Policy and Planning**

- Planning Sustainable Rural Maternity Services, The Rural Birth Index: *Dr. Stefan Grzybowski*
- Rural Obstetrical Planning in Canada, SRPC Initiatives: *Drs. Karl Stobbe, Peter Hutten-Czapski & Kate Miller*
- Policy and Planning Issues in Rural Australia: *Susan Stratigos*
- Discussion

12:30-1:30 LUNCH

1:30-3:00 **Creating a Collaborative Research Agenda**

- Large group: *Brainstorming activity– What are the most important research questions?*
- Small groups: *Workshopping session to identify common research questions in both National and International contexts* (Outputs: 1-2 page draft of goals & objectives for each research question)

3:00-3:15 BREAK

3:15-4:30 **Moving the Research Agenda Forward**

- Discuss next steps for collaborative research

4:30-5:00 Conclusion & Wrap-up

Saturday, April 25

9:00 AM *Bus departs for Vancouver airport*

Introduction

In April of 2009, a panel of international experts in the area of rural maternity services research were invited to Whistler, BC to engage in presentations and collaborative discussions on current Canadian and international issues in rural maternity care. The meeting brought together representative rural maternity care researchers, practitioners, and policy makers from Canada, Australia, New Zealand, Norway, and the United States. Over the two-day meeting, participants sought to (1) discuss current evidence supporting the planning and provision of rural maternity care; (2) consider the next steps in the research agenda across Canada's rural provincial jurisdictions; and (3) consider international perspectives in this planning process.

Specific objectives of the symposium were:

- To summarize and review the current state of rural maternity services across Canada and internationally in Australia, New Zealand, Norway and the United States;
- To discuss the importance and challenges of rural care provider teams (specifically General Practitioner [GP] Surgeons, nurses, and midwives) to the maintenance of rural maternity services;
- To discuss the current evidence on the safety of rural maternity services;
- To explore the applicability of the Rural Birth Index as a service planning tool to jurisdictions across Canada and internationally;
- To identify potential research questions of national and international significance; and
- To collaboratively define a national and international research agenda building on the symposium content.

With the intention of expanding the findings of the British Columbia research program to a national and potentially international forum and to integrate the perspectives of the broader research and policy making community into this agenda, intended outcomes included:

1. To move the rural maternity care research agenda beyond British Columbia's borders;
2. To identify common rural maternity research priorities; and
3. To build relationships with key stakeholders and researchers in the field of rural maternity care.

The meeting proved to be a dynamic event, rich with discussion and reflections on the common challenges facing rural maternity services nationally and internationally. An informal reception was held the evening before the symposium's start, at the Nita Lake Lodge ballroom, at which participants viewed research posters and engaged in introductions. This event, as well as a catered dinner the following night, provided participants with opportunities for reflection on the content of the symposium and for discussion of potential research collaborations.

The symposium was structured to facilitate iterative discussion and feedback throughout the presentations. Day One of the symposium consisted of presentations from Canadian and international researchers on the state of rural maternity research in their individual jurisdictions. The richness of these presentations and the discussion they provoked, consumed the entirety of Day One. Participants chose by consensus to amend the formal symposium agenda and reschedule "How Safe Are Rural Maternity Services?" for early on Day Two. This session was followed by scheduled sessions on rural maternity care health human resources and policy and planning issues.

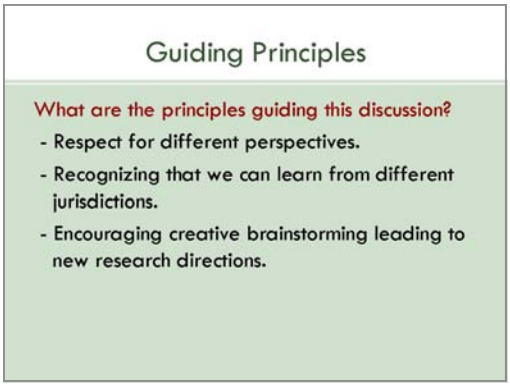
Throughout the symposium, participants were asked to brainstorm new emerging research questions and propose them to the group. On the afternoon of Day Two, participants reflected on the research questions posed during the two days and suggested avenues for pursuing them, such as through potential grant opportunities.

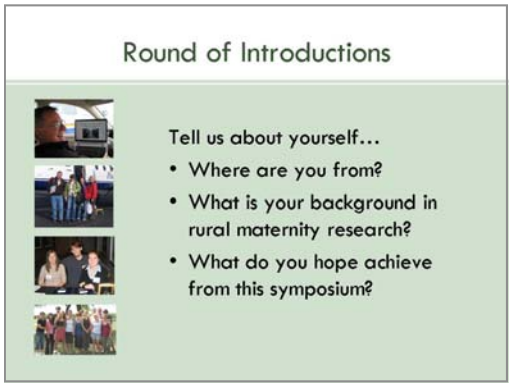
These proceedings follow the chronological format of the symposium. A synopsis of the emerging research questions can be found on page 73, "Creating a Collaborative Research Agenda."

Working sessions

1. *Setting the Scene*

A. Stefan Grzybowksi





Research Idea Template

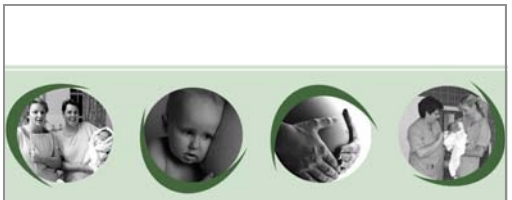
Page 1

- Summary
  - Positioning the Project
  - Goals and Objectives
  - Significance of the Work

Page 2

- Proposed Methods

Video Clip: *The Meaning of Birth*



Setting the Scene

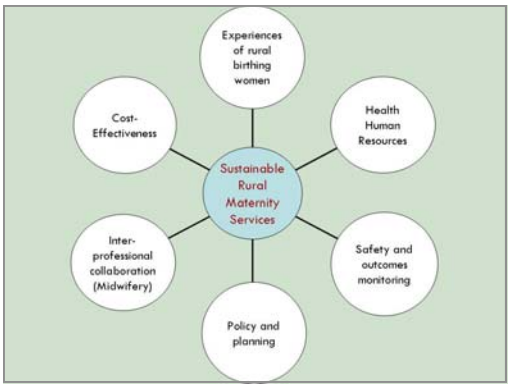
Identifying the Problem

"Every woman in Canada who resides in a rural community should be able to obtain quality maternity care as close to home as possible. Whenever feasible she should give birth in her own community within the supportive circle of her family and friends. Respect for these women requires that public policy and clinical care guidelines support the provision of quality maternity care programs in rural Canada."

Joint Position Paper on Rural Maternity Care (1997) from the Joint Working group of the Society of Rural Physicians of Canada (SRPC), The Maternity Care Committee of the College of Family Physicians of Canada (CFPC), and the Society of Obstetrics and Gynaecologists of Canada (SOGC)

Reasons for Closures

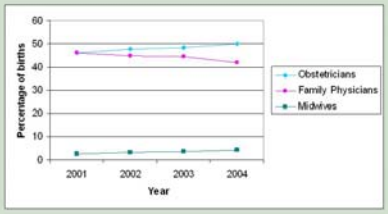
- Changes in physician distribution, rural recruitment and retention
- Decreased birth rate in rural communities
- Improved road access/transport routes from outlying communities to referral centres
- **Provincial health services policy (centralization & regionalization)**



Experiences of Rural Birthing Women

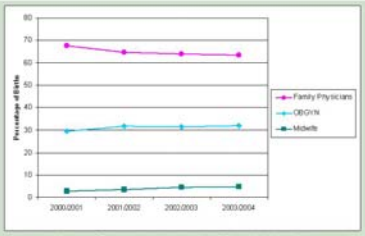
Experiences of Rural Birthing Women

Health Human Resources



Distribution of Maternity Care in British Columbia, 2001-2004
Average – 41,000 births per year

Health Human Resources



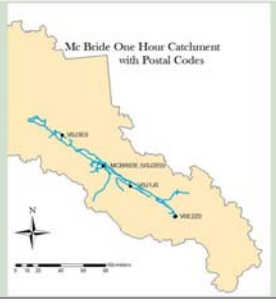
Distribution of Maternity Care in **Rural** British Columbia, 2000-2004
Average – 13,000 births per year

Safety and Outcomes Monitoring

- Population-based maternal and newborn outcomes by residence of mother
- One hour surface travel time catchments surrounding hospitals
- Catchments broken down into 8 stratas based on Distance from and Level of Service:

1. 240+
2. 121-240 minutes
3. 61-120 minutes
4. Primary Care
5. GP Surgeon
6. Mixed Model
7. General Surgeon
8. Specialist

Safety and Outcomes Monitoring

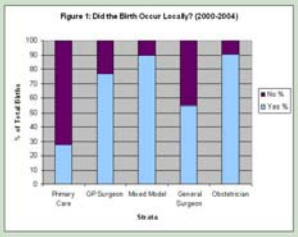


Safety and Outcomes Monitoring

Safety and Outcomes Monitoring

Strata	# of Catchments	# of Women
240+	15	536
121-240	20	791
61-120	23	1433
Primary Care	16	3032
GP Surgeon	15	5430
Mixed Model	8	6171
General Surgeon	2	2251
Specialist	17	32495

Safety and Outcomes Monitoring



Policy and Planning

- Policy documents provide little evidence of systematic planning for rural maternity care services
- Decision making occurs in an ad hoc manner in response to local or regional sense of crisis
- Planning based on decision makers' "gut feeling"

Policy and Planning

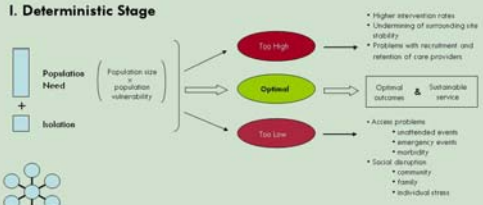
BC's evolving health administration structure

- Trend toward regionalization
- Community Health Councils and Hospital Boards (until 1999)
- Implementation of 5 regional and 1 provincial health authorities

Policy and Planning

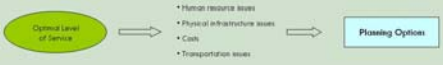
CRHR Model for a 3-Stage Rural Maternity Service Planning Process

I. Deterministic Stage



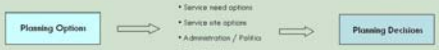
Policy and Planning

II. Feasibility Stage

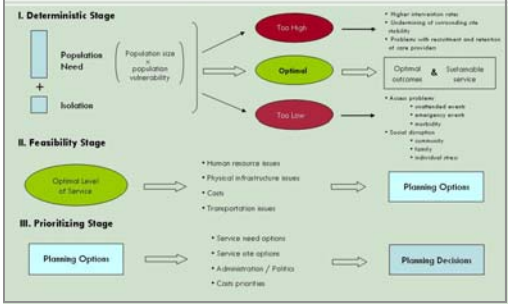


Policy and Planning

III. Prioritizing Stage



Policy and Planning



Policy and Planning

Communities where intrapartum services have closed since 1996 (No local elective maternity services)

Community	Hospital Catchment Population	PBS	APV	Nearest C-Section Service	Travel Time	Isolation Factor (IF)	Rural Birthing Index (RBI)	Predicted Level of Service
Kimberley	9,049	5.5	0.91	Cranbrook	32m	-2	**2.8**	A
Summerland	11,891	7.1	0.84	Penticton	20m	-3	**3.0**	A
Sparwood	6,643	3.0	1.35	Fernie	30m	-3	**3.7**	A
Sidney	7,724	3.7	1.08	Victoria	45m	-2	**4.1**	A
Ashcroft	2,900	1.8	1.20	Kamloops	1hr 30m	2	**4.2**	A
Princeton	4,889	2.4	1.24	Penticton	1hr 37m	2	**5.0**	A
Alert Bay	1,200	1.4	1.14	Comox	3hr 44m	4	**5.6**	A
Lytton	3,000	3.2	1.20	Kamloops	1hr 30m	2	**5.8**	A
Nelson	5,194	3.2	1.80	Nelson	2hr 32m	3	**6.2**	A
Castlegar	12,614	9.0	0.94	Trail	32m	-2	**6.9**	A
Clearwater	3,340	4.6	1.00	Kamloops	1hr 32m	2	**6.6**	A
Bella Bella	1,200	2.1	1.27	Vancouver	>4hrs	4	**6.7**	A
Hope	8,891	6.9	1.32	Chilliwack	45m	-2	**7.1**	B
Masset	2,700	3.0	1.12	Prince Rupert	>4hrs	4	**7.4**	B
Port Hardy	5,000	5.7	1.14	Campbell River	2hr 47m	3	**9.5**	C
Oliver	19,521	12.1	0.98	Penticton	45m	-2	**9.9**	C
Merritt	11,749	10.5	1.35	Kamloops	54m	-1	**13.2**	C

Policy and Planning

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Inter-professional Collaboration

Inter-professional Collaboration

Inter-professional Collaboration

Barriers in British Columbia

- Small rural populations and low birth volume
- No shared care model currently funded between GP's and midwives
- Small number of midwives
- Lack of inter-professional education about registered midwifery model of care
- Medical professions have concerns about safety of home birth in small communities
- Midwifery model of practice and remuneration are unsustainable for rural midwives

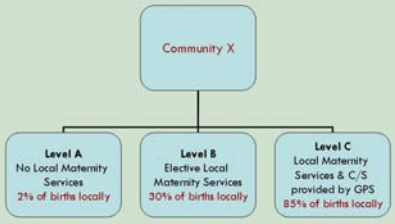
Cost-Effectiveness

Goals and Objectives

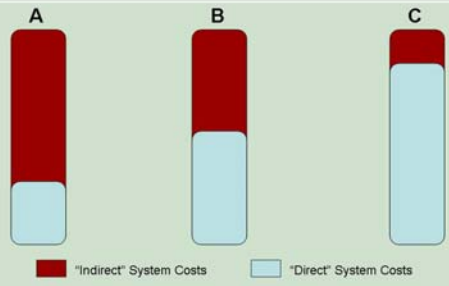
- A case-based cost analysis of population-based rural obstetrical care by comparing communities
  - without local elective maternity services,
  - with elective services but without local caesarean section, and
  - with GP Surgeon caesarean section capability.
- Determine difference in costs per pregnancy between having a local service and not having a local service.
- Determine the cost of providing a rural maternity care service with and without caesarean section capability.

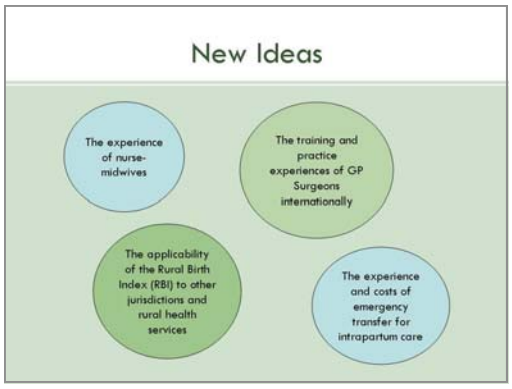
Cost-Effectiveness

3 Potential Models



Cost-Effectiveness



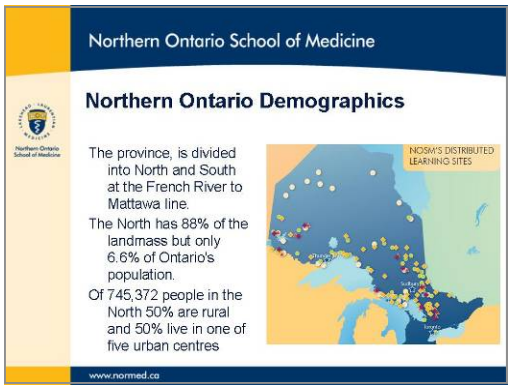


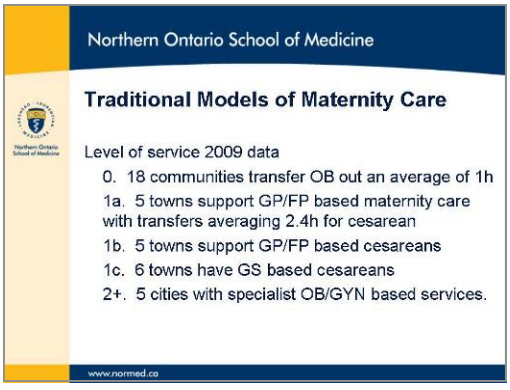
Thursday, April 22

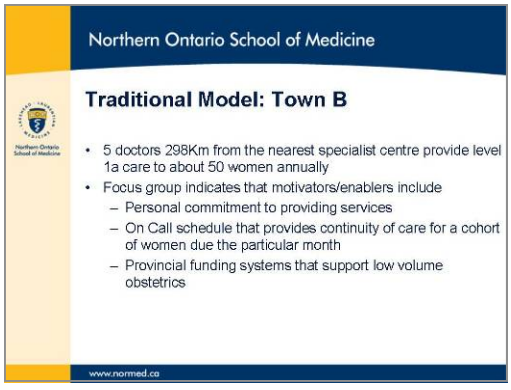
8:00-8:30	Breakfast and Coffee
8:30-9:15	Welcome & Introductions
9:15- 9:45	**Setting the Scene: Overview of key issues and research priorities in rural maternity care in British Columbia**
9:45-10:45	**The Canadian Landscape: Challenges and Innovations from across the country** • Ontario, Dr. Peter Hutton-Czapski • Manitoba, Kris Robinson • Nova Scotia, Rebecca Attenborough • Newfoundland, Dr. Kris Aubrey
10:45	BREAK
10:45-12:30	**Broader Horizons: Insights from our International Colleagues** • USA, Dr. Lawry Hine Baldwin (TBC) • Australia, Sue Kildea & Susan Stratigos • New Zealand, Jean Patterson • Norway, Dr. Bjorn Beeke
12:30-1:30	LUNCH
1:30-2:45	**How Safe are Rural Maternity Care Services?** • Defining Rural Service Catchments • Findings from research on maternal and newborn outcomes in rural British Columbia, 2000-2004, Dr. Stefan Grzybowski • Discussion
2:45	Break
3:00-4:30	**How Safe are Rural Maternity Care Services? (Continued)** • The safety of small primary units & the perceptions of risk in Australia, Sue Kildea • Findings from Lofoten hospital project, Dr. Bjorn Beeke • Indication and reasons for transfer in rural maternity services in New Zealand, Jean Patterson
3:00-3:15	BREAK
4:30-5:00	Closing Comments and Discussion
6:30	Taxi pick up from Nita Lake Lodge
7:00	Group dinner at Stefan Grzybowski's cabin

2. *The Canadian Landscape: Challenges and Innovations*

A. Peter Hutten-Czapski







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Challenge: Town A

- In 1999 4 of 15 doctors provided level 1c care to about 176 birthing women
- In 2008 1 out of 8 remaining doctors was providing intrapartum care
- After hanging on for about 5 years the town was unable to recruit another doctor, protocols were getting old and the OBS unit was closed in late 2008 with the stipulation that there would have to be more than one provider for it to reopen
- Currently half of the women travel either 140 Km to level 2 or 88 Km to level 1b for birth

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Emerging Models of Maternity Care

- Ontario Midwifery Act '91, Sudbury Community Midwifes '93
- Still by 1999 there were no rural midwifes identified in Northern Ontario
- In 2009 there are 32 midwives in Northern Ontario, with 4 being based in rural areas (87% urban)
- As elsewhere in Ontario Midwives have established parallel systems of care
- In communities with midwives there has been a 23% increase in attrition rate of FP who provide intrapartum care and a 10% drop in the number of OB/GYN
- Cities such as Sault Ste Marie and North Bay have evolved into OB/Midwife only based maternity care

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Emerging Model: Town B1

- 5 doctors 121Km from a large urban center provide level 1a care to about 100 women of the Island delivering about 70% ("low outflow")
- A nurse/FP clinic was developed
- The nurse provided all prenatal care in a hospital funded clinic
- Physicians provided interpartum care
- After some initial client resistance, attained high client satisfaction scores
- Focus group indicates that the enablers include
  - High rates of perceived burnout prior
  - Integration of providers into a unified system

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Challenges: Town B1

- The nurse obtained Ontario MW credentials and developed a parallel system of maternity care
- 4 physicians stopped provided maternity care
- Focus group indicates that the disablers include
  - Lower volumes reduced nurse and MD confidence/skill
  - Lack of support from the large urban midwifery group for vacation (the MW would have to sign out to the MD)
  - Mutual unwillingness to have the MD sign out to the MW

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Emerging Model: Town E

- 1999 Three FP's providing 1c services for about 100 women
- A few years later a number of providers dropped to two with one with 80%+
- Real potential of one of them having to drop his office in favour of an OB/ER only practise to the detriment of the community
- A midwife came to town 2003 and set up practise in the offices of the GP with whom she consults and signs out to him as needed.
- Patients/clients are not shared nor is a shared schedule

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Each Rural Town is Unique

- Superficially there is no difference between two towns that have one FP and one MW attending births
- The towns are object lessons in the local issues that make each rural town unique

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Can MWs, RNs & MDs Work Together for the Needs of Rural Women?

- RESEARCH QUESTIONS
- Why do we have to compete? Or does it matter?
- Can we share a call schedule? Or does it matter?
- Can we share patients/clients? Or does it matter?

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Summary

- Innovative call systems and provincial low volume incentives are perceived to have helped sustain traditional rural maternity care systems in Northern Ontario
- The usual midwifery model in Northern Ontario, is associated with increased physician attrition
- Collaborative models potentially can help some communities maintain maternity services for rural women

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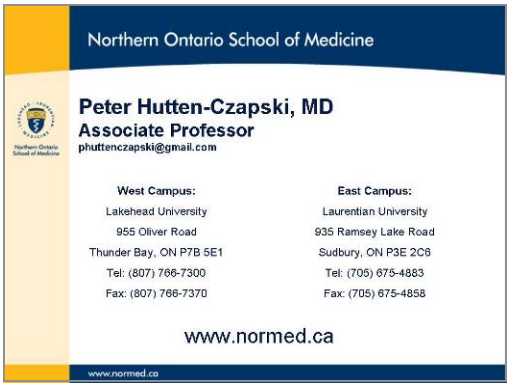
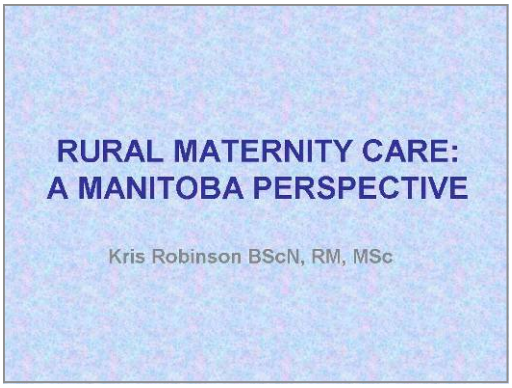
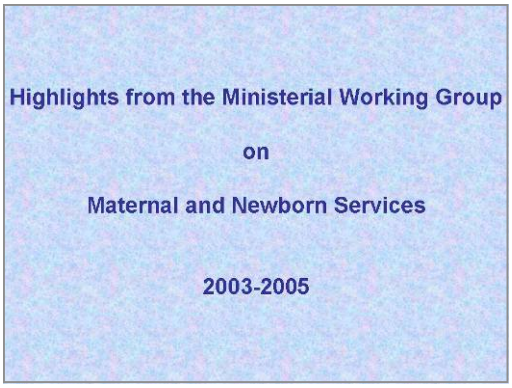


B. Kris Robinson





Mandate of the Working Group

- assess current maternal/newborn services in rural, northern and urban Manitoba;
- conduct trend analyses about births, practitioners and education related to maternal/newborn services;
- compare Manitoba data to other Canadian and selected international jurisdictions;

Regional Perinatal Capacity Issues

- Fewer community hospitals providing elective maternity care
- A lack of intrapartum services for rural and northern women
- More rural/northern women travelling outside their RHA to give birth (48%)

Regional Perinatal Capacity Issues

- Increasing concentration of births in two tertiary care hospitals in Winnipeg (10,000+/15,000)
- Higher birth rates in RHAs with limited or no intrapartum services, poorer outcomes

Emerging Workforce Issues

- Fewer family physicians providing intrapartum care
- Increasing workloads of Obstetricians who fill the gap left by Family Physicians
- Fewer residents graduating from OB/GYN training programs choose to practice obstetrics

Care Providers for Birthing Women

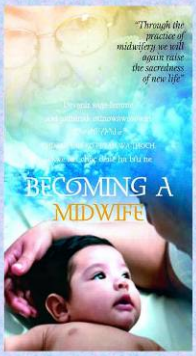
- Trend to more women to be attended by specialist obstetricians
- 1988/89
  - 39% family physicians
  - 58% obstetricians
- 2002/03
  - 24% family physicians
  - 71% obstetricians
  - 5% midwives (2009-8%)

Recommendations:

- Develop a Provincial Perinatal Program
- Fund a midwifery education program
- Provide support for physicians who wish to continue providing care in rural and northern Manitoba
- Support a model of care that supports collaborative practice and care closer to home

NEW INITIATIVES

- Aboriginal Midwifery Education Program-2006
- Two sites-The Pas, Norway House
- First Cohort of Students (5/9-2010)



kanaci otinawawasowin

Aboriginal midwifery education

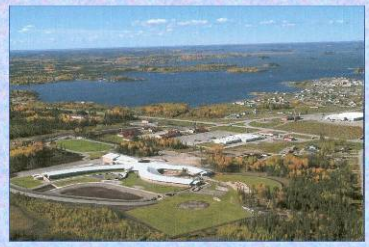
reflecting aboriginal ways of knowing and learning

blending traditional Aboriginal and western knowledge

community based (distributed) learning with community support

leading to a

Bachelor of Midwifery in Aboriginal Midwifery



OPPORTUNITIES:

Development of aboriginal health human resources.

Access to midwifery education across the province.

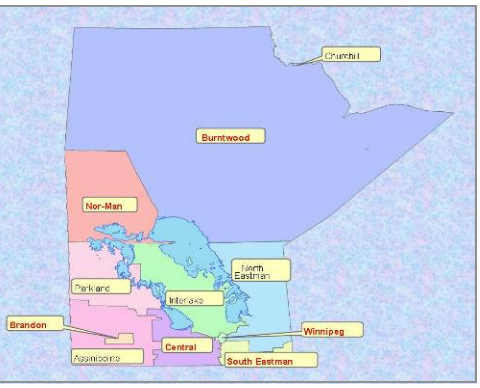
CHALLENGES:

Human resources to support midwifery education

Building knowledge and support in the post-secondary academic community for a new degree program, that is distributed (community rather than institution based) and is inclusive of traditional teachings.

Examples of services / initiatives to support birth closer to home…

- **Provider Hotlines-Telehealth**
- **Increased funding for midwives (Rural RHA's)**
- **Support for Rural Collaborative Practice**
- **?Birth Center development (In plans for 5 northern RHA's-Two Southern)**

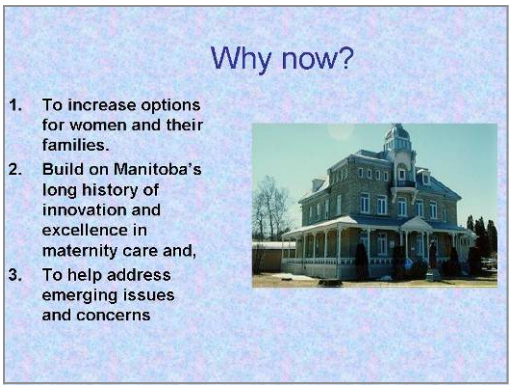


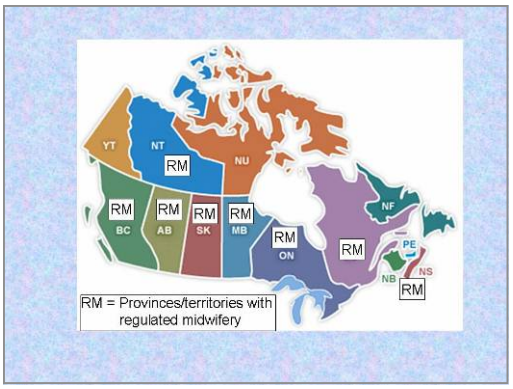
The South Winnipeg Birth Centre

- "More than just a place for births but part of the community"- Winnipeg new mom
- A "Centre of Excellence" in primary maternity care – including birth
- A model for MB based rural and northern birth

Vision Statement

- **home-like environment with capacity for 500 births**
- **attended by midwives and other community practitioners.**
- **a quiet community setting**
- **collaborative practice model**
- **Scope-pregnancy, childbirth, postpartum recovery and early parenting.**





C. Rebecca Attenborough

Maternity Care in Nova Scotia

- Hospital services
- Maternal and infant characteristics
- Birth in Nova Scotia
  - Location
  - Care providers
- Maternity care models (2 examples)
  - Health service utilization
  - Care providers involved
- Challenges

Maternity care in Nova Scotia

- Approximately 9,200 births/year
  - 50% of births take place at the IWK Health Centre in Halifax (located in the Capital DHA)
  - 50% of births distributed among 8 other DHAs
- Most births take place in a hospital
  - Tertiary
  - Regional
  - Community
- Regionalized system of perinatal care
  - 98% of LBW babies born in a tertiary or regional hospital

Maternity care in Nova Scotia

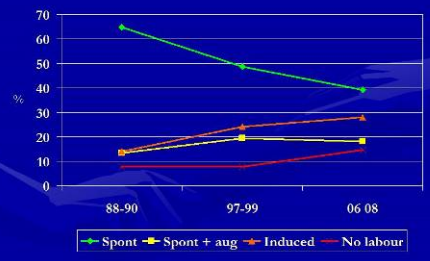
- Maternity care team includes:
  - Family physicians
  - Obstetricians/perinatologists
  - Nurses/nurse practitioners
  - Midwives (as of April 18, 2009)
  - Pediatricians/neonatologists
  - Adult and pediatric sub-specialists
  - Ancillary health professionals
- Tertiary care hospitals (2)
  - 900 – 4500 births per year
  - Full team on site in Halifax, or close by

Maternity care in Nova Scotia

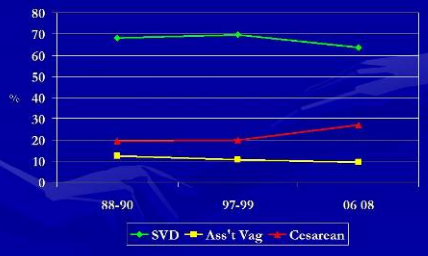
- Regional hospitals (7)
  - 350 – 850 births/year
  - Obstetricians (1-5)
  - Family physicians
  - Pediatricians (1-4)
  - Midwives (2 DHAs)
  - Nurses/NPs
- Community hospitals (1)
  - 100 births/year (administratively linked with a tertiary facility)
  - Family physicians
  - Nurses

Hospital services

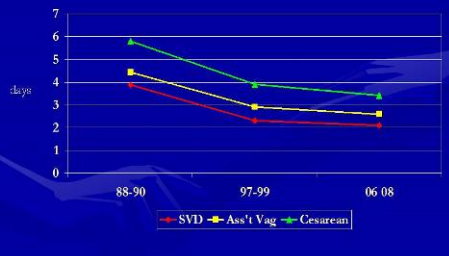
Type of labour



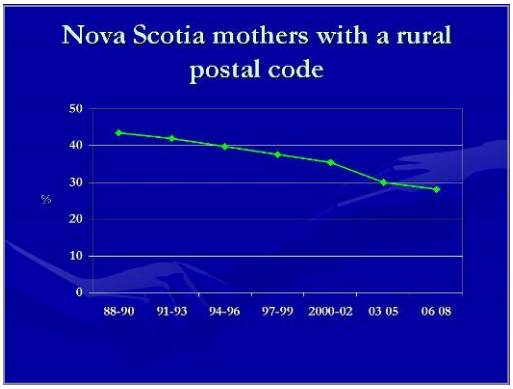
Method of delivery

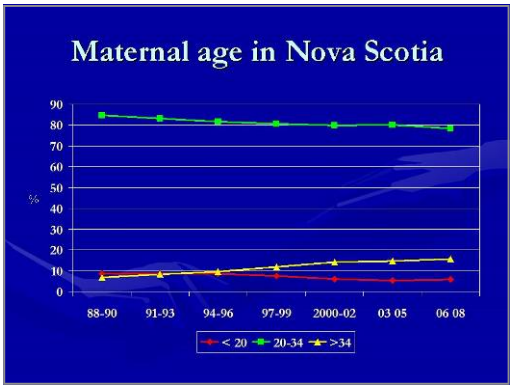


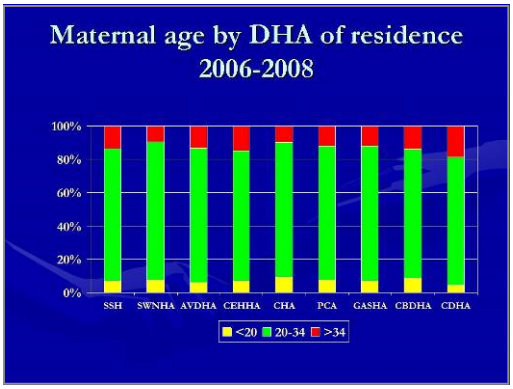
Postpartum length of stay

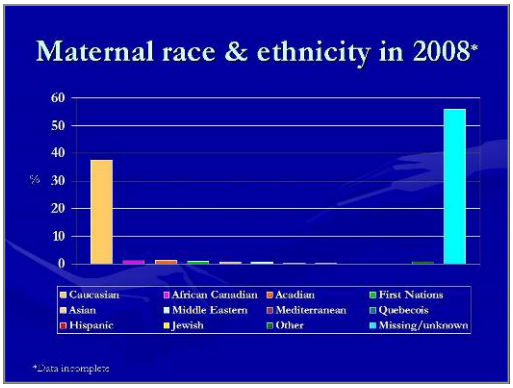


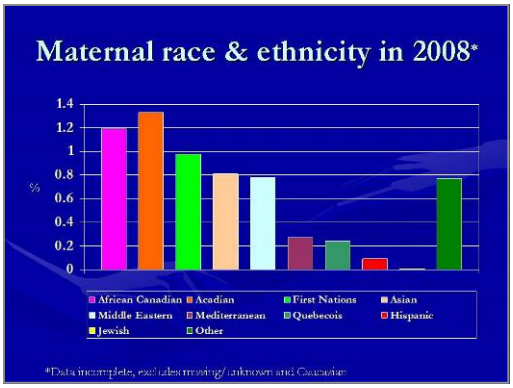

Maternal characteristics

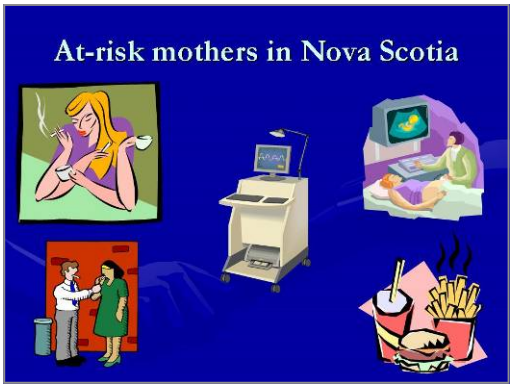

Nova Scotia mothers with a rural postal code
50
40
30
20
10
0
%
88-90
91-93
94-96
97-99
2000-02
03 05
06 08

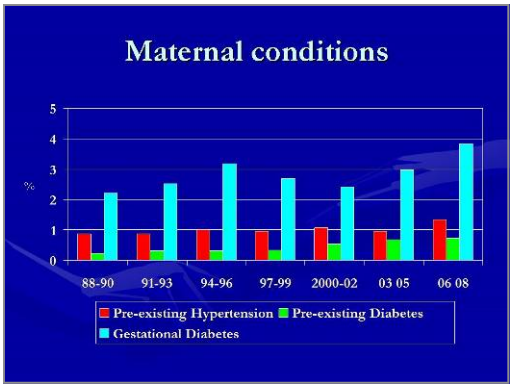

Maternal age in Nova Scotia
90
80
70
60
50
40
30
20
10
0
%
88-90
91-93
94-96
97-99
2000-02
03 05
06 08
< 20
20-34
>34

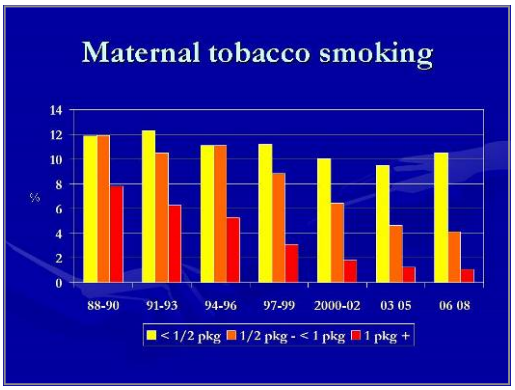

Maternal age by DHA of residence 2006-2008
100%
80%
60%
40%
20%
0%
SSH
SWNHA
AVDHA
CEHHA
CHA
PCA
GASHA
CBDHA
CDHA
<20
20-34
>34


Maternal race & ethnicity in 2008*
60
50
40
30
20
10
0
%
Caucasian
African Canadian
Acadian
First Nations
Asian
Middle Eastern
Mediterranean
Quebecois
Hispanic
Jewish
Other
Missing/unknown
*Data incomplete

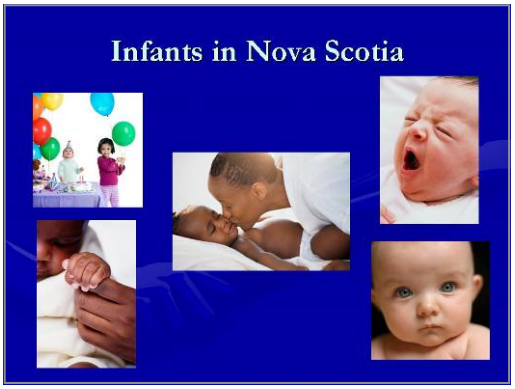

Maternal race & ethnicity in 2008*
1.4
1.2
1
0.8
0.6
0.4
0.2
0
%
African Canadian
Acadian
First Nations
Asian
Middle Eastern
Mediterranean
Quebecois
Hispanic
Jewish
Other

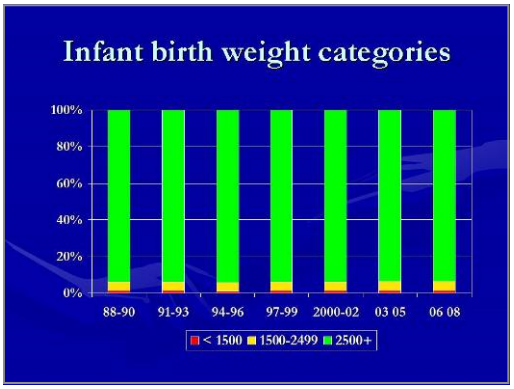

At-risk mothers in Nova Scotia

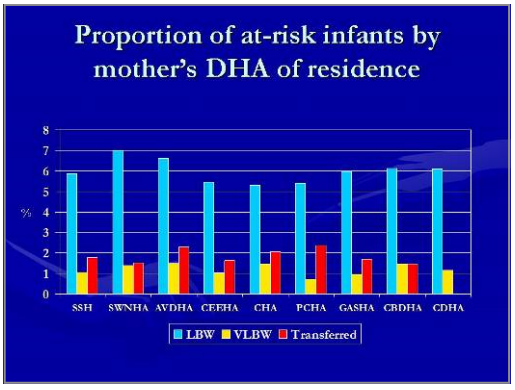

Maternal conditions
5
4
3
2
1
0
%
88-90
91-93
94-96
97-99
2000-02
03 05
06 08
Pre-existing Hypertension
Pre-existing Diabetes
Gestational Diabetes


Maternal tobacco smoking
%
88-90
91-93
94-96
97-99
2000-02
03 05
06 08
< 1/2 pkg
1/2 pkg - < 1 pkg
1 pkg +

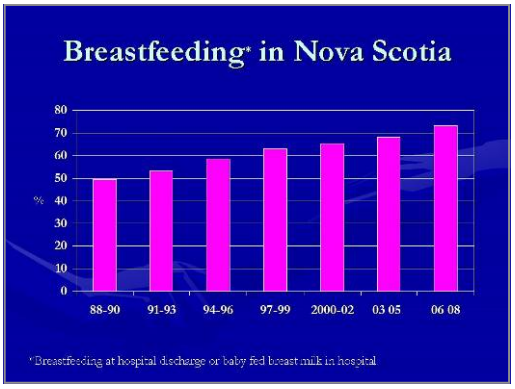

Maternal weight > 100 kg*
%
88-90
91-93
94-96
97-99
2000-02
03 05
06 08
* At any time in pregnancy

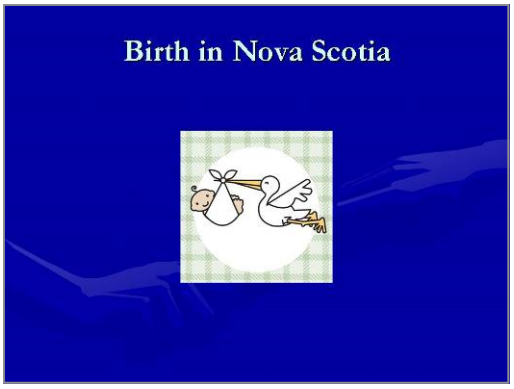

Infants in Nova Scotia

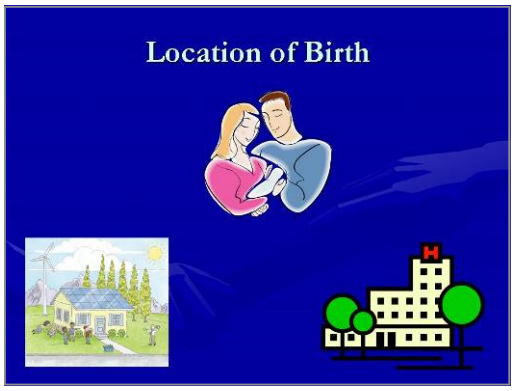

Infant birth weight categories
100%
80%
60%
40%
20%
0%
88-90
91-93
94-96
97-99
2000-02
03 05
06 08
< 1500
1500-2499
2500+

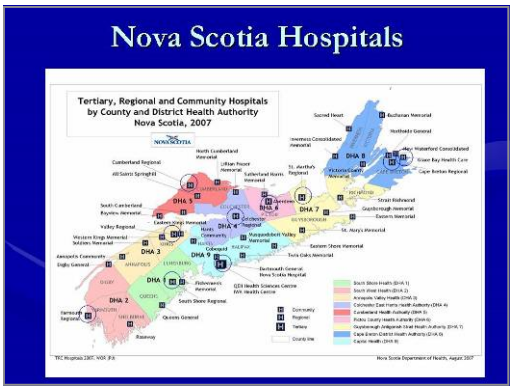

Proportion of at-risk infants by mother's DHA of residence
%
SSH
SWNHA
AVDHA
CEHA
CHA
PCHA
GASHA
CBDHA
CDHA
LBW
VLBW
Transferred

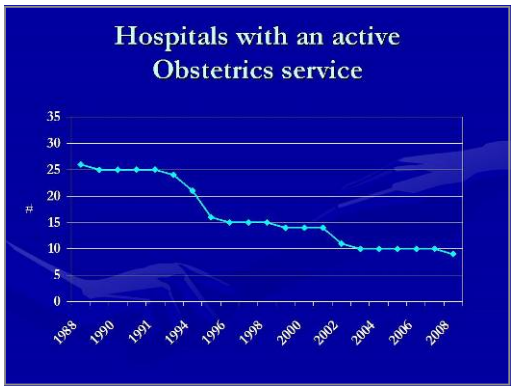

Infant Feeding


Breastfeeding* in Nova Scotia
%
88-90
91-93
94-96
97-99
2000-02
03 05
06 08
* Breastfeeding at hospital discharge or baby fed breast milk in hospital

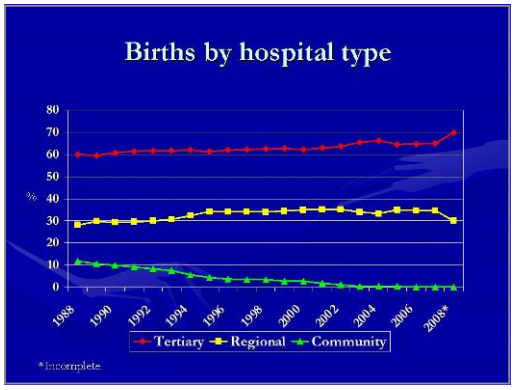

Birth in Nova Scotia

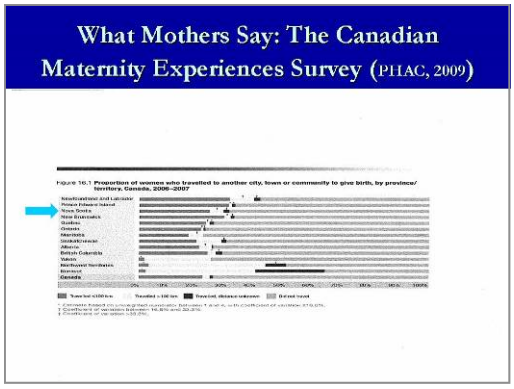

Location of Birth

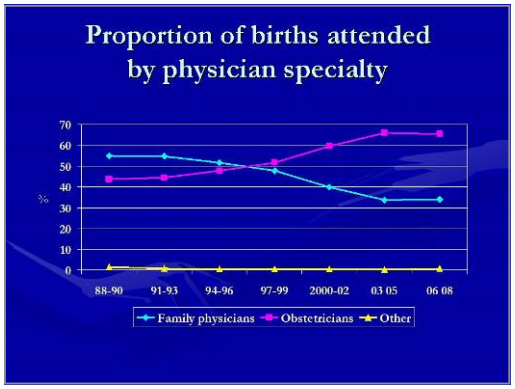

Nova Scotia Hospitals
Tertiary, Regional and Community Hospitals by County and District Health Authority Nova Scotia, 2007

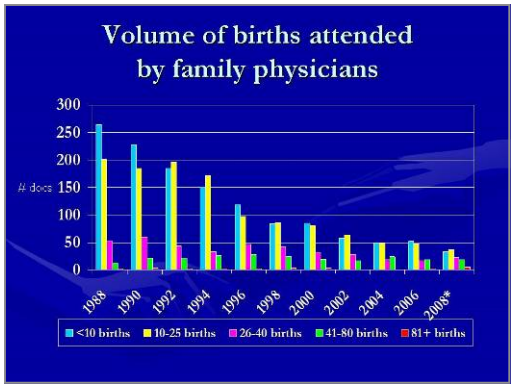

Hospitals with an active Obstetrics service
#
35
30
25
20
15
10
5
0
1988
1990
1991
1994
1996
1998
2000
2002
2004
2006
2008


Hospitals where births occur
#
35
30
25
20
15
10
5
0
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Hospitals with Obs Service
Hospitals with births

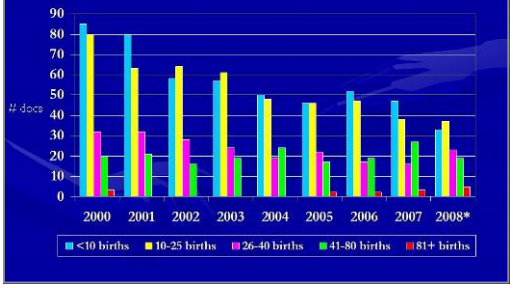

Births by hospital type
%
80
70
60
50
40
30
20
10
0
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008*
Tertiary
Regional
Community
*Incomplete


What Mothers Say: The Canadian Maternity Experiences Survey (PHAC, 2009)

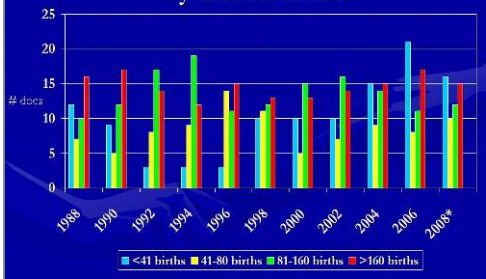

Proportion of births attended by physician specialty
%
70
60
50
40
30
20
10
0
88-90
91-93
94-96
97-99
2000-02
03 05
06 08
Family physicians
Obstetricians
Other


Volume of births attended by family physicians
docs
300
250
200
150
100
50
0
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008*
<10 births
10-25 births
26-40 births
41-80 births
81+ births

Volume of births attended by family physicians 2000-2008



Volume of births attended by obstetricians



Home birth in Halifax before regulation of midwives

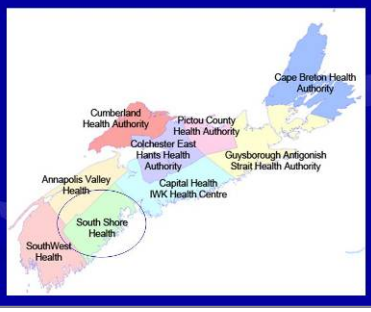
- 5 year period 114 women planned to give birth at home
- 73 gave birth at home
- 41 gave birth in hospital (preterm labour, post dates, hypertension, prolonged labour, pain relief, meconium)
- Transfer rate estimated at 15% -20%
- Among those transferred, most moved in their own car

Maternity Care Models in Nova Scotia

South Shore Health
Partnering with Our Community

Guysborough Antigonish Strait Health Authority
Working Together for a Healthy Community

South Shore Health Authority



South Shore Health Authority

- South Shore Health provides community and hospital-based services to the 60,000 residents of Lunenburg and Queens Counties, as well as residents of neighbouring communities in Shelburne, Annapolis and Kings counties.
- 66% of mothers have a rural postal code
- South Shore Regional Hospital is the only maternity care facility.

South Shore Health

South Shore Health Authority

- Maternity Care team
  - 5-6 family physicians practicing in a hospital-based clinic
  - Obstetrics Clinic nurse
  - 3 obstetrician consultants (APP)
  - Hired 2 midwives in April 2009
  - Public health and various community-based services
- Family physicians provide 90+% of prenatal care and attend 65% - 70% of births
- Most women travel for the majority of their prenatal care, shared care an option if desired

Guysborough-Antigonish-Strait Health Authority

Guysborough-Antigonish-Strait Health Authority

- GASHA is responsible for delivering a wide range of health services and programs to over 47,000 residents of Antigonish Town and County, Guysborough County, Richmond County and the southern portion of Inverness County.
- 50% of mothers have a rural postal code
- St. Martha's Regional Hospital is the only maternity care facility.

Guysborough-Antigonish-Strait Health Authority

- Maternity Care team
  - 2-3 obstetricians based in the hospital
  - 1 family physician attending births, many offering some prenatal care
  - Planning to develop a hospital-based Obstetrics Clinic
  - Approval to hire 2 midwives
  - Public health and various community based services
- Obstetricians attend 85-90% of the births
- Most women experience shared prenatal care (family doctor close to home + travel to see obstetrician 1-2 times in pregnancy)

Challenges

- Maintain rural maternity care despite closure of community hospital obstetrics services and fewer primary maternity care providers
- Maintain confidence and competence of care providers in low volume settings
- Encourage DHAs to invest in small services (most changes in NS have been by default rather than by design)

Challenges

- Assess outcomes, not volume
- Elevate profile of maternal and newborn care in acute care settings (e.g. regional and tertiary hospitals)
- Avoid duplication of services (requires good communication and partnership)

Challenges

- Find creative ways to keep existing primary care providers practicing maternity care
- Encourage new primary maternity care providers to locate in rural areas
- Develop primary maternity care models that work for each community
- Listen to women!!!!

Questions?

Thank you!

D. Kris Aubrey

Rural Maternity Care in NL

International Rural Maternity Care Research Symposium
April 23-24, 2009
Kris Aubrey

NEWFOUNDLAND & LABRADOR, CANADA
WWW.MUN.CA
MEMORIAL UNIVERSITY

Background

NEWFOUNDLAND & LABRADOR, CANADA
WWW.MUN.CA
MEMORIAL UNIVERSITY

Marathon

NEWFOUNDLAND & LABRADOR, CANADA
WWW.MUN.CA
MEMORIAL UNIVERSITY

Health Sciences Centre

NEWFOUNDLAND & LABRADOR, CANADA
WWW.MUN.CA
MEMORIAL UNIVERSITY

NL Perinatal Partnership Program

NEWFOUNDLAND & LABRADOR, CANADA
WWW.MUN.CA
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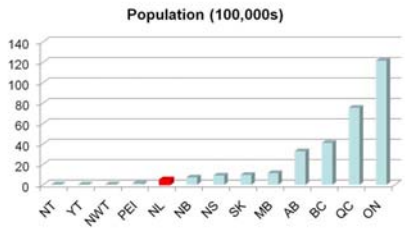
Population



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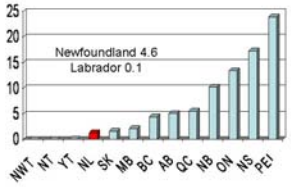
Population Density #/km²



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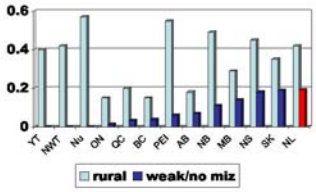
Population Distribution



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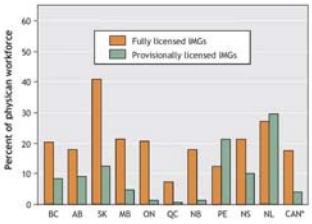
Physician Supply



Audas et al. CMAJ 173(11), 2005

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Physician Retention

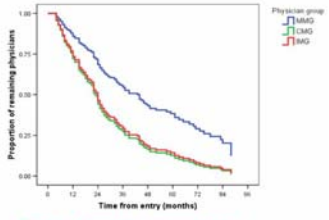

Figure 3: Retention by physician group

Mathews, Edwards and Rourke. Open Medicine 2(2), 2008.

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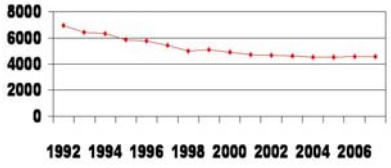
NL Provincial Deliveries



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Catchment Areas 2000

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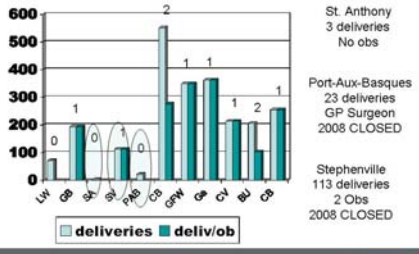
Deliveries per site 2001



St. Anthony
3 deliveries
No obs

Port-Aux-Basques
23 deliveries
GP Surgeon
2008 CLOSED

Stephenville
113 deliveries
2 Obs
2008 CLOSED

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Providers

- Few FP only sites
- No General Surgeons as sole caesarean sectionists
- Many sites require obs
- No Midwifery legislation
- Midwives practice in Labrador/Grenfell

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Challenges

- Recruitment and Retention
- Policy
- Distributed population
- Diminishing population
- Poorly informed policy decisions

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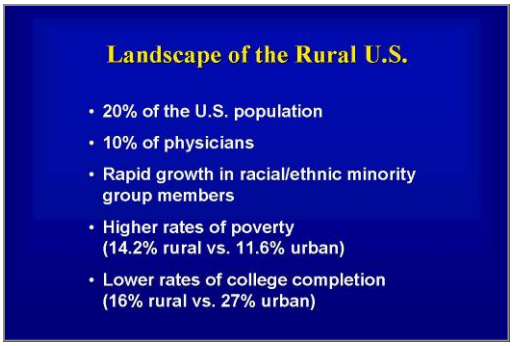
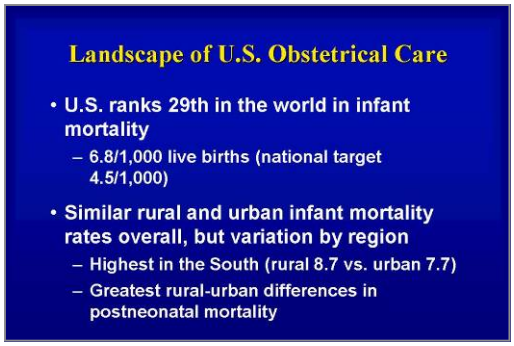
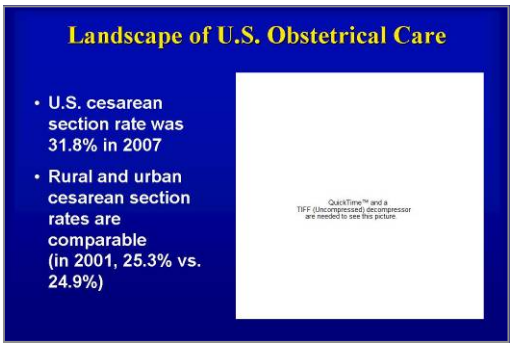
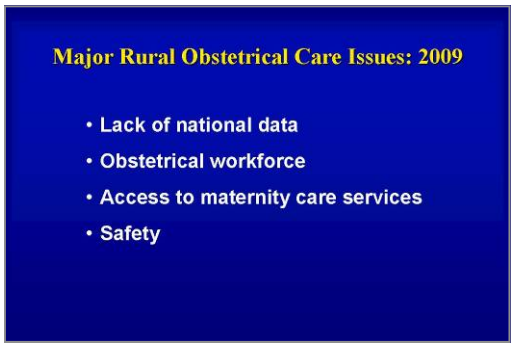
2. *Broader Horizons: Insights from Our International Colleagues*

A. Laura-Mae Baldwin









Major Rural Obstetrical Care Issues: 2009 Lack of National Data

- National Linked Birth-Death Database
  - Primary source of data on birth processes and outcomes
    - Prenatal care initiation
    - Method of delivery
    - Infant mortality
    - Cause of death
  - No regular reports distinguishing rural and urban areas
- Nationwide Inpatient Sample
  - Healthcare Cost and Utilization Project (Agency for Healthcare Quality and Research)
  - Database of hospital inpatient stays from 38 states
    - Can be linked with American Hospital Association data
    - Presence of obstetrical services
    - Range of obstetrical procedures

Major Rural Obstetrical Care Issues: 2009 Lack of National Data

- No databases that facilitate reporting:
  - Rural obstetrical workforce
  - Hospital processes of care

Major Rural Obstetrical Care Issues: 2009 Obstetrical Workforce

- Declining numbers of family physicians
- Family physicians are the primary physician caregivers in rural areas
- Decreasing proportion of family physicians practicing obstetrics
- Few midwives in rural areas
- Few obstetrician-gynecologists in rural areas
- Declining numbers of general surgeons in rural areas
- Shortage of nurses in rural areas

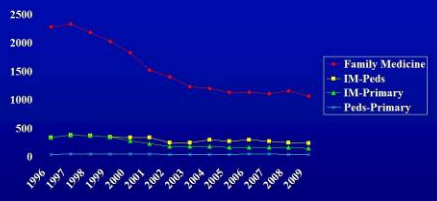
Obstetrical Workforce Issues

National Shortage of Physicians Overall

- The AAMC and COGME have issued warnings of a national shortage in excess of 100,000 doctors by 2025
- HRSA, using a more conservative approach, estimates 50,000 doctors

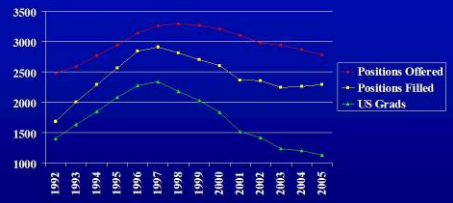
Obstetrical Workforce Issues

Declining Numbers of Family Physicians who are U.S. Medical School Graduates



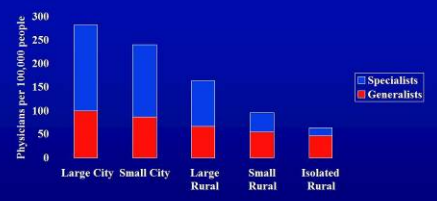
Obstetrical Workforce Issues

Declining Numbers of Family Physicians



Obstetrical Workforce Issues

Family Physicians Are Dominant Rural Health Care Providers



Obstetrical Workforce Issues

Family Physicians Are Dominant Rural Obstetrical Care Providers

Family physicians attend about 75% of rural births

Obstetrical Workforce Issues

Decreasing Proportion of Family Physicians Practicing Obstetrics

- In 1978, 46% of family physicians practiced obstetrics
- In 2005, 23% of family physicians practiced obstetrics
  - In Washington State in 2004, 46% of rural and 27% of urban family physicians practiced obstetrics

Obstetrical Workforce Issues

Limited Midwifery Presence in Rural Areas

- Midwives attended 7.4% of all deliveries in 2005 (decline since 2002)
- In Washington, 12% of certified nurse midwives and 19% licensed midwives in rural areas
- Issues influencing midwifery presence
  - Professional recognition
  - Physician support

Obstetrical Workforce Issues

Few Rural Obstetrician-Gynecologists

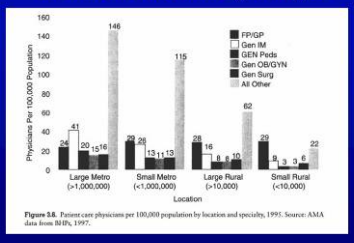


Figure 5.8. Patient care physicians per 100,000 population by location and specialty, 1995. Source: AMA data from BHPr, 1997.

Source: Ricketts TC III, ed. Rural health in the United States. New York: Oxford University Press, 1999.

Obstetrical Workforce Issues

Few Rural Obstetrician-Gynecologists

In Washington State in 1998-1999:

- 10.9% of female obstetrician-gynecologists
- 14.8% of male obstetrician gynecologists

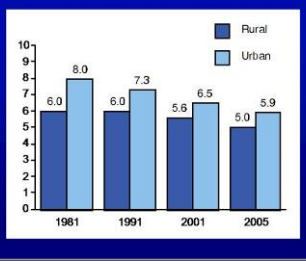
were practicing in rural areas

Obstetrical Workforce Issues

Declining Number of Rural General Surgeons

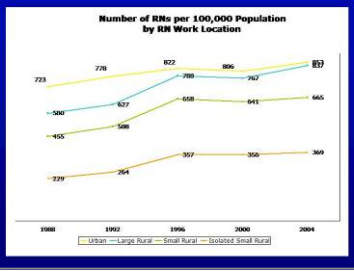
- Rural general surgeons provide important surgical back-up for rural family physicians practicing obstetrics
- 21% decline in number of rural general surgeons per 100,000 persons in past two decades

Number of Rural and Urban General Surgeons Per 100,000 Population, 1981-2005



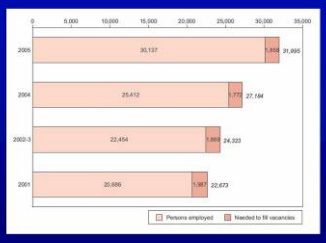
Obstetrical Workforce Issues

Fewer Nurses in Rural Locations



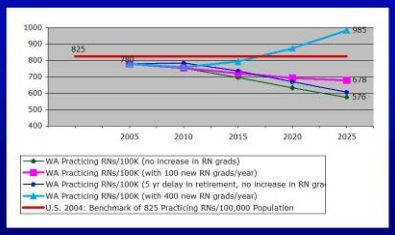
Obstetrical Workforce Issues

Nurse Vacancy Rates in Washington State, 2001-2005



Obstetrical Workforce Issues

Projected Shortage of Nurses in Washington State compared to the 2004 U.S. Benchmark



Major Rural Obstetrical Care Issues: 2009 Access to Maternity Care Services

- Rural women have higher rates of receiving inadequate prenatal care (16.8% rural vs. 12.5% urban)
  - Hispanic women (32% rural vs. 19% urban)
  - African American women (29% rural vs. 25% urban)
  - White women (13% rural vs. 8% urban)

Major Rural Obstetrical Care Issues: 2009 Access to Maternity Care Services

- Rural hospitals (70%) are less likely than urban hospitals (76%) to offer obstetrics
- Most rural hospitals (80%) converted to Critical Access Hospitals in the late 1990s
- Three services most frequently noted as dropped at time of conversion:
  - Obstetrics (8% stopped obstetrics during conversion)
  - General surgery
  - Home health

Major Rural Obstetrical Care Issues: 2009 Access to Maternity Care Services

- Data on distances that women need to travel to obstetric services is difficult to obtain
- Poor local access to obstetric care associated with:
  - Higher rates of preterm infants or neonates with problems
  - Higher charges
  - Increased length of stay

Major Rural Obstetrical Care Issues: 2009 Safety

- Limited specialty back-up
- Availability of anesthesia: 2/3 of anesthesia in rural places provided by CRNAs
  - Center for Medicare & Medicaid Services (CMS 2001 rules requires physician supervision of CRNAs unless state governor opts out
- American College of Obstetrics and Gynecology guidelines recommend 30 minutes from C-section decision to incision
- Guideline-based care – some recommended care less likely in rural areas

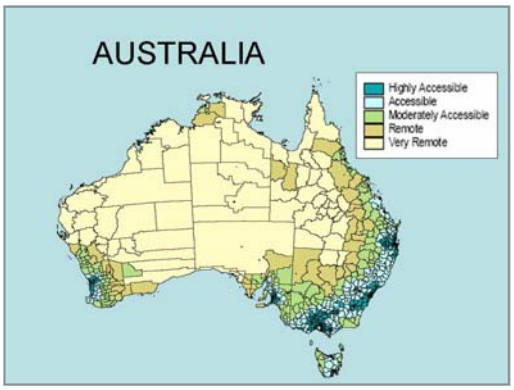
Major Rural Obstetrical Care Issues: 2009 What have I not mentioned?

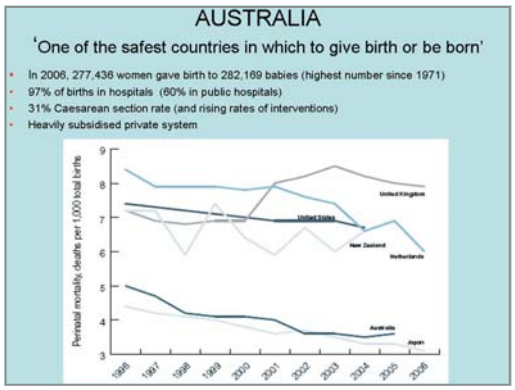
- Financial access to services
  - State and federal legislation in mid-1980s increased eligibility for low-income women in Medicaid
- Malpractice liability issues
  - Providers frequently cite liability issues as reason for discontinuing obstetrics
  - Evidence that malpractice liability issues have impacted access to care is scarce

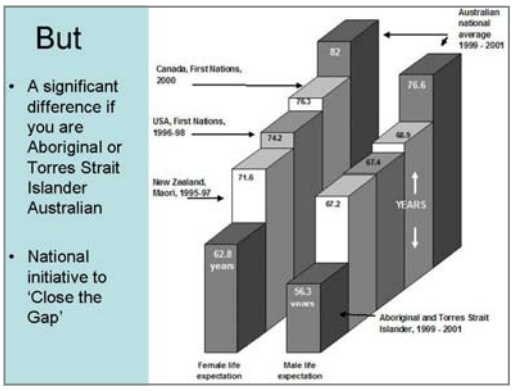
Major Rural Obstetrical Care Issues: 2009 Summary

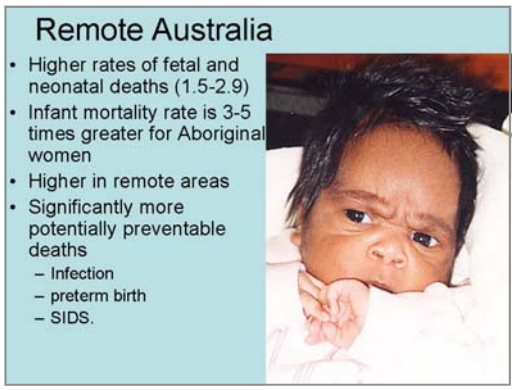
- Rural workforce is a major concern
- Association between workforce and care access difficult to measure
- Indirect measures suggest rural-urban access disparities
- Workforce factors also associated with safety
- Lack of data sources to attract obstetrical workforce and processes

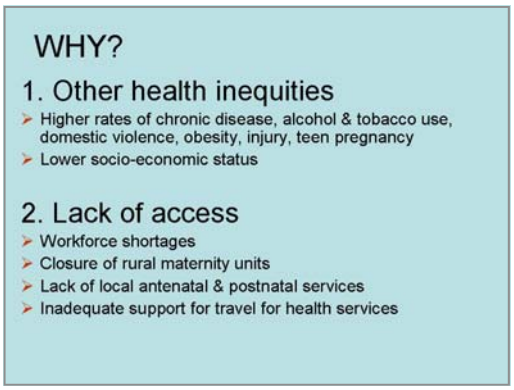
B. Susan Stratigos and Sue Kildea











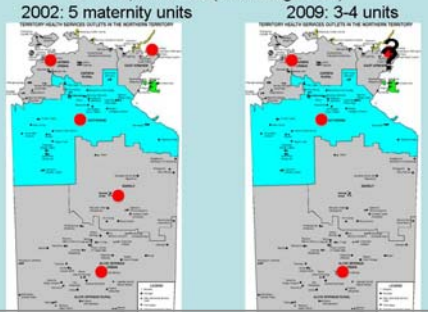
Australia - Last 10 years…

- Small units closing down
- Women relocating for birth…. further and further from home
- Financial hardship
- Social disruption
- No choice
- Some women avoid services

Queensland - 3.6 million people, 1.72 million sq kms, 25% of Australia's land mass, 4 x Japan, 6 x UK.
36/84 rural birthing services closed in 10 years

Northern Territory

Pop: 215,000, 1.3 million sq km,
2005 - 3,596 births (37% Indigenous)
2002: 5 maternity units 2009: 3-4 units



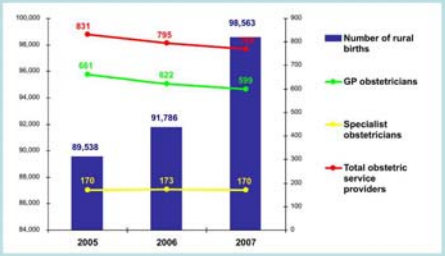
Authoritative knowledge driving Australian maternity service provision

- Safer to birth in the tertiary setting → closure of small units
- Far too dangerous to birth in remote areas
- All Aboriginal women are high risk
- Dangerous & not encouraged
  - Homebirth (0.3%)
  - Breech birth (0.4%)
  - VBAC (16%)

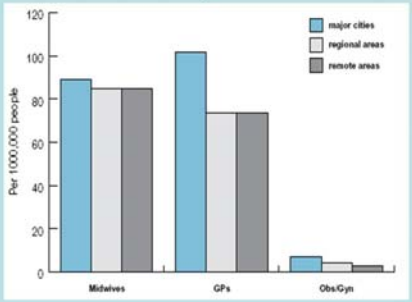
What is driving the change?

- Economic rationalism
- Centralisation
- Technology
- Workforce
- Culture of fear - risk and safety
- Malpractice liability
- Media
- Research??

Obstetric Care Workforce



Current Maternity Care Workforce



Current maternity care workforce

167

2931

807

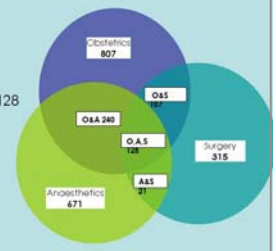
Rural Specialists

- 14% of obstetricians, 30% of births
- Average age: 51
- Females: 22%
- Twice as many applicants as training positions

RSMA	Fellows
1	354
2	88
3	101
4	41
5	23
6	5
7	8
n/a	58
	1265

GP Proceduralists

Obstetrics: 332
Anaesthetics / obstetrics: 240
Obstetrics / Surgery: 107
Anaesthetics / Obstetrics / Surgery: 128



Procedural Medicine Training Grants Program
@15 April 2008

Specialist Obstetricians

- Aging workforce
- Cost of indemnity
- Lack of support in R & R
- Increasing number of women
- Wanting to work in the city – Australia has a maldistribution rather than a shortage

GP Obs / Anaesthetists

- Leaving obstetrics
  - Personal/family reasons (36%)
  - Rising insurance premiums (16%)
  - Unexpected emergencies (10%)
  - Lack of remuneration (8%)
  - Closure of the local hospital

Midwives

- 25% of Midwives
- 30% Births
- 15% main role as midwife
- 51% midwifery as speciality area
- 49% aged 46-55
- Average weekly hours: 27.7
- Shortage of 1,847 midwives
- Education was 3,000 now 300 pa with hundreds more applying
  - 3 yr Bmid, 1 yr post grad, 4 yr double degree.
- Data difficulties

Midwives

- National and international shortage
- New graduates only meeting 1/3 projected workforce needs
- Up to 30% new graduates dissatisfied and not staying in midwifery
- Midwives choosing not to work
  - Medical models of care
  - Limited ongoing education and support
  - Concerns about workload, safety and quality
  - Inadequate skill mix
  - No Insurance = no registration (July 2010) = no homebirth

Medicare Item 16400

- Doctors can claim Medicare for nurses (who are not midwives) to provide antenatal care
- Only in rural and remote
- Not in same city
- Don't have to have Obstetrics
- Don't have to have worked in Australian maternity system

Multiple reviews…With little action

2008, NT, Review of Maternity Services
2005, Qld, Rebirthing Report, Hirst
2002-3, NT, Maningrida Women's Stories
1999, NT, And the women said ...
1999, Senate Committee, Rocking the Cradle
1998, NT, Danila Dilba Women's Business Meeting

- 1998, Qld, King, Maternal Health Services in Aboriginal Communities.
- 1992, NT, Review, Review of Birthing Services
- 1993, QLD, Fitzpatrick, Birthing Choices in Far North Queensland.
- 1987, NT, Borning: Congress Alukura by the Grandmothers Law
- Etc……

Primary Maternity Services in Australia: A Framework for Implementation,2008

- Include antenatal, birthing and postnatal care for women with low-risk pregnancies
- Endorsed by all State and Territory Ministers
- 'Each Australian jurisdiction committed to extending and enhancing primary maternity service models as a preferred approach to providing pregnancy and birthing services to women with uncomplicated pregnancies'[30p.1]
- Current project to develop Core Competencies and Educational Framework for Maternity Services in Australia project. These will feed into the National Maternity Service Plan.

Australia needs to debate:

- What do primary maternity services look like?
- How far from the tertiary centre: time / distance?
- What do we consider reliable transport?
- Is there a minimum no. of births necessary?

Increasing access in some areas

- Fly in fly out models
  - Specialist outreach service
  - Outreach midwives
  - Specialist Locum Scheme
- Home visiting
  - Nurse family partnership (Olds)

Supporting the workforce

- ALSO – Advanced Life Support in Obstetrics Course
- MEC – Maternity Emergency Course for non-midwives
- RHEF – Rural Health Education Foundation

CRANAplus remote health counts

Maternity Emergency Care

Rural Health Education Foundation

Our Future

Workforce shortages
maternity unit closures
emergent models

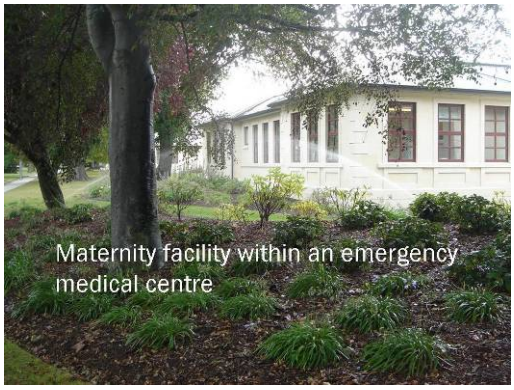
Urban loci of power
state & federal level
political & health systems

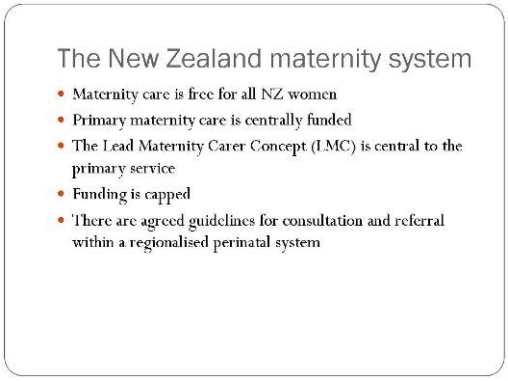
Advantages
good outcomes
great workforce

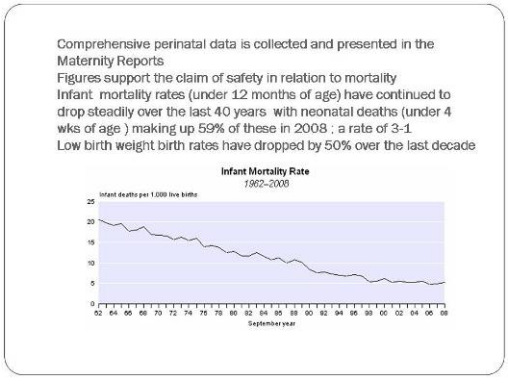
Increasing interest
multidisciplinary teams
doing things better

Thank You

C. Jean Patterson







Midwives in New Zealand

- Midwives 75% assume LMC responsibility for women in New Zealand
- Women choose their LMC often before their place of birth
- Most LMC midwives work across the spectrum of care following women through from primary to tertiary care if this is required

Rural Maternity Services

- Facilities are classified as tertiary, secondary or Primary
- Rural and remote rural fall within the primary classification
- Approximately 45 are identified as distinctly rural or rural remote
- Each rural unit varies in size, character and service particulars
- Referral linkages are established with the nearest District Health Board (DHB)

In conclusion

- Maternity care is free for all New Zealand women residents and funded nationally
- The services are regionalised with established lines of consultation and referral
- Payment for maternity care is capped and LMCs are paid for modules of care
- Midwives are the LMCs for over 75% of women
- Rural facilities vary across the country in terms of size and services particulars

Reference sites

- Launch of the report on the 2007 Maternity Services Consumer Satisfaction Survey
- Maternity Action Plan 2008–2012
- Report on Maternity: Maternal and Newborn Information 2004
- Section 88 Primary Maternity Services Notice 2007
- Health Practitioners Competence Assurance Act 2003
- Midwifery Council
- Referral Guidelines for consultation…
- New Zealand College of Midwives
- Midwifery Junction
- St. John Ambulance Services
- Births and Deaths: September 2008 quarter
- Inquiry into the provision of ambulance services in New Zealand: Report to the Health Committee

D. Bjorn Backe

Maternity care in Norway

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1

Contents:

History & recent development:

1. Midwifery in Norway
2. Antenatal care
3. Obstetrical care
   - Differentiated
   - Decentralized

2

3

Norway

- Comprehensive health care system
- Maternity care is free for the woman
- Population 4.8 mill
- Approx 60 000 births/year

4

Midwifery in Norway (I)

- 1814: 54 midwives in Norway (+ a few Danish)
- 1818: School of Midwifery in Kristiania (Oslo)
- 1861: School of Midwifery in Bergen
- 1889: Midwifery Law
  - District midwives
  - Public employed
  - Monopoly
  - Mandatory to use midwife services
- No of District midwives:
  - 1950: 1400
  - 1970: 250

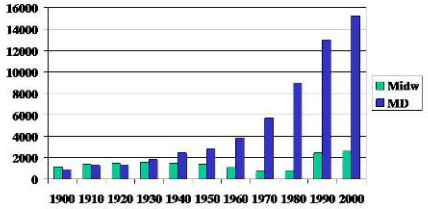
5

Midwifery in Norway (II)

- Up to 1940: Home deliveries was the rule
  - (1950: 25 % home deliveries)
- From ~1940 – obstetrical care institutionalized
  - Hospital deliveries in local hospitals
  - Rural maternity units (Fødestuer – "cottage hospitals")
    - Community, charity organizations etc.
    - Staffed by District Midwives
- 1990 Community Midwives replaced District Midwives

6

Midwives and doctors in Norway 1900-2000



(Source: Statistics Norway)

7

Norwegian midwives are

- Usually public employed, by
  - Communities or
  - (public) Hospital owners
- Autonomous profession
  - Midwives (and nurses) are not doctors' assistants
- Manage normal vaginal deliveries
  - Authorized to handle deliveries and
  - Authorized to decide when they need help

8

Antenatal Care in Norway

9

Key figures (2002)

- 0.02 % non-compliance to ANC
- Mean 12.0 visits (recommended are 7-8)
- First visit usually provided by general practitioneer
- Midwives provide about 50% of visits
- No difference p0/p1(+)

(Tidsskr Nor Lægeforen 2002; 122: 1989-92)

10

Overutilization of ANC in Norway

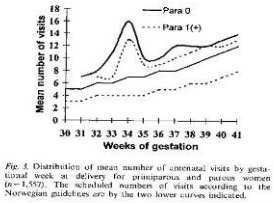


Fig. 3. Distribution of mean number of antenatal visits by gestational week at delivery for primiparous and parous women (n = 1,557). The scheduled numbers of visits according to the Norwegian guidelines are by the two lower curves indicated.

(Scand J Publ Health 2001; 29: 129-32)

11

Use of obstetrical ultrasound in Norway (results from three cross sectional surveys)

	1986	1988	1994
Mean no of exams	2.46	2.23	2.20

1994: 97.8 % compliance to mid-second trimester screening

(Tidsskr Nor Lægeforen 1997; 11: 2314-5)

12

Maternity care organized on two levels:

- The communities organize ANC
  - Care providers are midwives and primary care doctors
- The hospital owners organize obstetrical care
  - Care is provided by (hospital employed) midwives and obstetricians

13

New guidelines for ANC (2005) - adapted from UK - NICE

- Evidence based
- Fewer controls
- Less medicalization?
- Less rituals
- Midwives or GPs
- Continuity of care advocated

14

NTNU

15

NTNU

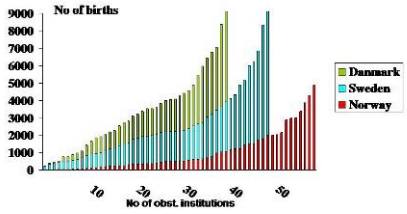
Obstetrical care in Norway

- Has always been decentralized
- And always midwife based
- Continuity of care has not been emphasized
  - ANC is provided by GP/community midwives
  - Obstetrical care provided by hospital midwives
  - Community health nurses follow up after discharge from hospital obstetrical ward

16

NTNU

Obstetrical units by number of births Norway, Denmark and Sweden



17

NTNU

Last 20-30 years: Problems with maternity services in rural areas

- Debate on quality of care in small obstetrical units
- Recruitment problems in small units
- Problems caused by temporary staff

"Centralization, like Sweden"
"Births are unpredictable"
(Standard textbook 2004)

18

NTNU

"Professional requirements for birth institutions."
Norwegian Directorate of Health 1997 and Stortinget 2001

- **Level 1** – Maternity homes (Midwives, selected low risk)
  - At least 40 deliveries per year
- **Level 2** – Obstetrical departments (+ OBGYN & anesthesiologists, pediatrician available)
  - At least 4-500 deliveries per year
- **Level 3** – "Kvinneklinikk" - at least 1.500 deliveries per year (+ NICU)

19

NTNU

Parliament Resolutions (2001):

- Obstetrical Care must be Decentralized
- And Differentiated According to Risk
- The Professional requirements (1997) must be followed
- A National Advisory Committee for Obstetrics should be appointed to assist hospital owners in the reorganization of obstetrical services

20

NTNU

Obstetrical institutions, Norway 1974-2005

	1974	1980	1990	1999	2005
Cottage hospital	59	30	18	9	10
Maternity home	2	1			
Dept of obst (surgeon)	39	33	7	1	
Dept of obst (gyn)	31	33	46	45	42
Midwife obst unit in local hospital				2	5
Sum	131	97	71	57	57

21

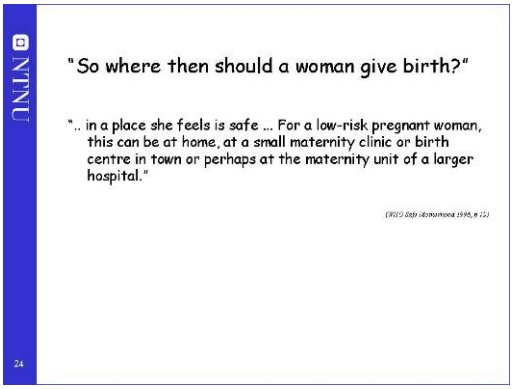
NTNU

Parliament resolutions: Implications

- Some small obstetrical departments (< 400 deliveries per year) should be converted to midwife based units
  - about 50 % of obstetrical units in Norway!
- All obstetrical departments must distinguish between normal pregnant women and high-risk patients
  - ABC units
  - Green and red women

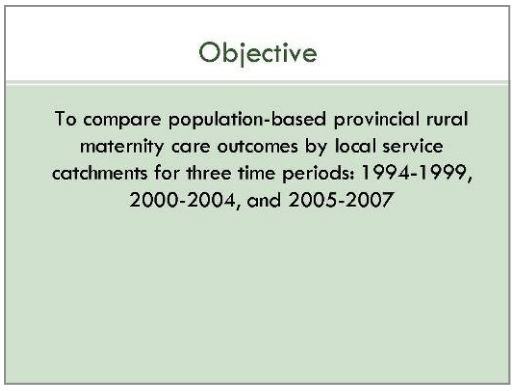
22

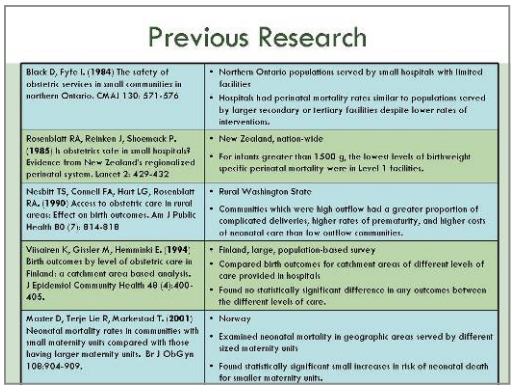

NTNU
The Parliament Resolution in 2001 could have been a Crossroad
• A small revolution is taking place in Norwegian obstetrics
– Differentiation promotes distribution of responsibility midwife/obstetrician
– The Parliament decisions were fair and evidence-based, and supported by the professional organizations
– We are moving in the direction recommended by WHO (Safe Motherhood 1996)
• However, the politicians are reluctant to changes in the local hospitals
– Government proposal: Local politicians and local midwives should have veto-right!
23

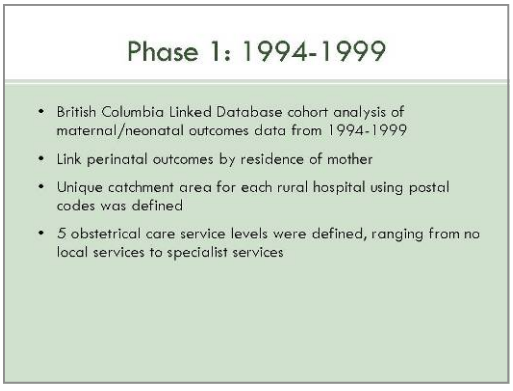

NTNU
"So where then should a woman give birth?"
".. in a place she feels is safe ... For a low-risk pregnant woman, this can be at home, at a small maternity clinic or birth centre in town or perhaps at the maternity unit of a larger hospital."
24

3. *How Safe Are Rural Maternity Care Services?*

A. Stefan Grzybowski



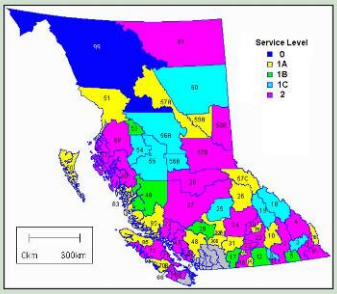




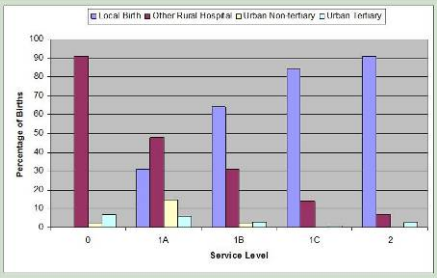
Definition of Service Level (Phase 1)

Service Level	Definition of Service Level	# of Catchment Areas	# of Births
0	No elective maternity service • 0 births	1	172
1A	No local C-section availability • 0 C-sections	20	7,536
1B	Limited C-section availability • <10 C-sections per year • no obstetrician or gen surgeon living in community	6	2,174
1C	24 Hour C-section availability provided by GP surgeons only • ≥ 10 C-sections per year • no obstetrician or gen surgeon living in community	10	7,440
2	24 Hour C-section availability provided by specialists • obstetricians and/or gen surgeons living in community	26	52,256
Total		63	69,578

Definition of Service Level

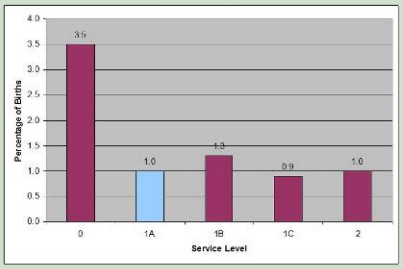


Location of Birth by Service Level of Mother's Catchment Area (Phase 1)



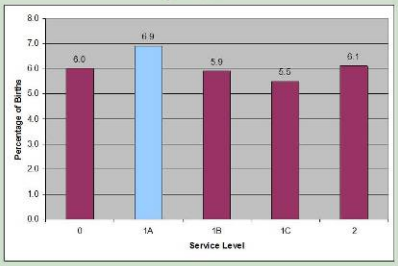
Perinatal Deaths by Service Level of Mother's Catchment Area (Phase 1)

p = 0.010



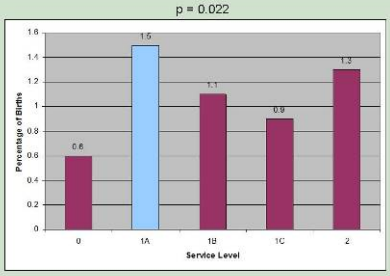
Prematurity by Service Level of Mother's Catchment Area (Phase 1)

p = 0.016



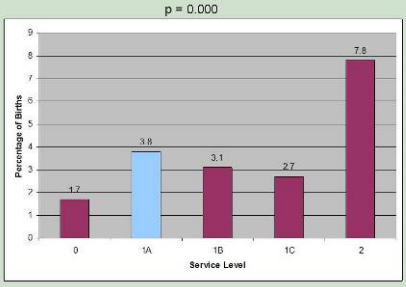
SCN Admissions by Service Level of Mother's Catchment Area (Phase 1)

p = 0.022



NCN Admissions by Service Level of Mother's Catchment Area (Phase 1)

p = 0.000



Data Analysis (Phase 1)

- Logistic regression analysis
- Adjusted for Aboriginal Status and social vulnerability
- Comparisons made to Service Level 1A (no local c-section)
- Outcome Measures:
  - Perinatal Deaths
  - NCN Admissions (Secondary or Transitional Nursery)
  - SCN Admissions (Tertiary or ICU)

Phase 1 Results

- SCN Admissions
  - Level 1C babies are at decreased risk of being admitted to an SCN (OR = .634, p = .003)
- NCN Admissions
  - Level 1C babies are at decreased risk of being admitted to a NCN (OR = 0.714, p = .000)
  - Level 2 babies are at increased risk of being admitted to a NCN (OR = 2.109, p = .000)

Phase 1 Results

- Perinatal Mortality (Deaths + Stillbirths)
  - No statistically significant difference in perinatal mortality
- Prematurity
  - Level 1B, 1C and 2 babies are at decreased risk for prematurity *(OR = .774, p = .014; OR = .798, p = .001; OR = .875, p = .009)*

Phase 1: Conclusions

- Having C-section capability is associated with a greater proportion of deliveries done locally (from 31% to 85%)
- No difference in perinatal mortality (stillbirths and deaths) across service level
- Babies born in Service Level 1C facilities are at decreased risk of prematurity, SCN admissions and NCN admissions
- Service Level 2 facilities admit significantly more newborns to NCN (transitional nursery)

Phase 2: 2000-2004

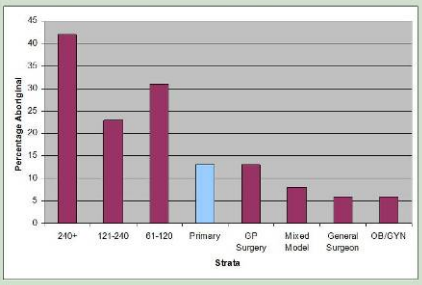
- British Columbia Perinatal Health Program cohort analysis of maternal/neonatal outcomes data from 2000-2004
- Link perinatal outcomes by residence of mother
- Obstetrical service levels were expanded from 5 to 8, defined by level of service and distance
- Mothers who gave birth to twins and multiples were removed
- Babies with fetal anomalies were removed

Definition of Service Level (Phase 2)

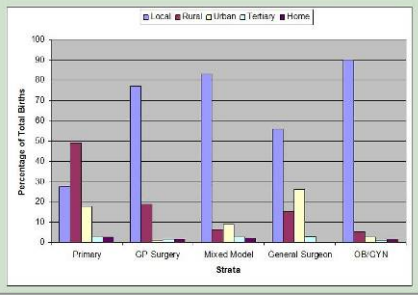
Service Level	Definition of Service Level	# of Catchment Areas	# of Births
240+	Greater than 240 minutes (4 Hours) from maternity services	15	526
121-240	121-240 minutes (2-4 Hours) from maternity services	19	766
61-120	61-120 minutes (1-2 Hours) from maternity services	23	1,409
Primary	No local C-section availability (Not Core Via Family Physician)	16	2,976
GP Surgery	C-section provided by GP surgeons only	20	5,277
Mixed Model	C-section provided by GP surgeon or Specialist	15	6,035
General Surgeon	C-section provided by General Surgeon	2	2,195
OB/GYN	C-section provided by Obstetrician	17	31,530
Total		127	50,714

Safety and Outcomes Monitoring

Percentage of the Catchment that is Aboriginal by Strata

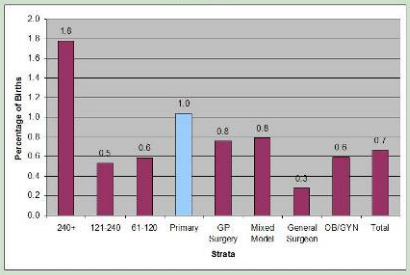


Location of Birth by Service Level of Mother's Catchment Area (Phase 2)



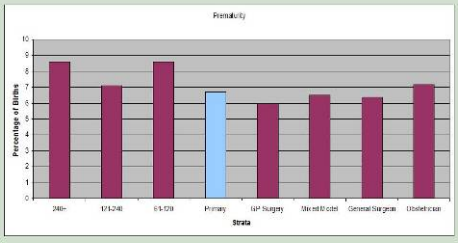
Perinatal Deaths by Strata (Phase 2)

p = 0.001



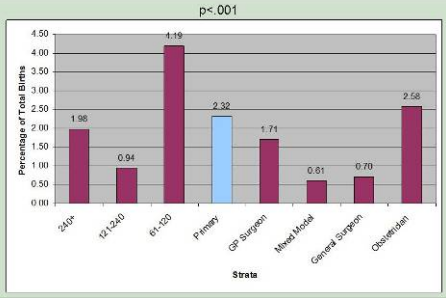
Prematurity Rates (<37 wks) by Strata (Phase 2)

p = .004



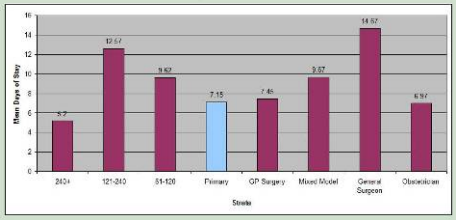
NICU II Admissions by Strata (Phase 2)

p<.001



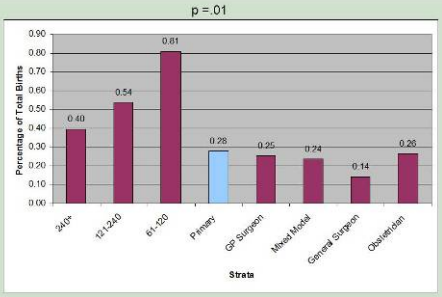
Mean Number of Days in NICU II Per Baby Admitted (Phase 2)

p<.009



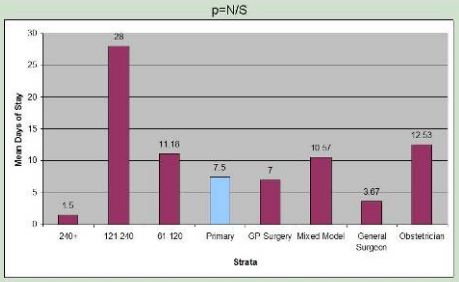
NICU III Admissions by Strata (Phase 2)

p = .01



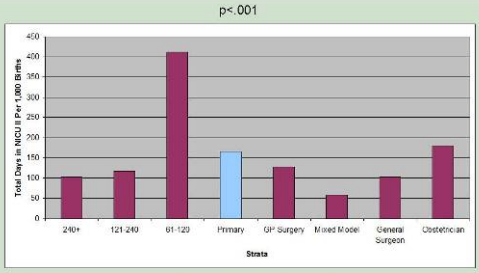
Mean Number of Days in NICU III Per Baby Admitted (Phase 2)

p=N/S



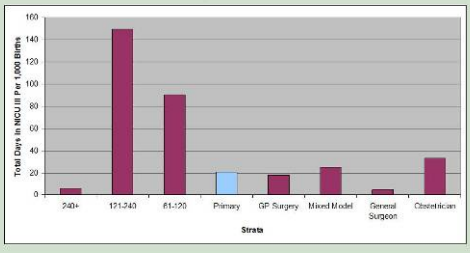
Total Number of Days in NICU II Per 1,000 Births (Phase 2)

p<.001



Total Number of Days in NICU III Per 1,000 Births (Phase 2)

p=.003



Next Steps: Phase 2

- Analyse perinatal mortality stats for 04-07
- Repeat logistic regression analysis after matching for all mortality cases , this time including TIME as a predictor:
- 0= 2000-2004
- 1= 2004-2007
- Look at different neonatal and maternal outcomes

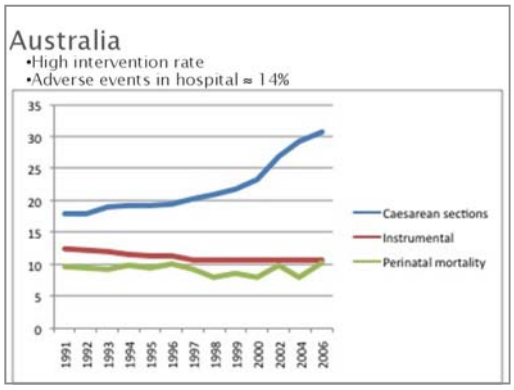
Results: Case Controls

- Stepwise logistic regression analysis with perinatal mortality as outcome
- Independent variables:
  - Service levels (dummy coded into 7 categories plus reference category)
  - % of nullips in catchment
  - % of mothers over age 35
  - % of mothers with pre-pregnancy BMI > 25
- NO SIGNIFICANT PREDICTORS OF NEONATAL MORTALITY

B. Sue Kildea

Australian research on safety in rural and remote maternity services

Dr Sue Kildea
Professor of Midwifery, ACU and Mater Hospital, Brisbane
Vice President,
CRANAplus
remote health counts



Where women live

	Aboriginal and Torres Strait Islander Women	Non-Indigenous Australians
Cities	71%	27%
Outer regional	26%	9%
Inner regional	19%	18%
Remote	29%	2%

Why worry about remote?

- MDG (MMR ↓ 75% in 15 yrs by 2015)

	Aboriginal and Torres Strait Islander MMR per 100,000	Non-Indigenous Australians MMR per 100,000	Remote and Very Remote 3 % births 30 % ATSI births
2000-02	45.0 89 % ascertainment	8.7	7 % deaths
2003-05 No data validation	21.5 92 % ascertainment	7.9	8 % deaths
2013-15	Aim for 11.5		

Sri Lanka:19/100,000 Malaysia 18/100,000

Size of hospital

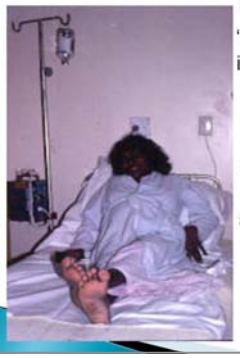
No. of women birthing	1999 N (%)	2006 N (%)	Difference
1-100	246 (46%)	159 (38%)	-87
101-500	152 (28%)	112 (27%)	-40
501-1,000	59 (11%)	51 (12%)	-8
1,001-2,000	53 (10%)	53 (13%)	0
> 2,000	30 (6%)	41 (10%)	+11
Total	540	416	- 124

Rural and remote maternity services

- 2006 – 33% of births outside major cities
- > 130 rural maternity units across Australia have closed in the last 10 years
- Increasing no's of women relocate from 36-38 weeks
- Disruptive, lonely, other children……
- Some women abscond . evac. in labour
- Or avoid services . poorer antenatal care
- Or birth on the side of the road
- Minimal continuity of carer models
- What works – no ongoing funding not embedded in system
- Costs passed onto families.

What women want

- Safety
- Choice
- Continuity of care
- Birth closer to home
- Support people / partner children close by
- Indigenous women – birthing on their land
- The right to maintain control



Indigenous women

'Some Aboriginal women identify giving birth in the hospital as a cause of infant mortality. As a result of not being welcomed properly into the world, without the appropriate ceremonies, the babies weakened spirit gets sick'

Mills, K. and J. Roberts (1997)

Recent Research – Australian (examples)

- Australian national data – PMR lower in hospital birth centers than in hospitals
  - Birth Centers in Australia: A National Population-Based Study of Perinatal Mortality Associated with Giving Birth in a Birth Center (2007 Birth, Tracy, etal)
- Lower hospital volume is not associated with adverse outcomes for low risk women
  - <100,
  - 100-500,
  - 501-1000,
  - 1001-2000
  - >20001 births per annum.
  - Does size matter? A population-based study of birth in lower volume maternity hospitals for low risk women,1999-2001(2006, BJOG Tracy, etal)

Evidence based strategies – Indigenous services (Lit R/v)

- Continuity of carer
- Community based / community controlled
- Outreach/ home visiting
- Flexibility
- Aboriginal and Torres Strait Islander staff
- Community participation
- Culturally appropriate and accessible
- Working in partnership (AHWs and midwives)
- Community development approach
  - Hercegi, A. (2005). Improving health in Aboriginal and Torres Strait Islander mothers, babies and young children: a literature review. Canberra, Australian Government

Rural Maternity Initiative (RMI)

- 27 health services – rural
- 4 years to implement different models
- 19 health services
  - Small (100 births or less)
  - Medium (101 – 300 births)
  - Large (301 births or more)
- Models
  - low risk pregnancy care
  - caseload
  - modified caseload
- 1278 babies

Edwards, A. and J. Gale (2007). Rural Maternity Initiative Evaluation, Final Report Victoria.

(RMI) Methods and Results

- Action research, in-depth interviews, questionnaires, clinical data
- Outcomes excellent for every indicator
- Risk well managed + appropriate transfer
- "Small step" approach to process change
- Those services moving incrementally towards caseload through team models have had less resistance to change by all stakeholders
- Can take 2-3 years to settle in.

(RMI) Facilitators

- Executive support and commitment
- Effective leadership & clinical champions
- Allocated project time
- Support by all stakeholders
- Thorough planning
- Sharing information from other sites
- Model placed under community/ambulatory care
- Financial support for transition

(RMI) Barriers

- Medical opposition
- Acute medical/surgical funding model
- Industrial relations process – complicated and lengthy for some services
- Friction between clinicians and management

Lucky we had a torch….

- Explorative qualitative study 42 participants from rural and remote NSW (73 births).
- Closure of units
- Birth by the side of the road
- 4-5 hours drive to ANC
- 5-6 hours to birthing services
- Women can't afford to attend
- Increasing costs shifting from Govt to families
- Child care a significant concern
- Postnatal – no help and give up breastfeeding

Dietsch, E., C. Davies, et al. (2008). 'Luckily We Had a Torch': Contemporary Birthing Experiences of Women Living in Rural and Remote NSW Charles Sturt University.

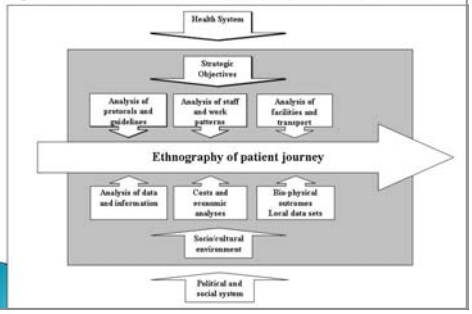
Clinical networks

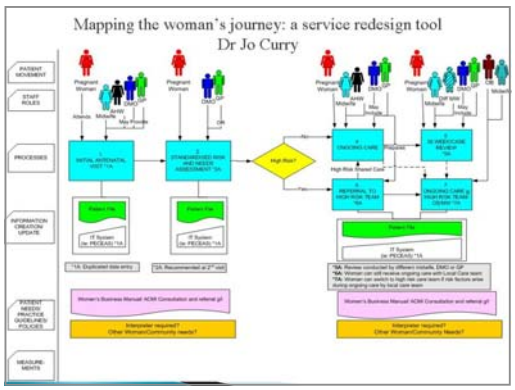
- Stewart, R. (2008). Corangamite managed clinical network evaluation report. Otway, Victoria.
- Increasing numbers – small hospital in driving distance approx 1 hr – sharing on call.

Current research (examples)

- 1+1 = A healthy start to life: health services redesign to increase continuity of care and improve quality for women from remote areas for 1 yr before and 1 yr after birth
- To investigate the views of Indigenous women, their families and health service providers about A/N screening tests for fetal anomalies
- A Very Different Journey: Exploring the experiences of Aboriginal women who choose to give birth in a remote community
- Can fetal fibronectin predict term labour?
- EMU – Evaluation of midwifery (primary) units in Australia and New Zealand
- Evaluation of the Strong Women Strong Babies Strong Culture program
  - More information on most of these studies: http://www.cdu.edu.au/gshp/

- 1+1= A Healthy Start to Life
- 5 yr National Health and Medical Research Council funded study
- Partners: Charles Darwin University, Maningrida, Wadeye, Danila Dilba
- Aboriginal Medical Centre, Northern Territory Dept. Health and Families.





Can Fetal Fibronectin Predict Labour at Term? A pilot study

- Systematic review: worthwhile exploring
- Primary research question
  - Does a negative fFN test accurately exclude the onset of labour within seven days for women at term?
- Secondary research questions
  - What are the factors affecting the accuracy of this test?
  - Is the fFN acceptable to women and staff?
  - Is the fFN test a useful test?

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Methods

- Timing of first fFN assessment:
  - at the 37 week antenatal visit (or just after)
- Timing of repeat fFN assessment:
  - repeat fFN testing offered at 7 day intervals until 40+3 weeks.
- Anticipate 1-3 tests per woman
- Recruiting approximately 180 women
  - Assuming te overall prevalence of a positive fFN result is 30% (+10% drop-out), a study that includes 177 women will have 80% power to demonstrate that women with a negative fFN result are 3 times more likely to *remain undelivered* at 7 days than women with a positive fFN result.

Outcomes

- Primary outcomes
  - Positive tests - was the baby born within 7 days of testing
  - Time (days) to birth from the last test
  - Time to birth from negative test
- Secondary outcomes
  - Onset of labour (spontaneous/induced)
  - Indication for IOL (where applicable)
  - Mode of birth
  - Indication for operative birth
  - Outcomes for the baby

Progress to date

- 2 Sites: Nhulunby (Gove) and Alice Springs
- 39 women
  - 32% Indigenous
  - 26% Primiparous
- 77 tests

Discussion: small units…

- Social fabric of a town - component of the socio-economic capital
- Portal for further health care
- Financial and social stress
- Being closed despite evidence
- Increasing babies being born before arrival
- Aboriginal and Torres Islander Australians risks included
- Workforce an issue

The Evidence

- Small hospitals can be safer for normal weight babies
- Homebirth can be safe
- Remote maternity services can be safe
- How influencial is the evidence?
  - ……the first step

Australian….

- Stand alone maternity units
  - Ryde (urban - Sydney)
  - Belmont (regional - Newcastle)
  - Mareeba (rural near Cairns)
- Publically funded homebirth
  - Northern Territory (Darwin, Alice Springs)
  - NSW (St George - Sydney, Newcastle)
  - Perth
  - Adelaide

Further research

- Remote area – primary units
- What are reasonable indicators for safety……mortality ?
- How do we measure social, emotional and cultural risk ?
- What is 'acceptable risk'?
- Australia – maternity workforce studies needed / ? situational analysis
- What is safe time and distance to c/s facility
- Minimum births (for practitioners / facilities) necessary???
- How to increase continuity of carer for remote women
- Costing studies

C. Bjorn Backe

NTNU

The Lofoten project 1997-98:
- changing a traditional small obstetrical department into a midwfe-based obstetrical unit

Bjørn Backe,
NTNU/ Dept of OBGYN, StOlavs Hospital, Trondheim

1

Levels of obstetrical care.
Directorate of Health 1997 and confirmed by Parliament 2001

1 Level: > 1.500 deliveries. All relevant specialists, NICU, all support facilities

2 Level: Minimum 4-500 deliveries. Specialists in OB/GYN, anesthesia, pediatrics.

3 Level: > 40 deliveries. Midwives only.

(some level 3 units provide emergency CS)

Lofoten project 1997-98

- Small obstetric department reorganized as midwife-based obstetric unit
- Heavy protests from
  - Public
  - Doctors
  - Midwives

Vold IN, Holt J, Johansen MV, Backe B, Oian P. Modifisert fødestuedrift - et alternativ for små fødeavdelinger? Tidsskr Nor Lægeforen 2001; 121: 941-5.

Holt J, Vold IN, Backe B, Johansen MV, Oian P. Child births in a modified midwife managed unit: Selection and transfer according to intended place of delivery. Acta Obstet Gynecol Scand 2001, 80: 206-12

Lofoten prosject 1997-98

- Proportion of population delivering at LS reduced from 92 % to 70 %
- Approx. 70 more deliveries at NSS
- Very few women stay in Bodø before labor
- 74% travelled with ambulance airplane, 15 % with a scheduled airliner

Difficult job to change a culture

- Meetings
- Guidelines
- Courses
- Some changes in staff members
- Antenatal care was organized
- Shared care model GP + midwives
- Project approved by hospital owners (county)
- During the project period obstetrical back up provided
- But back up was not to be used!

Midwives were not used to work on their own

- Now should contact the central hospital if problems
- Obstetrical back up was only to be used in (real !) emergencies
- Audit of adverse outcomes and of all interventions
- All women had routine ultrasound in week 18
- All women were examined by hospital midwife in week 36 when place of delivery was decided
- Green women only

Lofot-project 1997-1998

* No perinatal deaths attributable to the reorganization
* Uptake rate reduced from 90% to 70%
* Obstetrician/surgeon on call contacted 30 (1997) and 38 (1998) times each year

Lofot-project 1997-1998

* 29 women transferred during labor (6 %)
* No transport deliveries during transfer
* CS rate 4.3 % and 1.8 %
* CS rate in the population reduced from 15.8 % to 11.8 %

Lofoten-project 1997-98

* No transport deliveries during transfer
* No perinatal deaths attributable to the reorganization
* Surgeon on call contacted 30 (1997) and 38 (1998) times annually

Caesarean sections and total births Lofoten sykehus

	1992	1993	1994	1995	1996	1997	1998
CS	49	48	36	36	28	9	4
Total	300	296	266	271	276	211	224

CS and total births from Lofoten area, at KK NSS

	1992	1993	1994	1995	1996	1997	1998
CS	9	6	10	5	15	30	31
Total	23	18	23	19	38	101	92

Conclusions

- Transformation to midwife based unit is possible
- Protests from local politicians and lay people are to be expected

D. Jean Patterson

The challenges of providing safe and sustainable rural maternity care in New Zealand

Mother and Newborn Baby Boy
Flickr - Photo Sharing!.mht

Overview

- The contribution of rural maternity services
- The challenge to provide safe and affordable rural maternity services
- Some current and future strategies for sustainability

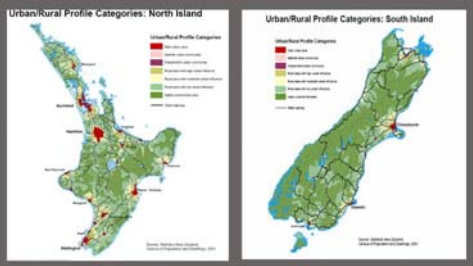
The contribution rural maternity services for women in New Zealand

- Normal birth focus which supports the physiology of birth
- Provide *a 'sense of place'* important for many women
- Midwives and other health practitioners are a skilled health resource and contribute socially and economically as members of their communities
- Rural communities are a vital resource for the local maternity service

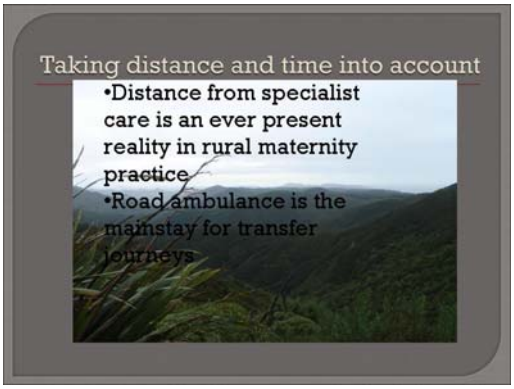
The challenge to provide safe and affordable rural maternity services

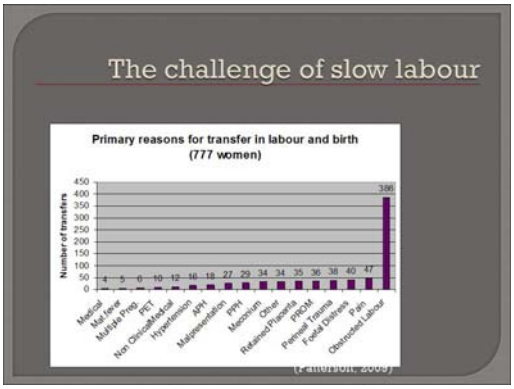
- Sparse population
- Geography and climate
- Distance and reliance on road ambulance services
- The timing for transfers

Urban /rural profiles in New Zealand

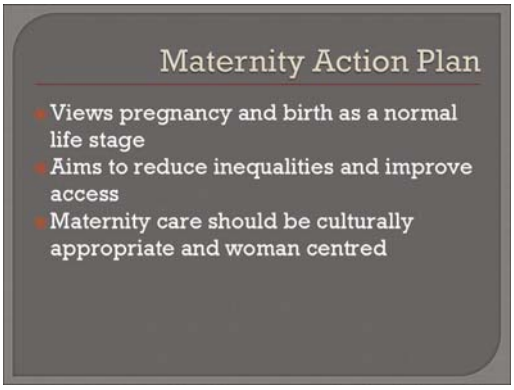


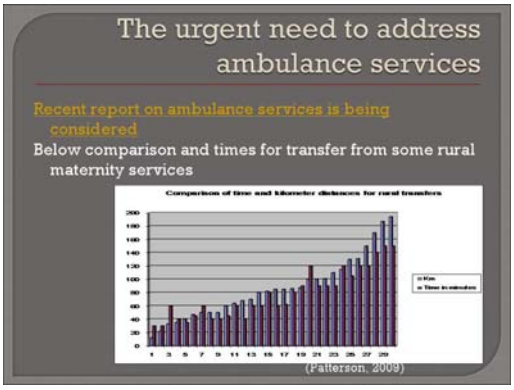

•Mountain chains extend the length of both Islands dividing them into separate climates. High rainfall on the west with dryer conditions on the East
•Climate varies from warm subtropical in the north to cooler more temperate conditions in the South
•Less than one fourth of the land surface lies below the 200m contour; thus roads wind and undulate


Taking distance and time into account
•Distance from specialist care is an ever present reality in rural maternity practice
•Road ambulance is the mainstay for transfer journeys


The challenge of slow labour
Primary reasons for transfer in labour and birth (777 women)
Number of transfers
Medical
Mat fever
Multiple Preg
PET
Non Clinical
Medical
Hypertension
APH
Malpresentation
PPH
Meconium
Other
Retained Placenta
PROM
Perinal Trauma
Foetal Distress
Pain
Obstructed labour
(Patterson, 2009)

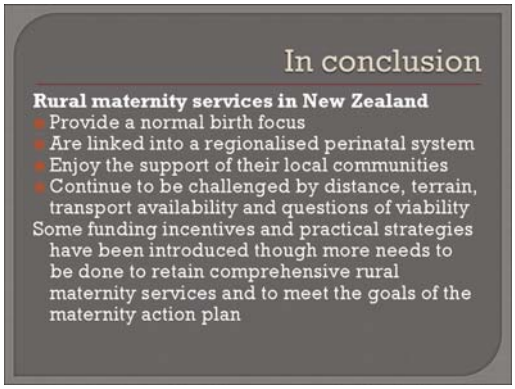

Some current and future strategies for sustainability
•Maternity Action Plan (MAP)
•Focus on ambulance services
•Rural funding initiatives
•Efforts to encourage students to study in rural areas

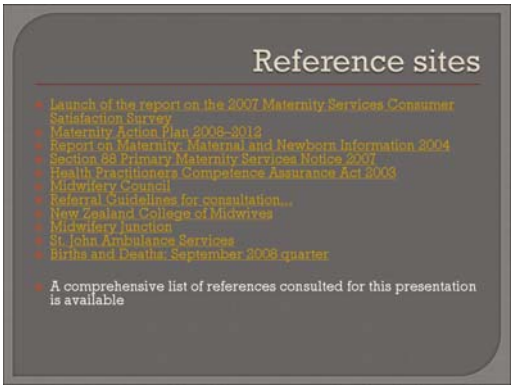

Maternity Action Plan
Views pregnancy and birth as a normal life stage
Aims to reduce inequalities and improve access
Maternity care should be culturally appropriate and woman centred


The urgent need to address ambulance services
Recent report on ambulance services is being considered
Below comparison and times for transfer from some rural maternity services
(Patterson, 2009)


Funding initiatives
Rural midwife bonus
Rural innovations fund
Voluntary bonding scheme

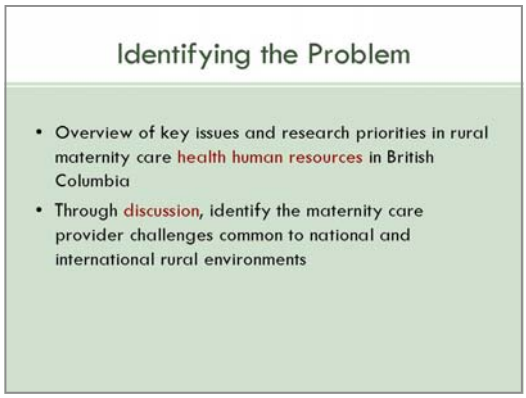

Supporting students in their rural areas
Blended midwifery education option to allow students to study at distance
Midwifery Junction
Website- linking practice education and research projects

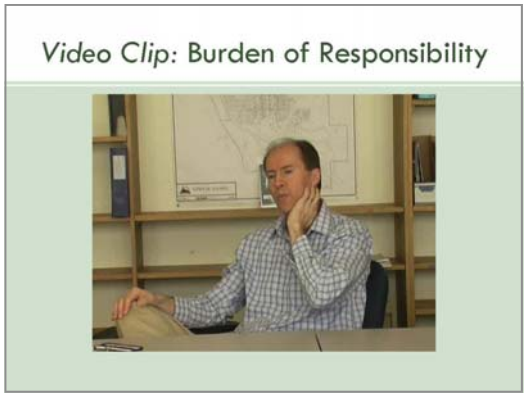

In conclusion
Rural maternity services in New Zealand
Provide a normal birth focus
Are linked into a regionalised perinatal system
Enjoy the support of their local communities
Continue to be challenged by distance, terrain, transport availability and questions of viability
Some funding incentives and practical strategies have been introduced though more needs to be done to retain comprehensive rural maternity services and to meet the goals of the maternity action plan

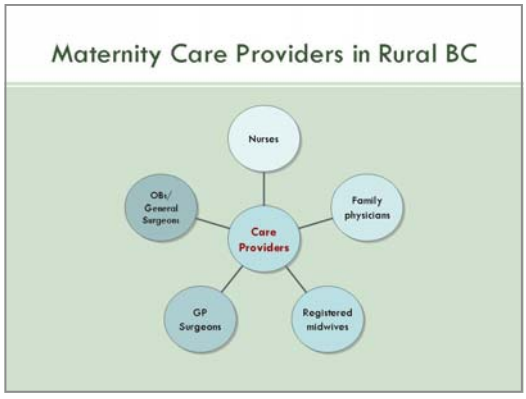

Reference sites
Launch of the report on the 2007 Maternity Services Consumer Satisfaction Survey
Maternity Action Plan 2008–2012
Report on Maternity: Maternal and Newborn Information 2004
Section 88 Primary Maternity Services Notice 2007
Health Practitioners Competence Assurance Act 2003
Midwifery Council
Referral Guidelines for consultation...
New Zealand College of Midwives
Midwifery Junction
St. John Ambulance Services
Births and Deaths: September 2006 quarter
A comprehensive list of references consulted for this presentation is available

4. Creating a Sustainable Environment for Rural Care Providers

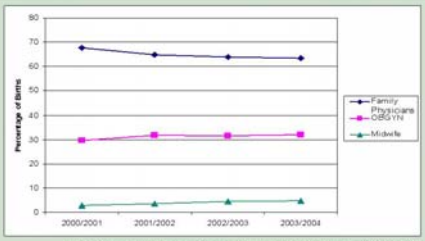
A. Stefan Grzybowski







Care Providers in British Columbia



Distribution of Maternity Care in Rural British Columbia, 2000-2004
Average – 13,000 births per year

Nurses

Challenges

- Rural maternity nursing shortage due to retirement, limited recruitment, and generalist training of new graduates (limited maternity exposure)
- Lack of training in obstetrics makes providing rural intrapartum care a stressful experience
- Rural physicians identify that rural nursing is the most important issue underpinning their sustainability
- *Question:* Have rural maternity programs been sustained by foreign-trained nurse midwives?

Family Physicians

65% of rural births performed by family physicians

Challenges

- Lack of anonymity in rural communities for care providers
- Lack of mechanisms to support inter-professional collaboration in rural environments
- No on-call remuneration for maternity call for rural Family Physicians (disincentive compared to ER call rota)
- Lack of nurses with maternity training
- Lifestyle concerns of new grads

Registered Midwives

31% of Registered midwives practice outside of Greater Vancouver and Victoria in 15 communities

Challenges

- Most sustainable rural midwifery practices exist in association with surgical back-up from a local Obstetrician or Mixed Model
- Currently no formal shared care models exist supporting the collaboration of rural midwives and general practitioners (one informal shared care model exists)
- Midwifery funding model does not reflect the realities of rural practice, leading to burn-out
- Lack of inter-professional support
- Difficulties obtaining privileges at some rural hospitals

GP Surgeons

In 2000 there were 30 GPS in 20 rural hospitals providing 71.9% of cesarean sections in those hospitals

Challenges

- No formal program of training, accreditation, and support for GP Surgeons
- Evidence supports the conclusion that GP Surgeons provide safe care.
- Where GP Surgery programs exist, local maternity care is more sustainable.

Procedural Scope of Practice of GP Surgery

OBs and General Surgeons

3% of OB-GYN's practice in rural Canada

Challenges

- Small work volume and staffing shortages make specialists reluctant to work in rural communities
- Rural specialists are often the sole surgical service, requiring 24/7 on-call surgical back-up

Top Challenges of Care Providers in BC

- Lack of anonymity in rural communities for care providers
- Lack of mechanisms to support inter-professional collaboration in rural environments
- No formal program of training, accreditation, and support for GP Surgeons
- No on-call remuneration for maternity call for rural Family Physicians
- Rural maternity nursing shortage due to retirement, limited recruitment, and generalist training of new graduates (limited maternity exposure)
- Midwifery funding model does not reflect the realities of rural practice, leading to burn-out

B. Karen MacKinnon

Labouring to Nurse: What rural nurses have taught us about their work of providing maternity care in B.C.

Karen MacKinnon RN PhD,
University of Victoria
kamackin@uvic.ca

Post Doc at the Centre for Rural Health Research

The pilot study was jointly funded by the B.C. Medical Services Foundation, the Canadian Nurses' Foundation and the Nursing Care Partnership Program

The follow-up study has been funded by the Canadian Institute for Health Research ICE grant (Kornelsen & Grzybowski).

Rural Context of Nursing work

- We know that women want birth close to home
- Research team focusing on safe & sustainable maternity care
- Centre for Rural Health Research

Realities of Canadian Nursing: Professional, Practice & Power Issues
McIntyre & McDonald (Editors), 3rd edition,

Methodology: Institutional Ethnography

	RNs	Others
Pilot Study	Hospital 16	Providers 1
2 communities	PHNs 21	Managers 3
CIHR Study	Hospital 42	Providers 9
6 communities	PHNs 9	Managers 7
Totals 8 communities	88	20

Expert informants : Registered Nurses providing maternity care in rural settings
- Front-line managers, Other health care providers
- Women and their families

Rural nursing is Knowledge Work

- Grounded in broad nursing knowledge base that includes:
  - biomedical knowledge,
  - knowledge learned by working closely with people during health & illness experiences (relational caring and communication skills)
  - and knowing how the local health system works (Navigators)
- Expert generalists with a wide range of advanced knowledge and skill (in multiple clinical areas; MacLeod and others)
- Underestimated complexity & significant responsibility
- Often required to take on activities that are done by others in urban settings

Rural Nurses Work of providing maternity care

- Maternity nursing is specialized knowledge work and requires more than a caring or med/surg nurse
- RNs have a tremendous sense of responsibility for providing care to women from their community
- RNs are responsible for anticipating unsafe situations
- Overall good local relationships with physicians, midwives & other health care providers
- Many are close to retirement age with staffing implications

Rural Nursing Work is Grounded in KNOWING their community

Committed to the people living in their community

Described having a closer relationship with women in their community, making successes (& failures) more visible.

Acute Care Nurses
- Safeguarding Work…
- Keeping women safe…

Public Health Nurses
- Health promotion
- Developing programs to address community needs

Knowledge Work of hospital or acute care nurses

Knowing the people & the (human) resources… Knowing the technology…

SAFEGAURDING… In addition to knowing how to provide safe and supportive nursing care for women/ newborns during childbirth…

Knowing about:

- the skill level of available nurses/ health care providers
- whether the ambulance was available
- how to mobilize doctors, the OR staff or lab quickly
- how/ when to arrange transport in particular situations
- What was happening in the rest of the hospital

Nurse need to get to KNOW the people who live in their community… Management practices that limit this knowing endanger rural nursing work…

Community Health Nursing: Knowledge & Skills required…

- Ability to mobilize other providers (including social services to meet the needs of women & their families)
- Advocacy skills; Ability to maintain confidentiality in social situations
- Public health nurses often develop specialized skills to meet local needs (e.g. perinatal loss, postpartum depression)
- Community assessment and prioritizing among multiple competing needs (few resources, fund raising skills)
- Intersectoral collaboration, leadership and team building
- Creative & flexible program planning, development & delivery

Creative approaches to community health promotion (preteens)

In Canada rural nurses have made a significant contribution to the provision of maternity care

Historically:

- Rural nurses working in "cottage hospitals" and remote "outposts" have provided maternity services including learning to deliver the baby…
- Current generation of skilled maternity nurses learned "on the job" & in times when births were more frequent (from British Nurse Midwives)
- Public Health Nurses (and outpost nurses) also learned additional skills to meet local health needs and travelled on horse back and other means to provide services

The new generation of rural nurses: What does it feel like to do this work?

New RNs* are scared…

P: Scared. Scared to all get out. ..Oh, it is very scary. Yeah. Oh yeah.

Experienced RNs worry about new maternity nurses and this thinking ahead to who is available on the next shift/ to cover next week is part of their safeguarding work.

Listening to Rural Nurses about how to better support their work…

New Nurses:

- Need to build areas of "expertise" within generalist practice over time
- Limited opportunities in UGE to learn "maternity"
- Need post grad perinatal nursing education for "designated" maternity nurse
- Need mentors who are immediately available

Listening to rural nurses: CPE

Consistently identified opportunities for CPE as the most important strategy for recruiting & retaining rural nurses

Investing in local people (women with family caregiving responsibilities)

Lifelong learning, team building, areas of "expertise"

1. Enhance the maternity skills of all nurses (including LPNs) working in rural hospitals (e.g. NRP)
2. Offer education programs locally and by distance technologies
3. Need opportunities to rehearse infrequently used & emergency skills (including delivering the baby) with an interprofessional team
4. "Refresher" opportunities (nurse exchange) for experienced RNs

Learning from rural nurses: Policies & Guidelines

Urban centric policies, guidelines & educational programs

Developing policies & programs that reflect the realities of rural practice (templates that can be modified)

Competing for program funding creates hardship for small rural communities

Learning from rural nurses: Interprofessional Collaboration

- Contrary to some studies the rural nurses we spoke to welcomed opportunities to work with other health care providers including midwives.
- History of tapping into local expertise, commitment to their community, & creativity
- May mean that rural settings may lead the way in developing sustainable models for collaborative maternity care

Nursing contributions to rural health care?

Some of the challenges that rural nurses face affect all nurses…

- Nurses care for the sick in hospital (& in a limited way) at home
- Nurses work with people as they live with health & illness (self-managing chronic illness)
- Health promotion & advocacy work grounded in Knowing & Caring about their community (e.g. PHNs work of addressing health inequities)

Rural nurses contributions to the future of maternity care?

Rural nurses with maternity skills can…

1. Promote health & advocate for people who do not have the resources needed for health (core of PHN work)
2. Provide a welcoming environment in small hospitals for women, families & other care providers
3. Provide labour support & continue to do their safeguarding work
4. Provide assistance with breastfeeding & support during the transition to parenting
5. Provide primary health care services when working as Nurse Practitioners (in rural and remote communities)

The Future: Building new relationships

- New & creative partnerships between midwives, nurses (including NPs) & physicians
- Support communities of women helping women, families helping families
- Learn from small rural hospitals and reconsider Birth Centres as a place for normal birth and for interprofessional education & collaborative practice

C. Judy Rogers

Integrated Maternity Care Models for Rural & Remote Communities

Judy Rogers RM, Principal Investigator
Director, Midwifery Education Program,
Ryerson University, Toronto, Ontario

Lucas Sorbara, Project Coordinator
Anuradha Roy Sen Research Assistant

Funding Sources

- Ontario Ministry of Health & Long-Term Care Primary Health Care Transition Fund $362,000
- Ryerson University in-kind contribution
  - Office space, fax, photocopier
  - Principal Investigator – time
- Community Partners in-kind contribution
  - Local working group members – time
  - Meeting room, speaker phone

Background to Project

- Importance of access to local maternity care
- Challenges facing rural maternity care has increased over the past 20 years
  - Fewer hospitals offering maternity services
  - ↓ number of FPs providing maternity care
  - Shortages of nurses with OB training
- Many OBs expected to retire soon
- Integration of midwives might help meet maternity care human resource challenges

What was the purpose of the project?

- To develop sustainable models of maternity care for rural & remote communities
- To find new ways that physicians, nurses & midwives can work together to provide maternity care
- To develop future educational opportunities for nursing, midwifery & medical students in rural communities
- To encourage career development among local people as health care providers

Diverse Communities

-550 births per year

st have experienced
porary closures of
hing service in the
t 3 years

ny provide care for
nificant numbers of
riginal or
ncophone women as
l as other culturally
erse groups

Diverse Communities (cont'd)

- 5 of the 6 communities have family physicians attending births (became 4 during first year)
- 3 communities have 1 or 2 OBs
- 4 communities have midwives attending births in the local hospital and at home
- Surgical support most or all of the time
- Most hospitals require nurses to float between maternity and acute care

Overview of Research Process

- Participatory Action Methodology
- Local Working Groups (LWGs) in 6 rural & remote communities
  - Midwives, Hospital and Community Nurses, Physicians, Consumers
  - Developing models for their communities

Research Team

- Literature review & resources to LWGs
- Interview of all maternity care providers
- Survey of consumers
- Steering group of community representatives
- Aggregate data back to communities

Interview & Focus Group Participants

	Interviews	Focus Group Participants
RN / NPs	38	16
Midwives	6	5
Family Physicians	15	
Obstetricians	4	
Administrators	5	4
Public Health RNs	11	7
Consumers	11	20
Total	90	52

Issues Arising from the Data

- Birth numbers
- Funding issues
- Scope of practice for midwives (MWs)
- Access to care

Birth Numbers

- Many communities have ↓ birth numbers
- Issues of competition between Midwives and Family Physicians (FPs)
- Concern re: maintenance of skills & interest by FPs who provide consultation and anaesthesia support for MWs

Funding Issues

- OB salary remuneration for on-call availability instead of fee for service
- Salaries for MWs to enable a broader range of care, not based solely on birth numbers
- MD / MW shared care model with both salaried

Scope of Practice for Midwives

- Need for MWs to have expanded prescribing of antibiotics & narcotics, augmentation & induction, vacuum delivery, 1st assist cesarean, intubation skills
- Not all MWs want expanded scope
- Request for MWs to have expanded role in well woman care – PAP smears for non-clients, birth control & reproductive health

Access to Care – What Women Want:

- Confident, competent care providers
- Choice of care provider in home community including midwives
- Increased continuity of care
- 1st trimester care, prenatal education
- Care in one location, accessible by public transit – prenatal, U/S, lab, postpartum, well baby, well woman

Collaboration – a distant dream?

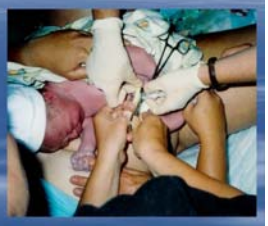
- No one size fits all
- Inter-professional & interpersonal relations
- Facilitating factors
- Coordination & management of collaborative care
- Integration of midwives in collaborative maternity care

Developing Solutions

- Changing funding
  - Salary model for rural MWs and MDs
- Increasing the scope of midwifery care
  - Standing orders for intrapartum prescribing
  - Province-wide change
- Increased collaboration
  - Shared on-call, clinic spaces and client base between FP and MW

Developing Solutions (cont'd)

- Multi-disciplinary teams utilising specialized abilities
- Satellite clinics in large geographic areas, staffed by NPs and MWs



Developing Solutions (cont'd)

- Increased Accessibility
  - 'One stop shopping' for women's reproductive health care
    - Multi-disciplinary Centre/Women & Children's clinic (external to hospital)
  - Prenatal education & breastfeeding support collaboration between Public Health RNs & MWs
  - Midwifery education for local women

For further information, please contact:

Judy Rogers, Principal Investigator

jrogers@ryerson.ca

D. Nancy Humber

Sustainable rural maternity care – The role of GP-Surgeons

Dr. Nancy Humber
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GP-Surgeon – Interior Health – Lillooet site

What are GP-Surgeons?

- 6 months – 2 years additional surgical training
- Wide variety
- International Graduates/some Specialists

Who are they?

- 20 GP-Surgeons
- 40% Canadian trained/narrow scope
- >5 years
- 90% >45

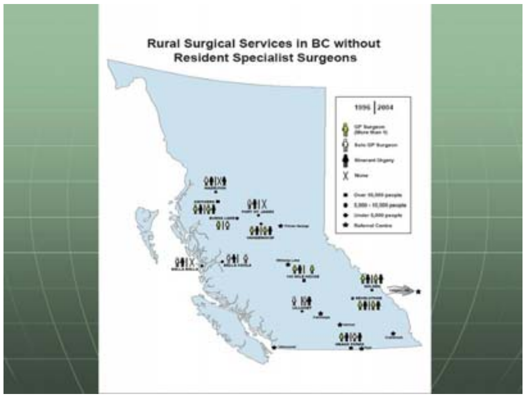
Where are they?

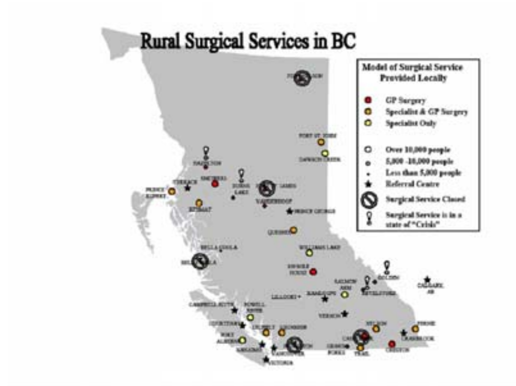
Background

- 33% Canadians live rurally
- 22% live <10,000
- 8% > 120km referral center
- Surgical services small communities too small for specialist surgery (15,000 – 20,000)

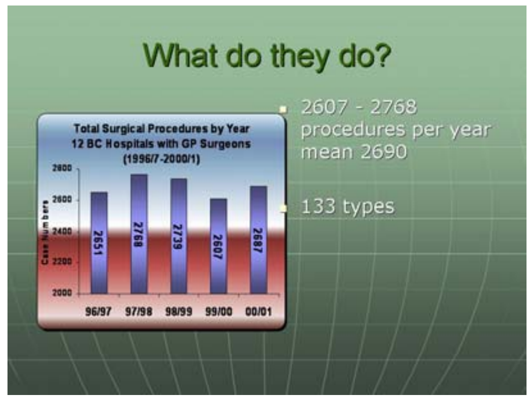
Where are they?

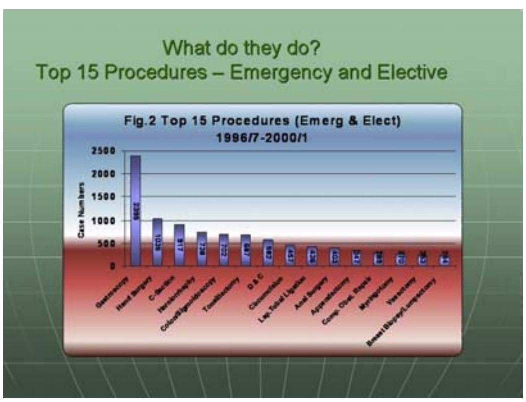
- 12 communities rely on local GP-surgeons
  - 1700-17,000
  - More than100 km referral center
  - 1-5 GP-Surgeons, >/=2 OR nurses
  - 3/5 solo GP-Surgeon Programs closed
- Currently 4 solo GP-Surgeon programs
- 9 Communities have mixed models > 10,000


Rural Surgical Services in BC without
Resident Specialist Surgeons


Rural Surgical Services in BC
Model of Surgical Service Provided Locally


What do they do?
SKILL SET
Elective
Emergency
Low risk common
Shared skill set across multiple disciplines


What do they do?
Total Surgical Procedures by Year
12 BC Hospitals with GP Surgeons
(1996/7-2000/1)
Case Numbers
2651
2768
2739
2607
2687
96/97
97/98
98/99
99/00
00/01
2607 - 2768 procedures per year mean 2690
133 types


What do they do?
Top 15 Procedures – Emergency and Elective
Fig.2 Top 15 Procedures (Emerg & Elect)
1996/7-2000/1
Case Numbers

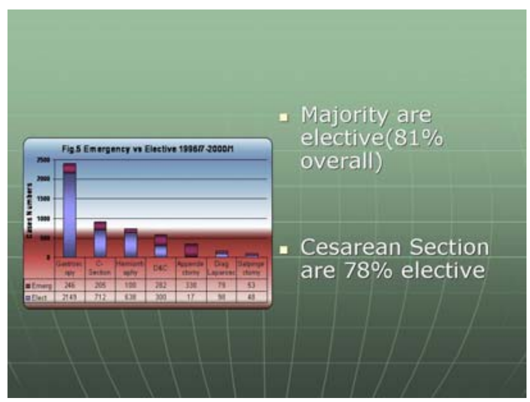
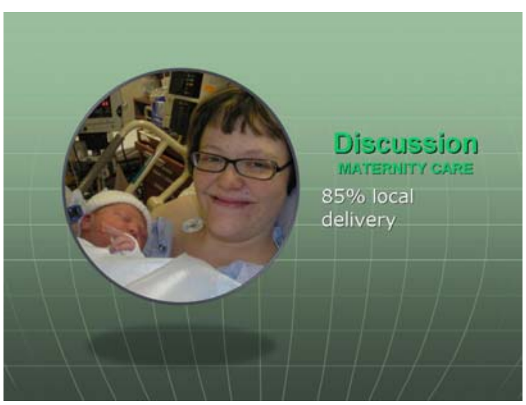
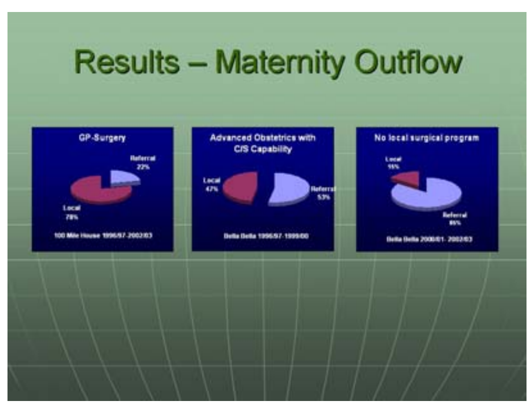


Fig.5 Emergency vs Elective 1996/7-2000/1
Majority are elective(81% overall)
Cesarean Section are 78% elective


Discussion
MATERNITY CARE
85% local delivery


Results – Maternity Outflow
GP-Surgery
Advanced Obstetrics with C/S Capability
No local surgical program

Why do we need them?

Barriers accessing care

- Geographical – weather, lack of public/private access transportation
- Financial – time work, partner drive, young family, accommodations, meals, return trip, multiple specialist visits
- Cultural – communication, trust known providers, individualized care
- Isolation – family, friends, community, continuity, local resources

I had no money, nothing you know? Like I was taken away in an ambulance and I had a light coat, the whole thing. So I had to go to social services, they put me in a hostel overnight. I was kicked out of there at 6:30 in the morning. The bus didn't leave until noon, I had to walk all the way from, you know down by the bridge to the North Shore, all the way up to the bus depot by the freeway. (Then) I hitchhiked (back home)…"

- *It probably cost me over $1,500 for hotel rooms, motel rooms. Even at the senior's rate. Add to that the parking, meals".*

Safety and Security

- "[S]he did all of my pre-natal care and she was also the one who did the surgery. I really enjoyed having the same doctor throughout the whole thing."

Community belonging

- "you've got a bit of an enjoyment in showing your child and experiencing it with people you know in the community …and then they were going to send me home (from referral center) and I asked to be transferred (home) because I knew the care would be different. And I did – I paid for the ambulance to bring me (home) and then I stayed (there) for a couple of days."

Self Esteem

- "I went in, had the surgery done, no problem with the surgery, and it ended up looking better and feeling just fine. Went home, straight home, and didn't look back. It was just excellent."
- *"I have other friends kicked out, stuck…I was lucky (with) this one, they did the gallbladder, like then you get kicked out of the hospital at three in the afternoon, you got 18 staples in your gut, and I wouldn't have been wearing shoes except for my girlfriend at the time put my shoes on for me."*

Challenges

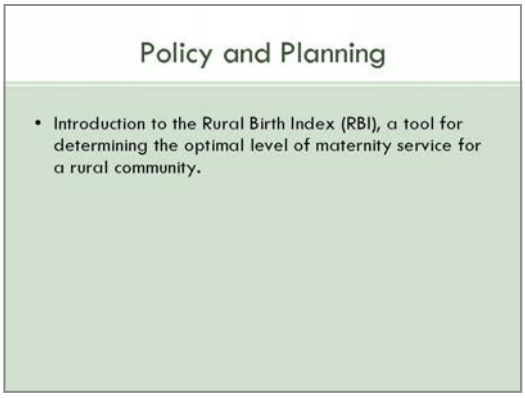
- Training
- CME
- Credentialing
- Specialist support
- No formal peer organization
- Locum relief/replacement

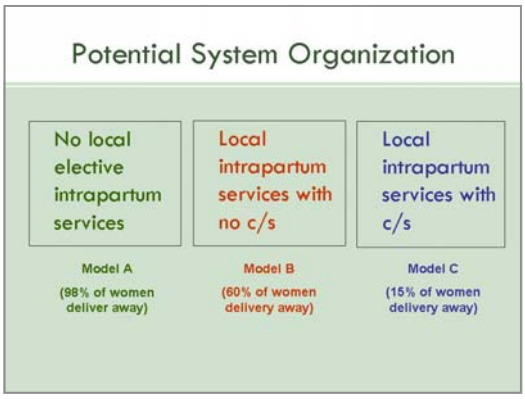
Rewards

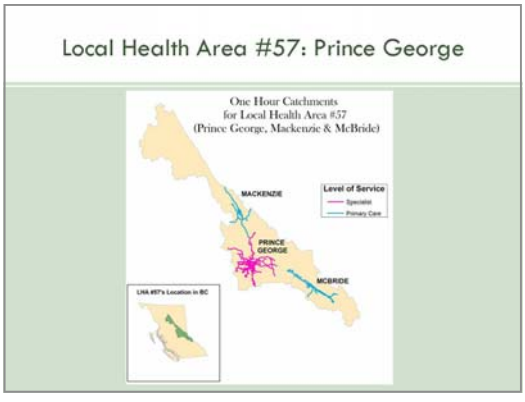
- Fulfilling
- Community Supported/Pride
- Health Resource Stabilizing
- Surgical and non-surgical pts
- Increases local expertise
- Itinerant Surgery
- Maternity Care

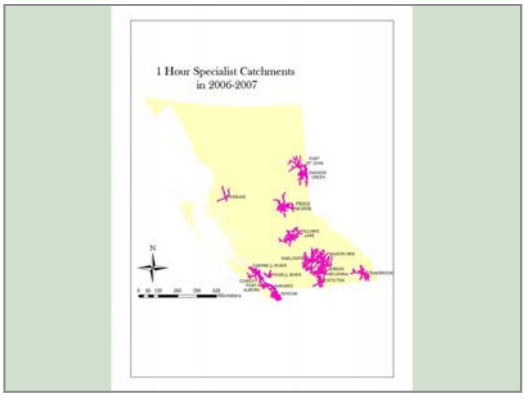
5. Challenges and Innovations in Policy and Planning

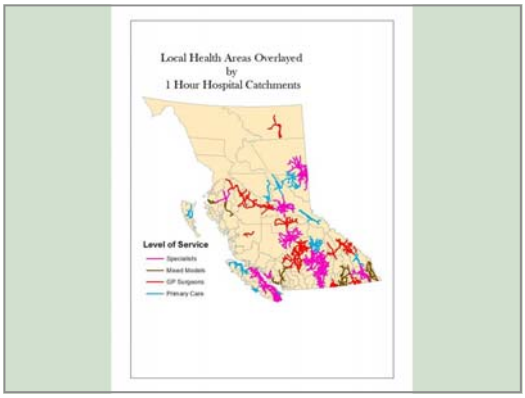
A. Stefan Grzybowski

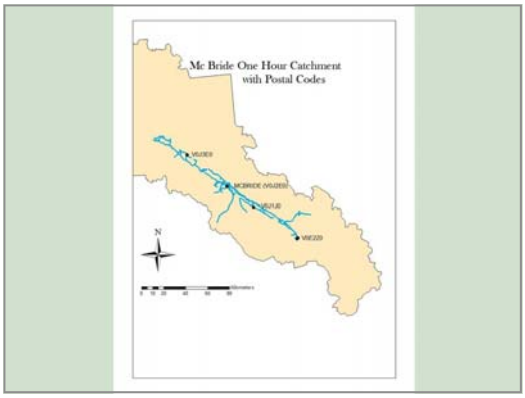


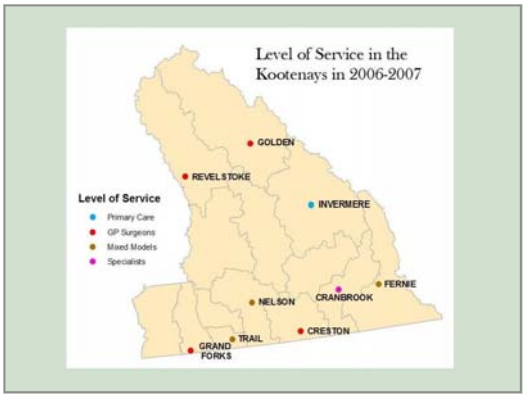


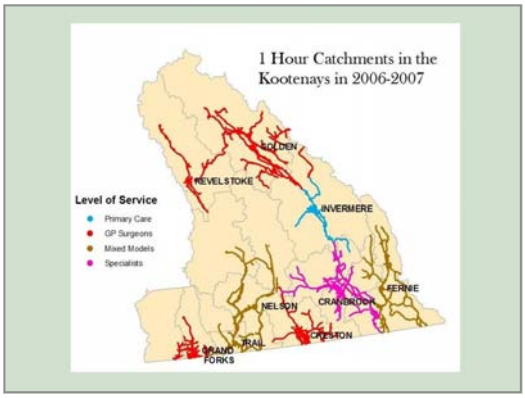


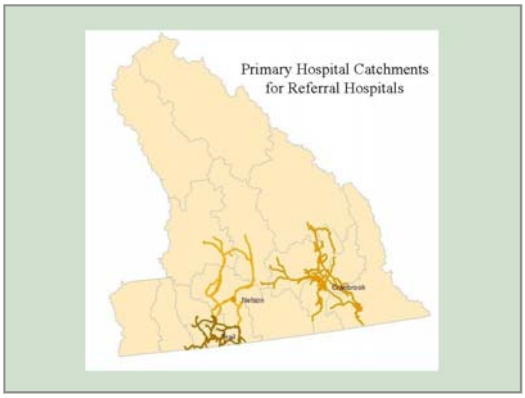


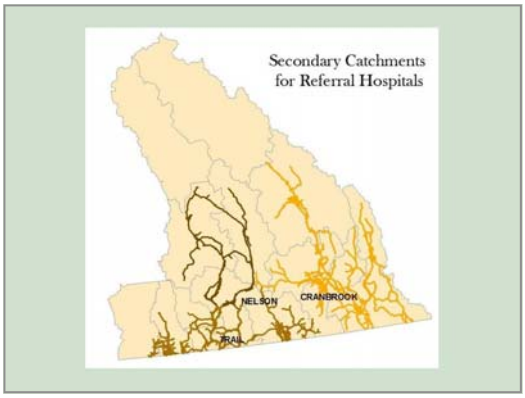












Inter-facility relationships

- What are the effects of closing small facility services on the health system?
- Does centralization of services deliver the efficiencies of scale that it promises?
- What are the overall system effects?
- What is the cost effectiveness of providing rural maternity health services in small facilities?

The RBI Model

A health service delivery tool to determine the appropriate level of rural maternity service for a given rural community population.

Background

- Development of the Rural Birth Index (RBI) was informed by data gathering through 6 funded projects involving:
  - Repeat visits to 23 communities;
  - Interviews/focus groups with
    - 121 rural women;
    - 216 providers;
    - 49 administrators/key informants

Methodology

- Complex adaptive systems modeling recognizing that small rural maternity health services are at the edge of the complexity of health systems.
- Privileging the dominant nature of population need and degree of isolation in predicting level of service for small rural populations.
- Comparing service levels for rural BC hospitals to RBI scores to establish the phase transition points. (the derivation sample)

Component parts of the RBI

To project the appropriate service level for a given community, the RBI Model takes into account 3 factors.

- Birth rate;
- Social vulnerability,
- Proximity to nearest cesarean section service

Birth rate

The Birth rate is transformed into a Population Birth Score (PBS):

Population Birth Score (PBS):

Average # of births in catchment area of hospital over 5 years divided by 10.

Adjustment for Population Vulnerability (APV)

Social vulnerability is represented by a score derived from a BC stats composite score (range -1 to +1) of several social indicators* and is weighted in the RBI between:

0.8 (advantaged) to 1.4 (disadvantaged)

* Overall regional socio-economic index including levels of: human economic hardship, crime, health problems, education concerns, children and youth at risk. www.bcstats.gov.bc.ca/data/sep/i_lha/lha_main.asp

Isolation Factor

Measured by an Isolation Factor (IF)

Surface travel time is weighted as follows:

< 30 minutes	=	-3
31-45 minutes	=	-2
46-60 minutes	=	-1
61-90 minutes	=	1
91-120 minutes	=	2
2-4 hours	=	3
> than 4 hours	=	4

* *If Cesarean Section provided locally then distance to next service is calculated as if existing local service was closed.*

RBI Formula

RBI = (PBS x APV) + IF

RBI: Rural Birthing Index

PBS: Population Birthing Score

APV: Adjustment for Population Vulnerability

IF: Isolation Factor

What does the RBI Score mean?

The calculated score corresponds to the appropriate level of service for a given rural service catchment population:

0–6.5	No local intrapartum services
6.5–9	Local intrapartum services without operative delivery
9–14	Local GP Surgical Services
14–27	Mixed model of specialists and GPS
>27	Specialist service

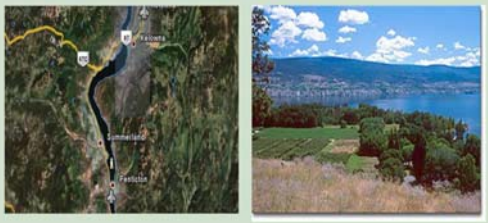
RBI Model: Limitations

- Intended for application to rural populations of under 25,000 and has been developed within the context of British Columbia's geography and health policy structure.
- The adjustment for population vulnerability is an average across the LHA and may underestimate the degree of vulnerability of the women who will make up the parturient population.

3 Examples of Application of the RBI Model

- Summerland
- Queen Charlotte city
- Merritt

Summerland



Summerland

Data:
Average # of births (5 years): 71 → **RBI Factors:** PBS: 7.1
Socio-economic Status: -0.79 → Adjustment for Population Vulnerability (APV): 0.84
Travel Time to cxion: 17 minutes → Isolation Factor (IF): -3

RBI = (7.1 X 0.84) - 3 = 3.0

Recommended level of service: No Local Intrapartum Services

Queen Charlotte City

Queen Charlotte City

Data:
Average # of births (5 years): 30 → **RBI Factors:** PBS: 3.0
Socio-economic status: 0.29 → Adjustment for Population Vulnerability (APV): 1.12
Travel Time to cxion: 4 hours → Isolation Factor (IF): 4

RBI = (3.0 X 1.12) + 4 = 7.4

Recommended level of service: Intrapartum services with no c/s

Merritt

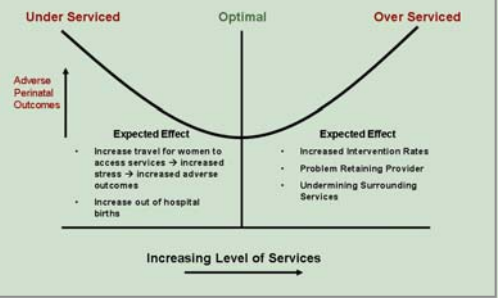
Merritt

Data:
Average # of births (5 years): 105 → **RBI Factors:** PBS: 10.5
Socio-economic status: 0.87 → Adjustment for Population Vulnerability (APV): 1.35
Travel Time to cxion: 53 minutes → Isolation Factor (IF): -1

RBI = (10.5 x 1.35) - 1 = 13.2

Recommended level of service: Local intrapartum services with operative delivery

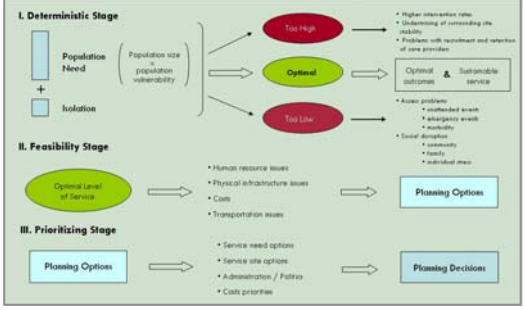
Level of Maternity Services and Population Need



Three-stage planning process for rural maternity care services

1. Determining the appropriate service level to meet the needs of a given community based on size of birthing population and degree of isolation using the Rural Birth Index (RBI);
2. Assessing the feasibility of implementing the proposed model of care based on community characteristics;
3. Considering potential implementation within the planning priorities of the Health Authority.

Three-stage planning process for rural maternity care services



Stage 2: Measuring Feasibility

In Stage 2, the feasibility of implementing a certain level of service is evaluated.

Factors that might be considered:

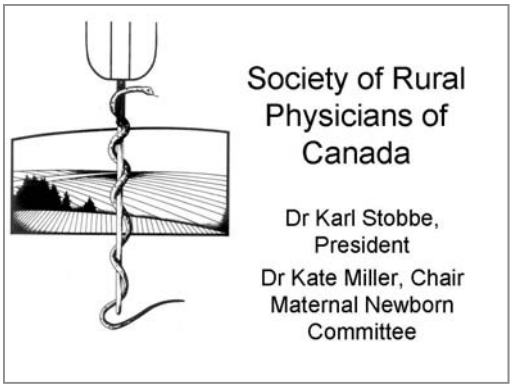
- Public transit access and schedules
- Local infrastructure (existing hospital services)
- Local caregiver resources
- Community maternity service history
- Influence of other organizations (e.g. United Church Health Services)

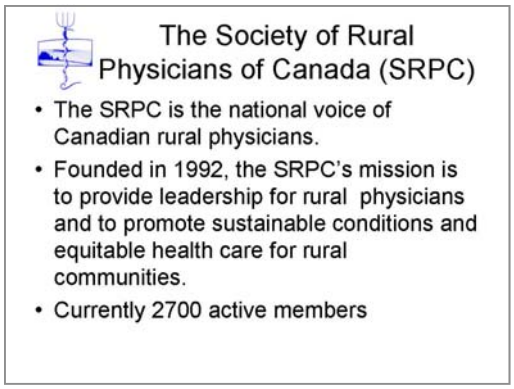
Stage 3: Administrative Priorities

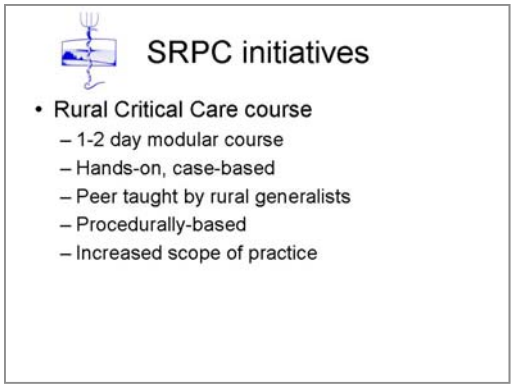
Making choices about service priorities:

- Addressing the greatest need (e.g. cancer care vs maternity care vs operative facilities)
- Political agenda

B. Peter Hutten-Czapski, Kate Miller, and Karl Stobbe







SRPC initiatives

Rural and Remote Medicine Conference

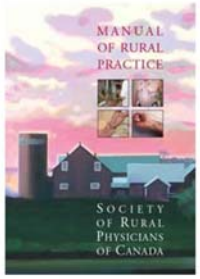
- The largest* meeting of rural MD's world-wide
- Presidents of CMA, CFPC, RCPSC, IPAC, ACCRM attend.
- Rural critical care
- Education stream – faculty development
- Leadership stream
- Policy day
- Students & residents

SRPC initiatives

- Collaboration with (sometimes against):
  - Canadian Medical Association
  - College of Family Physicians of Canada
  - Royal College of Physicians and Surgeons of Canada
  - Federation of Medical Licensing Authorities of Canada
  - Association of Faculties of Medicine of Canada
  - Indigenous Physicians Association of Canada
  - Australian College of Rural and Remote Medicine
  - US: Rural Family Medicine Educators

SRPC initiatives

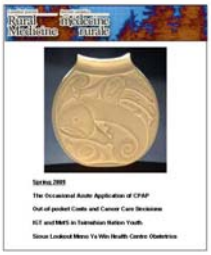
- Manual of Rural Medicine
  - Now in 3rd printing
- Textbook of aboriginal health
  - Editorial team is forming



SRPC initiatives

Canadian Journal of Rural Medicine

- Research
- Procedures
- Politics
- Life
- Peer reviewed
- Index Medicus



SRPC initiatives

- RuralMed
  - Email listserv
  - Participants – Canadian, Australian, US, others
  - Ethics, working conditions, collegial support, health systems, etc.

Past Maternity Care Projects

- Joint position paper on rural maternity care (1998 with SOGC and CFPC)
- Position paper on training for family practitioners in cesarean section and other advanced maternity care skills (1998)
- Number of births to maintain competence (2002, Joint policy statement with SOGC and CFPC)
- Policy Paper on Regionalization (2004)
- Discussion Paper on Rural Hospital Service Closures (2009)
- Care to Care, ALARM and maternity care teaching in Iraq

What are Canadian rural doctors saying?

- Rural Hospitals Matter
- Volume Matters
  - Minimum numbers
  - Role scope and flexibility changes inversely with volume
- Distance Matters
  - Access should be equal
  - Core skills and services should be defined
  - Systems of care should be defined
- Skills Matter
  - Education and quality assurance
- Confidence Matters

SRPC directions

- Dialogue with:
  - Nurse Practitioners
  - Midwives
  - Nurses
  - Physician Assistants
- About:
  - Models of care
  - Opportunities for collaboration
  - Optimal service delivery for rural people
  - Sustainability of rural practice

SRPC directions

- Influence the national research agenda
- Facilitate rural research
- Support rural researchers

- Engage with rural communities

Continuing the dialogue

- SRPC brings together over 500 rural and remote physicians each year
- Supporting research:
  - Policy discussions
  - Relevance: feedback from front-line workers
  - Reflection/feedback on a research agenda
  - Research day, stream, or sessions
  - Engage with collaborators, recruit sentinels

C. Susan Stratigos

POLICY & PLANNING
Challenges & Innovations

Susan Stratigos

NATIONAL POLICY

The Blame Game

$1.1 billion pa

Fragmentation, Waste, Duplication

Responsibilities

- Service delivery: State
- Funding: Federal
- Workforce education (universities): Federal
- Workforce training (hospitals): State
- Standards & accreditation: Colleges
- Professional registration: State

$ FUNDING $

- Mix of federal, State & private
- Commonwealth transfers through triennial bilateral healthcare agreements
- Medicare Benefits Schedule (MBS)
  MBS covers medical services, limiting maternity care options outside the public system

Who makes the decisions?

Council of Australian Governments
COAG

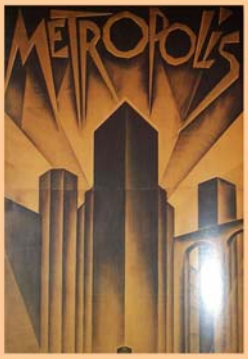
Australian Health Ministers' Advisory Council

AHMAC

WORKFORCE

2005
1605 medical graduates
2006
COAG: more medical school places
2012
2916 medical graduates

Will they go bush?



- Urban culture
- Work flexibility
- Schools
- Spouse employment
- Goods/services
- Professional support & opportunity
- Urban training
- Specialization

"It is apparent that many rural towns are so unattractive, in terms of medical practice, that a doctor must be possessed of an almost missionary-like dedication to remain there.

Life in such a town can be unbelievably dull. For a man who has received a university education, there is little or no satisfactory material for friendship. Boredom may be unremittent.

If he stays long enough he must degenerate professionally and socially. It seems an absurd waste….to send him to this".

(AMA MJA 1968)

Rural Workforce

Lower % of all healthcare providers
Longer hours
Ageing
New generation-different aspirations
More complex work
More on call
Less women
More IMGs
Higher costs
Lower income
Only place for proceduralists
Average stay 6 years
Proceduralists stay 9 years
Satisfied despite obstacles

Increasing the odds of recruitment

- **Rural spouse 3.5x**
- **Rural internship 3x**
- **Rural origin 2.5x**
- **Rural schooling 2.5x**
- **Rural training 2.5x**
- **Rural undergraduate education 2.05x**

Will they stay?

Why do they leave?

Personal

Individual/family needs & preferences

Professional

- After hours/on-call; lack of relief and leave
- Job satisfaction; variety of practice
- Professional support
- Autonomy: relationship with hospital & health authorities
- Funding arrangements
- Remuneration
- Socio-economic decline of the community
- Loss of local health services

Current Retention Strategies

- Rural retention grants: payments based on length of stay & location
- Financial incentives: bulk billing subsidy, practice nurses
- Local government infrastructure support
- Locum services
- Housing & infrastructure
- Boarding school & other subsidies
- Specialist outreach programs (MSOAP)
- More Allied Health Services (MAHS)
- Rural Workforce Agencies
- Practice incentive program PIP
- Procedural services subsidies
- Procedural Training Support Program
- *Easy Entry Gracious Exit* schemes

Audit of Rural Health Workforce Programs

Barriers to effective assessment

Inadequate knowledge & information management

A significant shortfall in information on the status & trends [in] the rural & remote health workforce…will continue to be a significant hindrance to the effective administration of…health workforce capacity programs…as well as the capacity of DoHA to provide evidence-based policy advice to government

Who else is coming?

Feminization

- 66% of GPs in training female
- 44% of rural GPs under 35 female
- 60% of female students anticipate working part-time
- 30% of male students anticipate working part-time
- Different practice styles & longer consultation times

Feminization

- 60% of male workload
- Primary family carer (86% have dependent children)
- Different needs & response to retention factors
- Different variables contribute to contentment
- Prefer salaried work to practice ownership
- Male dominated paradigms & structures difficult

Reasons for choosing rural practice

• **Lifestyle** (enjoyment of rural environment, friendly and close community, dislike of city life)	47.2%
• **Attraction of Rural Practice** (range of medicine, better career satisfaction, more procedural opportunities)	38.2%
• **Marriage and / or husband's choice** (married a country man, followed husband's career choice)	37.6%
• **Extended family / children** (closeness with parents, better environment for children)	14%
• **Direct rural exposure** (Raised in rural areas, previous training experience in rural)	7.9%

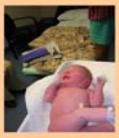
BALANCE

- **Flexibility**
- **Childcare**
- **Recognition**
- **Family focus**
- **Peer support**
- **Mentoring**

Will they do obstetrics?

- Increased applications to RANZCOG
- Feminization





Training

Expanded Specialist Training Program (ESTP)

- Commonwealth initiative to increase & expand specialist training to new settings: private practice, private hospital, community & rural and remote locations
- Aims to address the shortages of training supervisors and training places to meet influx of new graduates
- Can also supplement service provision
- Began February 2008 with 110 funded positions

RANZCOG

- Supervisor training workshops
- Options for part-time training
- Compulsory rural placements
- GP Obstetric Advisory Committee
- More informative data base

What support mechanisms will they have?

- Locum schemes
- MSOAP
- National Consensus Framework
- Financial incentives
- Rural Workforce Agencies
- Divisions of General Practice

Need for Locum Relief

Specialists

- 75% : regular locum relief would be helpful or very helpful
- 7.8% : it would make the difference between staying or leaving

(Robson *et al* 2005)

GPs

- Improved locum support: a standout retention factor for both professional & lifestyle reasons

(Gregory *et al* 2006)

Midwives

- 94% : a national locum scheme would help sustain rural maternity services

(SOLS transferability study 2008)

Specialist Obstetrician Locum Scheme

- Rural Specialist Group idea 2004
- Scoping Study 2005
- Pilot 2006 – 2008
  - Transferability project
- Program October 2008-2011
  - Inclusion of GP obstetricians & anesthetists

Specialist Obstetrician Locum Scheme

- Dedicated secretariat located at RANZCOG
- 14 days subsidised locum relief for rural O&Gs
- Travel costs for the locum
- Arrangement and payment of registration & provider numbers
- Subsidised handover process
- Continuing Professional Development activity

Tripartite Management

RANZCOG

Auspicing: credibility, gravitas, infrastructure, data bases, CPD

RDAA

Advocacy: different networks (RSG, Dept of Health & Ageing) media, political lobbying, workforce focus

NSW RDN

Practical Expertise: comparable programs (locum relief, MSOAP), research, different networks (Rural Workforce Agencies)

Specialist Obstetrician Locum Scheme

Successful model

- Overshoots targets within budget
- High levels of satisfaction
- Responsive & dynamic processes
- Large recruitment pool
- Repeat placements
- Election commitment by both parties

Critical Success Factors

- Auspiced by RANZCOG
- National program
- Quality & Safety
- Tripartite management
- Ongoing stakeholder involvement
- Process evaluation & risk management review
- Good working relationship with funder
- Nothing succeeds like success

GPALS

•Concept well supported by rural GP anaesthetists

•Enough GP & specialist anaesthetists to satisfy forecasted demand

•The SOLS model is robust & applicable (with some modifications) for GPALS

•It recommends that DoHA fund GPALS to provide 100 locum days in Year 1 and 200 Locum days in Year 2 at a total cost of $844,135 (GST excluded)

Midwifery

•Need for locum relief to

•keep maternity services in rural and remote communities open
•retain the maternity care workforce
•facilitate access to professional development

•A national scheme with

Continuation dependent on stakeholder satisfaction
•Initial orientation, upskilling & other support strategies
•A clear focus on quality before coverage
•Guaranteed level of locum competence
•Quality and safety standards at the placement
•Sufficient flexibility for diverse clinical, geographical & cultural settings
•Placements for both midwifery care only & midwifery & nursing services

Policy frameworks

- The Blame Game 2006
- National Consensus Framework for Rural Maternity Services 2008
- Beyond the Blame Game 2008
- Primary Maternity Services in Australia 2008
- Report of the Maternity Services Review 2009

Report of the Maternity Services Review

- Data collection: morbidity & mortality
- Evidence around interventions (CS) & maternal experience & outcomes
- Multidisciplinary standards & guidelines for collaborative team models
- Range of models of care
- Rural access a priority

Report of the Maternity Services Review

- Close the gap on indigenous disadvantage
- Informed decision making
- Support for rural maternity care workforce
- Expanded roles for midwives within collaborative team-based models

The future challenge: to ensure the policy incorporates

- Funding & systems to support collaboratively developed models of team care moulded to local settings
- Links with evidence-based workforce support mechanisms
- Consultation with consumers
- Clinical, psycho-social & economic criteria for maintaining rural maternity services

Rural proofing

Rural proofing is a commitment by government to ensure all its policies take account of rural circumstances & needs.

- Mandatory part of the policy making process to:
- consider whether a policy is likely to have a different impact in rural areas
- make a proper assessment of this impacts
- adjust the policy, where appropriate, to meet rural needs & circumstances.

Annual assessment published

Rural Health Obligation

Guaranteed local access to minimum level of services

- Intrapartum care within a regionalized risk management system
- Very low birth communities (<15-20) access to intrapartum care within 60 minutes travel time
- Local hospitals provide facilities & training to deal with emergencies
- Ante- & postnatal care available locally even if intrapartum care isn't

RURAL DOCTORS ASSOCIATION OF AUSTRALIA
Caring for the Country

National Consensus Framework for Rural Maternity Services

If you lot would make up your minds about what is safe maternity care in rural areas, then we would have something to go on….

DoHA, May 2005

National Consensus Framework for Rural Maternity Services

- QUALITY AND SAFETY
- ACCESS
- MODELS OF CARE
- INFRASTRUCTURE
- WORKFORCE
- FUNDING

QUALITY & SAFETY

Seamless referral networks & systems must be based on mutual understanding & respect for the roles & responsibilities of all members of the rural maternity care team

Consistent and collaboratively developed guidelines & protocols used by all …providing maternity care

ACCESS

Rural women should have access to safe maternity care consistent with their assessed level of risk as close as possible to where they live

Low risk women in rural areas have access to maternity services based on midwifery models of care operating within an integrated service network

MODELS OF CARE

Team-based models appropriate to the size & diversity of the community & the mix of skills and services available locally… should utilize the skills of all team members…

Integrated service networks (rural hub & cluster models)

Evidence - based risk management protocols (collaboratively developed)

Appropriate funding, support for all team members

MODELS OF CARE

Critical success factors

- Local models to fit local needs & resources
- Collaborative & consultative
- Pragmatic rather than ideological
- Client focus
- Flexibility
- Upskilling & skills maintenance for all
- Evidence-based protocols & guidelines

MODELS OF CARE

Barriers to team care

- **Insensitive funding systems**
- **Outmoded hospital staffing practices**
- **Inadequate data**
- **Inequitable access to CPD & related support mechanisms**

INFRASTRUCTURE

All facilities in an integrated rural maternity service must be equipped to provide safe maternity care & at least one facility must provide the full range of equipment & trained personnel for complex maternity & neonatal care

Decisions about the personnel & equipment needs of an integrated service network made in consultation with local care providers & consumers

WORKFORCE

The maternity care workforce must be sustained & enhanced by targeted, coordinated strategies that support collaborative care by doctors & midwives

Multidisciplinary on site training provided for all clinicians involved in rural maternity care

FUNDING

Incentive funding must support rural models of maternity care

New AHCAs & other collaborative funding mechanisms include incentives to sustain existing maternity services & establish new services in small rural communities & penalties if a maternity service is withdrawn without sufficient consultation & evidence

Future Principles

- **Responses based on research on the incoming generation**
- **Flexible structures**
- **Support mechanisms**
- **More effective use of workforce**
- **Collaborative & team approaches**
- **Practical recognition of value**

The future is almost here

- There are initiatives, frameworks, reviews & plans
- There is a highly skilled & dedicated workforce
- There is real team work in routine practice in rural areas

The future is almost here

There are already good examples of effective services…that are women-centred & based on mutual respect & collaboration…The challenge is to make this the norm for the benefit of mothers & babies as well as their care providers

Weaver, Clark & Vernon(2005) –Obstetricians & midwives *modus vivendi* for current times. *MJA* 182/9

The future begins today

Creating a Collaborative Research Agenda

Throughout this symposium, participants were asked to brainstorm new emerging research questions. The questions that emerged are organized below under the themes "Health Human Resources" and "Service Planning." In discussing these research questions at the end of Day 2, participants focused predominantly on 1) investigating barriers to interprofessional collaboration between midwives and other rural practitioners, and 2) adapting the Rural Birth Index for other jurisdictions and for service planning areas other than maternity care.

Health Human Resources
What are the best practices to improve rural care provider lifestyle, recruitment, and retention? Do models of practice and call schedule arrangements that meet physician lifestyle needs also meet the needs of birthing women? How might Maslow's hierarchy of needs be adapted to address physician sustainability?
What is a sustainable model for midwifery in a rural community? Which practice model is more sustainable in a rural environment: community-based midwives or nurse-midwives? *Interested researcher: Sue Kildea*
How can we improve training programs in rural and remote health? What would an effective training program look like that taught skills for practice in low-resource, interprofessional, rural environments?
What are existing and potential on-call funding programs for rural maternity care? How much do the programs cost?
How does the presence of a General Surgeon in a rural community impact the sustainability of maternity services and local birth? What are the rural maternity care experiences of General Surgeons? *Interested researchers: Nancy Humber, Brenda Wagner, Peter Hutten-Czapski*
What are the accreditation and practice experiences of international medical graduates (IMGs) in rural environments? To promote sustainable rural health services, what are the conditions and qualities that facilitate IMG recruitment and long-term retention? How can countries create national workforces to sustain health services in a manner that does not rely on the recruitment of IMGs? *Interested researchers: Laura-Mae Baldwin, John O'Neil, Kris Aubrey*
What are the training and practice experiences of rural nurse-midwives?
How do we improve maternity practice experiences for rural nurses? How can experienced nurses and nurse-midwives be utilized to train colleagues in intrapartum skills? *Interested researchers: Karen Mackinnon, Ilene Bell*
What are the practice experiences of rural OR nurses? How can we sustain small volume, rural ORs, particularly as existing staff retire? *Interested researcher: Nancy Humber*

Service Planning
How do we apply the Rural Birth Index (RBI) to other jurisdictions (e.g. Australia)? From a quality assessment perspective, how can we link RBI scores to perinatal outcomes? How do a community's outcomes fare when it does not provide the predicted optimal level of service and do those outcomes improve when the service level is changed to meet population need? *Interested researchers: Susan Stratigos, Sue Kildea, Stefan Grzybowski*
What are the characteristics of the most sustainable maternity care systems in different countries? Do different models of care have the same outcomes, sustainability, and care provider and patient satisfaction? How are different models impacted by access and sustainability? What are the best practices for human resource deployment to rural and remote areas? For instance, how can traditional midwifery models of care (i.e. Puvirnituq, Guatemala) inform service planning for maternity care in rural and urban environments? *Interested researchers: Stefan Grzybowski, Bill Hogg*
Using the Rural Birth Index, what is the appropriate and sustainable "basket of services" for a given rural community? What complement of care providers are best suited to provide these services?
How does the make-up of care providers in a community (i.e. obstetrician, family physician, midwife) impact the overall scope of local services that a community can provide?
What are the characteristics of prototypical, sustainable, low-volume rural maternity services in different countries?
How do we improve rural models of maternity care for isolated Aboriginal populations? How can we adapt the model of midwifery care in Puvirnituq for other locations (e.g. Alaska)? What are the characteristics of the Puvirnituq risk assessment protocols? *Interested researchers: Sue Kildea, Laura-Mae Baldwin, Kris Robinson*
What are the costs of closing rural maternity services? Specifically, what are the direct financial, indirect financial, short- and long-term health, and systemic costs, and how does the loss of maternity care impact other services?
What are the characteristics of a sustainable rural maternity program that includes both midwives and family physicians? Are there inter-professional shared care or shared call models of practice that include both midwives and family physicians?
Why are cesarean section services more sustainable in some jurisdictions than in others?
What is the minimum number of women for which a community can provide local maternity care, without local cesarean section access, within a quality assurance framework?

Symposium Participants

Rebecca Attenborough, Reproductive Care Program, Nova Scotia, Canada

Rebecca Attenborough RN, BSN, MN, currently serves as the Co-ordinator of the Reproductive Care Program of Nova Scotia. She has been actively involved in the promotion of primary maternity care at local, provincial and national levels throughout her career. She is chair of the Canadian Perinatal Programs Coalition, and served as co-chair of the National Primary Maternity Care Committee of the Multidisciplinary Collaborative Primary Maternity Care Project in 2005-2006. Rebecca is currently serving as the Atlantic representative on the Society of Obstetricians & Gynaecologists of Canada RN Advisory Committee, and as the Atlantic Provinces Chapter representative on the AWHONN Canada Research Committee. In 2005 she received the Excellence in Perinatal Nursing Award from AWHONN Canada and the Excellence in Nursing Administration Award from the College of Registered Nurses of Nova Scotia.

Kris Aubrey, Primary Health Care Research Unit, Memorial University

Dr. Kris Aubrey is a member of the Faculty of Medicine's Primary Healthcare Research Unit (PHRU). Prior to his appointment at Memorial, Dr. Aubrey practiced full scope rural family medicine including clinic, emergency, obstetrics, inpatient, palliative care, remote First Nations clinics, minor surgery, and long-term care. Dr. Aubrey's primary research interests are in the larger field of health services. Specific research interests have arisen out of his experiences as a rural family physician, and the frustration of seeing many people forced to travel long distances to obtain care that may be reasonable to offer in small local hospitals. To that end, he has recently completed a study looking at the outcomes of caesarean sections by family physicians. He is currently continuing his work in rural hospital services research. Ongoing projects include the examination of obstetrical and neonatal outcomes based on the level of service at a woman's local hospital and the impact of hospital remoteness on outcomes. A related project to clarify methodological issues with the first one is currently underway. Projects to examine the health outcomes of other events, illnesses or procedures in rural and underserviced populations are in their initial stages.

Bjørn Backe, Norway

Bjorn Backe is an obstetrician gynecologist. His PhD was on antenatal care, studying effectiveness, compliance to guidelines, societal costs, and the practice of routine ultrasound. Main research interests are clinical research and epidemiology. Bjorn also has a background as health services researcher. He works as professor and consultant at St Olav University hospital, Trondheim, Norway.

Laura-Mae Baldwin,
University of Washington, USA

Laura-Mae Baldwin is Director of Research, Professor, and a practicing family physician in the Department of Family Medicine at the University of Washington. She is a senior investigator at the Washington Wyoming Alaska Montana Idaho (WWAMI) Rural Health Research Center and Center for Health Workforce Studies, and has conducted a number of studies related to maternal and child health quality, access, and practices using National and State Vital Records, administrative claims, and chart-abstracted data. She has also conducted a number of surveys of obstetrical providers. Laura-Mae is currently active in the University of Washington's Institute of Translational Health Sciences, and is working to develop a practice-based research network in primary care practices throughout the WWAMI states.

Ilene Bell,
UBC School of Midwifery, British Columbia, Canada

Ilene Bell is a rural midwife who has practiced in a rural setting for 28 years. She is the former president of the College of Midwives of BC and currently a member of the Rural Committee, Midwives Association of BC. Ilene is also a Clinical Assistant Professor in the Midwifery Education program at UBC and a member of the Midwifery Education Advisory Council. She is currently funded through a CIHR-funded Community-Based Clinician Investigator program to examine the process of midwifery integration in the community of Nelson, BC.

Sheryll Dale,
BC Perinatal Health Program, Vancouver, Canada

Sheryll Dale, BA, is the manager of the BC Perinatal Database Registry and has 33 years of experience in the Health Information field. The focus of her work in the last 15 years has included all aspects of database design, development, and implementation, and ongoing database administration. She has overseen the development of reporting tools to access perinatal data, including the development of an interactive perinatal reporting CD, annual reports, and facility comparison reports. Sheryll also co-chairs the Canadian Perinatal Database Committee that has worked to define a Canadian Minimum Dataset for Perinatal Information. Prior to joining the BCPHP she was Manager, Information Analysis, at BC Women's Hospital, where she played a key role in the development of the Maternal/Neonatal Database and was responsible for data access and reporting.

Stefan Grzybowski,
Centre for Rural Health Research, Vancouver, British Columbia

Stefan Grzybowski is a family physician researcher and Professor at the University of British Columbia's Department of Family Practice. Prior to moving to UBC, Stefan practiced as a family physician for twelve years on the Queen Charlotte Islands / Haida Gwaii. As the co-principal

investigator of the Rural Maternity Care New Emerging Team, Stefan's current research focuses on the study of rural primary care and rural maternity care in British Columbia. He is committed to building research capacity in family medicine and has a long standing interest into the safety of rural maternity care. Stefan is also a co-Leader for the Michael Smith Foundation's BC Rural and Remote Health Research Network, and has two sons at the University of Victoria.

Bill Hogg,
Director of Research, Department of Medicine, University of Ottawa

Dr. William E. Hogg is a Professor in the Department of Family Medicine, University of Ottawa, a Principal Scientist with the Institute for Population Health, an Affiliate Scientist at the Ottawa Health Research Institute and the Director of Research for the Department of Family Medicine, University of Ottawa. He is the Chair of the Section of Research of the College of Family Physicians of Canada and serves on the Boards of Directors of the North American Primary Care Research Group and the College of Family Physicians of Canada. All the while, he continues to practise family medicine. In 2004 alone, Dr. Hogg received seven grants for which he was the principal investigator, worth approximately $7 million. His overall grant funding totals over twenty nine million dollars and he has over 150 scientific publications. He has been Director of the C.T. Lamont Primary Health Care Research Centre, Ottawa, since 2003, where an exciting current project is focused on comparing models of primary care delivery in Ontario. At an earlier stage of his career, Dr. Hogg spent 14 years in rural practice in western Québec, where his work on small-hospital obstetrics was instrumental in affecting public policy. Dr. Hogg's most significant volunteer activity has been with a group of colleagues playing old time rock and roll music. Over the past 23 years they have raised $2 million for charity.

Nancy Humber,
GP Surgeon, Lillooet, British Columbia

Nancy Humber is a fulltime GP-surgeon in Lillooet BC. She designed and completed a third year enhanced surgical skills program from UBC in 1997. Currently she is a Community-Based Clinician Investigator funded by the Vancouver Foundation and working on research pertaining to the delivery of rural surgical services. She is actively involved in the community with outreach clinics, family wellness clinics and a drop-in youth clinic based at the local high school. She is the preceptor for the rural family practice residency program along with her 4 other colleagues.

Peter Hutten-Czapski
Rural physician and researcher, Ontario

Dr. Peter Hutten-Czapski is a Haileybury, Ontario-based General Practitioner specializing in rural family medicine. A graduate of Mount Allison University, Dr. Hutten-Czapski earned his medical degree at Queen's University in Kingston, Ontario. He has been practising in Northern Ontario since 1989. An Assistant Professor with the Northern Ontario School of Medicine, Dr. Hutten-Czapski sits on the school's board. He has written and lectured widely on issues affecting the practice of medicine in rural areas. He was presented with a University of Ottawa Depart-

ment of Family Medicine Outstanding Research Article Award, the Douglas M. Robb Research Award for outstanding research in Family Medicine, and has earned several Ontario Medical Association research grants. He was named family physician of the year in 2007 by the Ontario College of Family Physicians and is a fellow of the Society of Rural Physicians of Canada. Published in numerous peer-reviewed publications Dr. Hutten-Czapski is the Chief Editor of a rural medical procedural textbook published in the fall of 2006, and is the scientific editor of the Canadian Journal of Rural Medicine.

Patty Keith
Regional Planning Leader, Vancouver Coastal Health Authority, BC

Dr. Patty Keith is the Regional Planning Leader, Maternity and Paediatrics, for the Vancouver Coastal Health (VCHA) and Provincial Health Services (PHSA) Authorities. As an obstetrical nurse, midwife, researcher, educator, and administrator, Dr Keith has over 25 years of experience advocating for perinatal health in British Columbia. Her contributions to multidisciplinary collaboration and the integration of research and decision-making have enriched the service delivery environment for rural maternity care across the province.

Sue Kildea,
Australian Catholic University, Queensland, Australia

Professor Sue Kildea is the foundation Chair of Midwifery at the Australian Catholic University and Mater Mothers Hospital in Brisbane, Queensland, Australia. Sue has extensive experience working as a nurse midwife in rural and remote Australia and is a leading advocate for the return of birthing services to these areas. She is currently Vice President of CRANAplus, an organization supporting remote Australia. Her interests are in safety, quality, and professional collaboration in maternity care. Sue has a particular interest in improving health services for Aboriginal and Torres Strait Islander women and using research as a strategy for change. Sue was the Perinatal Health Analyst who compiled the Maternal Deaths in Australia Report, 2000-02. In 2004 she was awarded the UTS Human Rights Award for her contribution to advancing reconciliation between Indigenous and non-Indigenous Australians during her PhD work. Sue has worked as a technical advisor in the development of guidelines, competencies and protocols for the clinical setting in reproductive health and maternity services. International experience includes working as a midwife in South Africa and midwifery consultancies in Indonesia and Mongolia.

Karen MacKinnon
University of Victoria, British Columbia

Karen MacKinnon, RN MScN PNC(C) PhD, is currently an Assistant Professor in the School of Nursing at the University of Victoria and is a certified Perinatal Nurse. She recently completed a Postdoctoral Research Fellowship at the Centre for Rural Health Research in Vancouver and is studying rural nurses' experiences with providing maternity care in a variety of rural practice settings across BC. She received her PhD in Nursing at the University of Calgary in 2005 where

her doctoral dissertation examined the social determinants of women's preterm labour experiences. Karen is building a research program that focuses on social justice issues affecting rural health, women's childbearing experiences, and perinatal nursing practice. She has also been involved in research about women's experiences of the nurse's presence during childbirth; the effects of hydrotherapy (water immersion) on women's discomfort/labour pain; continuity of care; early postpartum discharge and infant crying. She has also represented nursing on SOGC Council and has a strong interest in interprofessional education and collaborative practice.

Kate Miller
Society of Rural Physicians of Canada

Kate Miller is a rural physician who has been practicing OB and ER in southwestern Ontario for the past 10 years, currently in Strathroy. She is chair of the Maternal Newborn Care Committee, Society of Rural Physicians of Canada, and loves to teach in general and inspire more students and residents to consider OB in particular.

Shiraz Moola
Obstetrician, Nelson, British Columbia

Shiraz Moola, MD, FRCSC, is currently a solo Obstetrician/ Gynaecologist practicing in Nelson, British Columbia. After completing an undergraduate medical degree at Queens University, he completed a postgraduate residency at the University of Toronto. During that time he had the opportunity to train and perform research in rural Zimbabwe and in South Africa. Following his residency he provided consultant care in the Yukon, Northwest Territories, and Nunavut. He then worked as a surgical associate in the division of gynaecology oncology at the University of Western Ontario before returning to the Arctic. Serendipity brought him to the Kootenays to take up his current post. He continues to pursue research as a co-investigator with the Rural Maternity Care New Emerging Team (RM-NET). His other research interests include critical care obstetrics, health outcomes research. His clinical interests include ultrasound, minimally invasive surgery and oncology. He has two children, Rohan and Khalil that remain happily growing concerns.

John O'Neil
Simon Fraser University, Burnaby, British Columbia

John O'Neil has been Dean of the Faculty of Health Sciences at Simon Fraser University (Burnaby, BC) since September 1, 2007. Previously he was Director of the Manitoba First Nations Centre for Aboriginal Health Research and Professor and Head of the Department of Community Health Sciences in the University of Manitoba's Faculty of Medicine. Dr. O'Neil's work has been primarily in the area of Aboriginal health. He has published more than 120 papers and reports on a variety of aboriginal health issues, including self-government and health system development, cultural understandings of environmental health risks, and social determinants of health disparities. Dr. O'Neil's work in this area was recognized by his appointment as a CIHR Senior Investigator and as the founding Chair of the Advisory Board for the Institute for Aboriginal People's Health at the Canadian Institutes for Health Research from 2000 to 2006. He has

worked as well on global Indigenous health issues in circumpolar regions, Australia and Latin America. More recently Dr. O'Neil has become involved in HIV/AIDS prevention in low- and middle-income countries.

Jean Patterson
Otago Polytechnic University, Dunedin, New Zealand

Jean Patterson brings you warm greetings from New Zealand where she has lived and raised a family whilst practising midwifery in a variety of rural settings. She retains a passionate interest in the subject area of rural birth and this has been the inspiration for her masters and doctoral research. However, she is a semi-city girl now living on the hills above Port Chalmers near Dunedin. For the last ten years she has been working as a senior lecturer and learning along with undergraduate and postgraduate midwifery students at the School of Midwifery in Otago.

Rose Perrin
Regional MoreOB Program Coordinator, Northern Health Authority

Rose Perrin is the Regional Coordinator for Perinatal, Child, and Youth Planning for the Northern Health Authority (NHA) and the MoreOB Program Coordinator. Her background in obstetric nursing, education, and professional development has depended on collaborating with key stakeholders in perinatal care to develop evidence based, multidisciplinary programs that address rural maternity services. Over 20 years of nursing experience in Northern British Columbia has contributed to Ms Perrins' astute awareness of the gaps that exist between care provision and decision making at the policy level. By developing integrated strategies for knowledge translation and building strong relationships with stakeholders, she contributes to the evidence-based development of perinatal services that are responsive to client and care provider needs and accountable to regional and provincial administrative bodies.

Kris Robinson
Winnipeg, Manitoba

Kris Robinson, BScN, RM, MSc, is a registered midwife, registered nurse, and the current chairperson of the Canadian Midwifery Regulators Consortium (CMRC). In 2004-2006 she co-chaired the Ministerial Working Group on Maternal and Newborn Services in Manitoba. She represents central Canada on the midwifery advisory committee of the SOGC and currently works as the Clinical Midwifery Specialist for the Winnipeg Regiona; Health Authority.

Judy Rogers
Ryerson University, Ontario

Judy Rogers is Director of the Midwifery Education Program at Ryerson University. She has been a practising midwife since 1978, and has worked in England, Nova Scotia, Ontario, and Inuk-

juak, Quebec. She has also been the Principal Investigator for a PHCTF project, Integrated Maternity Care for Rural and Remote Communities.

Karl Stobbe
President, Society of Rural Physicians of Canada

Dr. Karl Stobbe is the president of the Society of Rural Physicians of Canada and for the past two decades, has practiced and taught rural family medicine in Beamsville. Karl developed a rural stream of training for Family Medicine Residents at McMaster University. From 2005-07, Karl led the Expansion Planning Team for the Michael G. DeGroote School of Medicine at McMaster University where he developed medical campuses in the Waterloo and Niagara regions. Since then he has served as Regional Assistant Dean of the Niagara Regional Campus. Internationally, Karl has worked to develop medical education in Laos, Iraq, Nepal and the Philippines.

Susan Stratigos
Rural Doctors Association of Australia

After graduating from the University of Sydney, Susan Stratigos worked in history, political science and development studies in Jamaica, Australia and Papua New Guinea before joining the United Nations Centre for Social Development and Humanitarian Affairs in Vienna in 1988. During this time she was seconded to WHO in Geneva and Mauritius as a regional advisor. Subsequently Susan worked as a consultant for a number of UN bodies including UNIDO and the ILO. She returned to Australia in 1992 and took up a position in Queensland Health where she later became Women's Health Advisor. Her major achievement in this role was the award winning Domestic Violence Initiative, which introduced systematic screening into antenatal clinics. From 1998-2000 Susan also taught Health Policy and Planning in the School of Public Health at the Queensland University of Technology. Susan was appointed Policy Advisor to the Rural Doctors Association of Australia (RDAA) in their national secretariat when that position was established in 2001. Her work there had a particular focus on rural maternity services, procedural medicine, rural specialists, program review and evaluation, and issues for female doctors. Since retiring from RDAA in December 2008, Susan has continued to work on various aspects of support for the rural specialist and procedural medical workforces and issues for rural women. She is a member of the national Expert Advisory Committee for the Development of Evidence Based Guidelines for Antenatal Care and is about to begin work on consumer responses to rural obstetric locum services.

Karen Vida
BC Perinatal Health Program, Vancouver

Karen Vida possesses 27 years experience as a perinatal/neonatal nurse planner/ administrator. Currently she holds the positions of Provincial Director of the British Columbia Perinatal Health Program and Administrative Transport Program Director. She is widely recognized

as an excellent administrative leader fostering a woman- and family-centred approach for provincial perinatal planning. Prior to her director appointment to the BC Perinatal Health Program in April 2008, she held the role of BC Provincial Director of Provincial Specialized Perinatal Services (2003-2008). She has demonstrated success in the development of key perinatal partnerships across the province, inclusive of the Ministry of Health Services and Ministry of Healthy Living and Sport.

Brenda Wagner
Medical Director, BC Perinatal Health Program, Vancouver

Brenda Wagner, MD, is a practicing Obstetrician-Gynecologist who currently works as the Medical Director of the BC Perinatal Health Program and as a physician planning lead for Vancouver Coastal Health. Her first experience with rural maternity care was flying to isolated communities in BC to help transport women who urgently needed a higher level of care in pregnancy. When she began working in a regional capacity in perinatal health she began to understand better the complexities and the difficulties in delivering safe maternity care in rural areas.