

Contributions of Midwives to Perinatal Health Surveillance in Ontario

Invitational Gathering
Birthing and Midwifery
May 2008

Acknowledgements

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Objectives

- To briefly review the history of the Ontario midwifery database
- To describe the current state of perinatal surveillance in Ontario
- To outline initiatives underway to enhance and expand the collection and use of perinatal data in the province and Canada
- To discuss how high quality data can be used to improve planning and the coordination of the delivery of maternal-newborn care
- To report outcomes of Ontario midwifery services

Midwifery Data – History

- In 1994, Ontario was first province in Canada to regulate midwifery but no database was established in conjunction with the funding program.
- The Association of Ontario Midwives initiated data collection process but voluntary nature (70% participation) prevented reliable data for sensitive indicators
- Ministry studied feasibility of comprehensive data system with multi-stakeholder participation in 2001-02.
- April 2003 – introduction of ministry-funded mandatory ministry system of manual entry and validation of clinical/financial/utilization data (incorporating AOM indicators)
- August 2005 – launch of web-based access to data via a reporting and analysis tool (Metrics3D)
- September 2006 – online data entry and processing
- March 2008 – four full years of clinical/financial/utilization data available

Midwifery Database Indicator Components

Administrative Details

- MPG/TPA Information
- Billing Information
- Provider Information
- Client details - GA
- Service dates

Infant Health

- feeding
- conditions/complications
- hospital care
- consultations/ToC

Maternal - General

- age
- location
- smoking
- obstetric history
- visit profile

Infant - Neonatal

- Apgar 1, 5
- birthweight
- resuscitation
- congenital anomalies
- hospital details
- neonatal death
- infant hearing screen

Maternal - Antepartum

- prenatal visit
- multiple gestation
- miscarriage/abortion
- Group B Strep

Infant - Birth

- date/time
- mode
- presentation
- indications

Maternal - Intrapartum

- labour type
- induction/augmentation
- indications
- pain relief
- episiotomy/laceration
- birth location
- hospital admission date/time

Maternal - Postpartum

- discharge date/time
- maternal conditions/
complications
- hospital care, consultations
and ToC

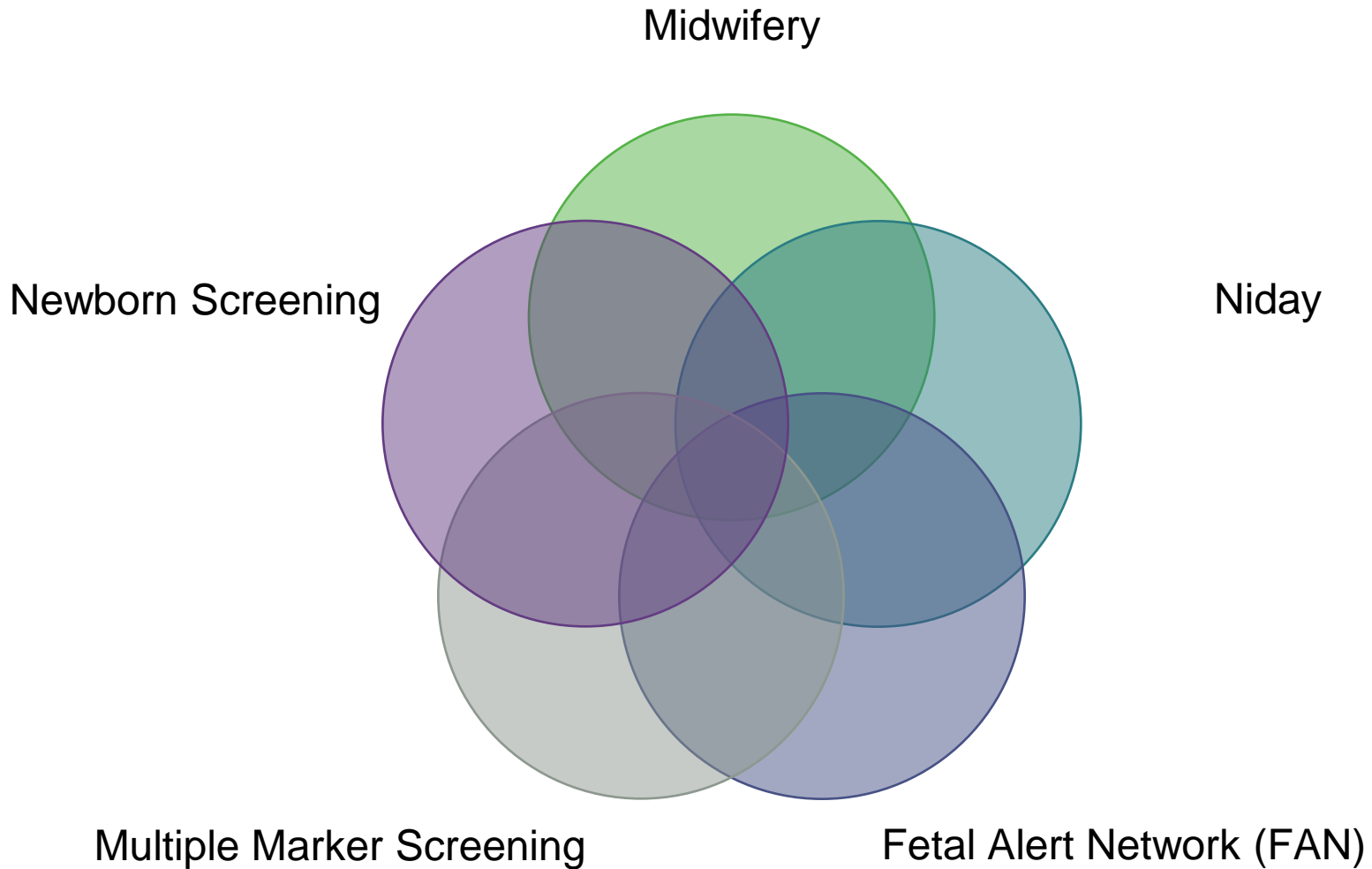
Current state of perinatal surveillance in Ontario

Ontario Perinatal Surveillance System (OPSS) Membership

- **Mr. Jim Bottomley**
- **Dr. Pranesh Chakraborty**
- **Ms. Liz Darling**
- **Mr. Paul Fleiszer**
- **Ms. Wendy Katherine**
- **Dr. Peter Kim**
- **Ms. Ann Mitchell**
- **Dr. Renato Natale**
- **Dr. Terry O'Driskoll**
- **Dr. Arne Ohlsonn**
- **Dr. Anne Summers**
- **Dr. Mark Walker**



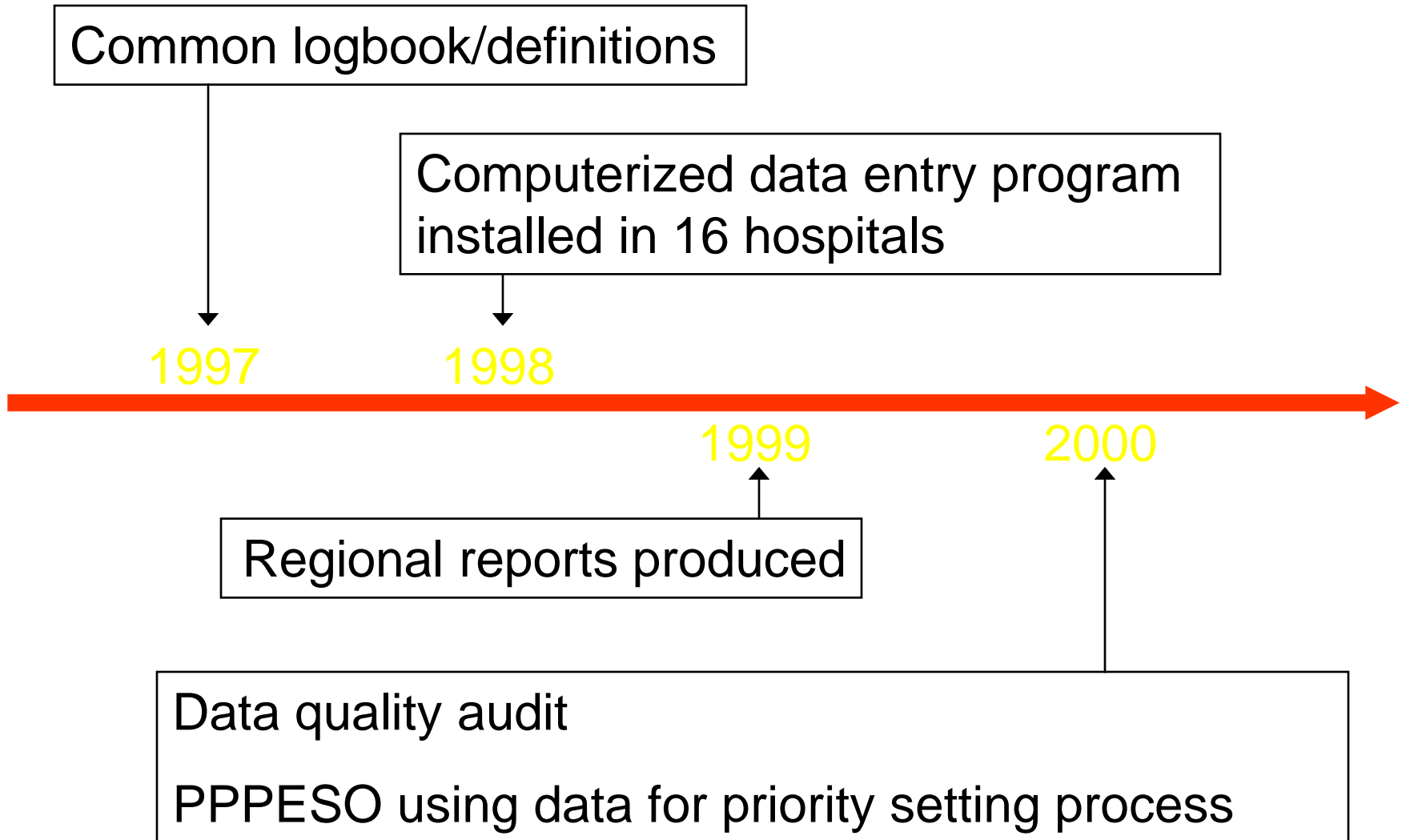
OPSS Program Partners



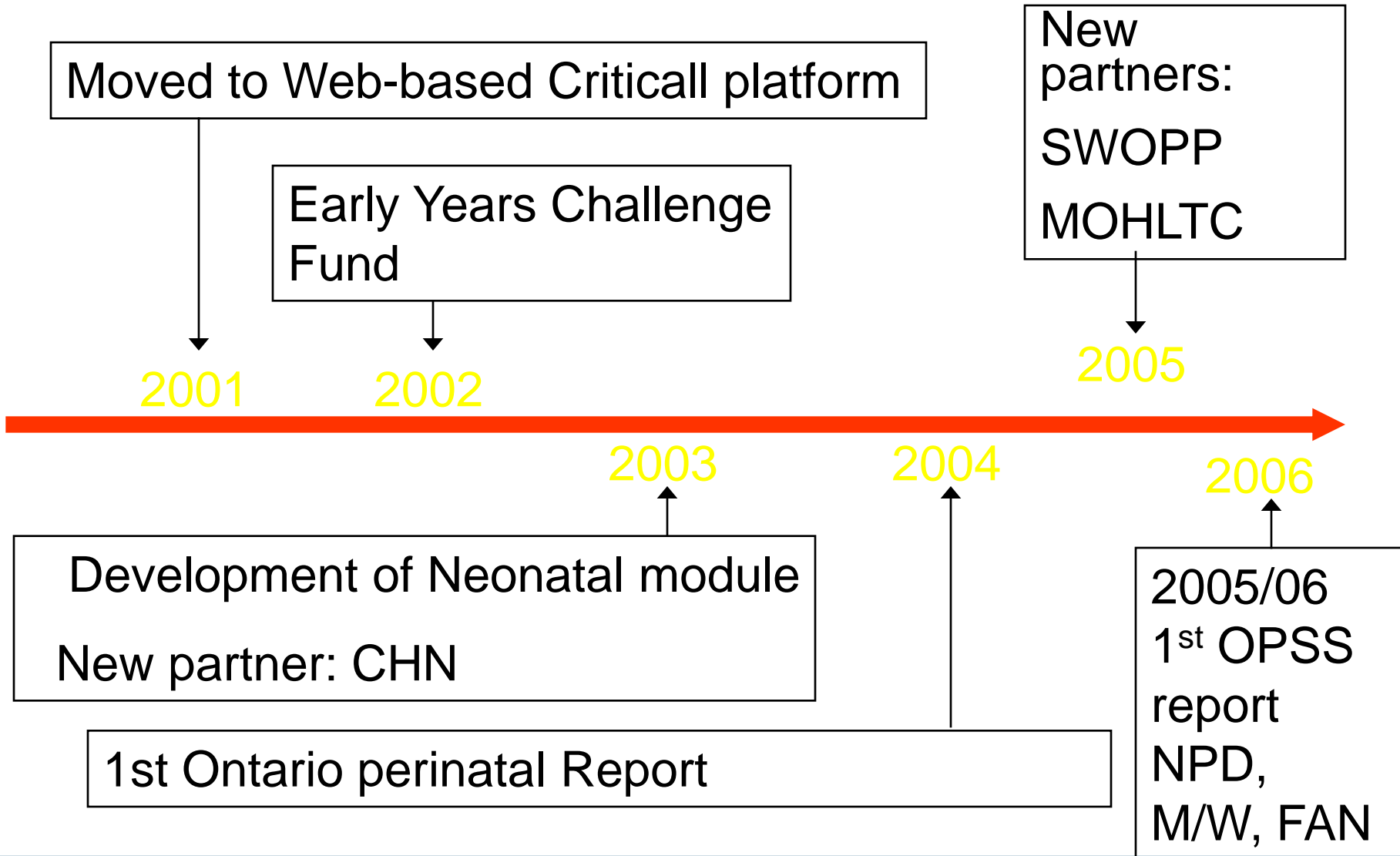
Niday Perinatal Database

- **Developed by PPESO**
- **Web-based database**
- **95% of births in Ontario**
- **“Real-time” perinatal data**
- **Partnership with hospitals, midwives and public health units**
- **Program management, benchmarking, CQI, planning, evaluation and research**
- **Funded through Ontario Midwifery Program**

History and Evolution of Niday



...History and Evolution of Niday



Fetal Alert Network

- To improve the **access quality** and **delivery** of health care for pregnant woman whose babies are diagnosed with birth defects
- Clinical care
- Outreach and education
- Surveillance
- Research



Ontario Maternal Multiple Marker Screening Database

- The repository of prenatal screening data for the province since 1993
- Dependent on input from multiple sources – labs, clinics, hospitals, MOHLTC
- Includes information on patient demographics, pregnancy details, test and interpretation results, counseling, cytogenetics and ultrasound, birth outcomes
- Evaluation of screening tests, regional and provincial programs.
- Generate hypotheses and perform research

Courtesy Anne Summers

Newborn Screening

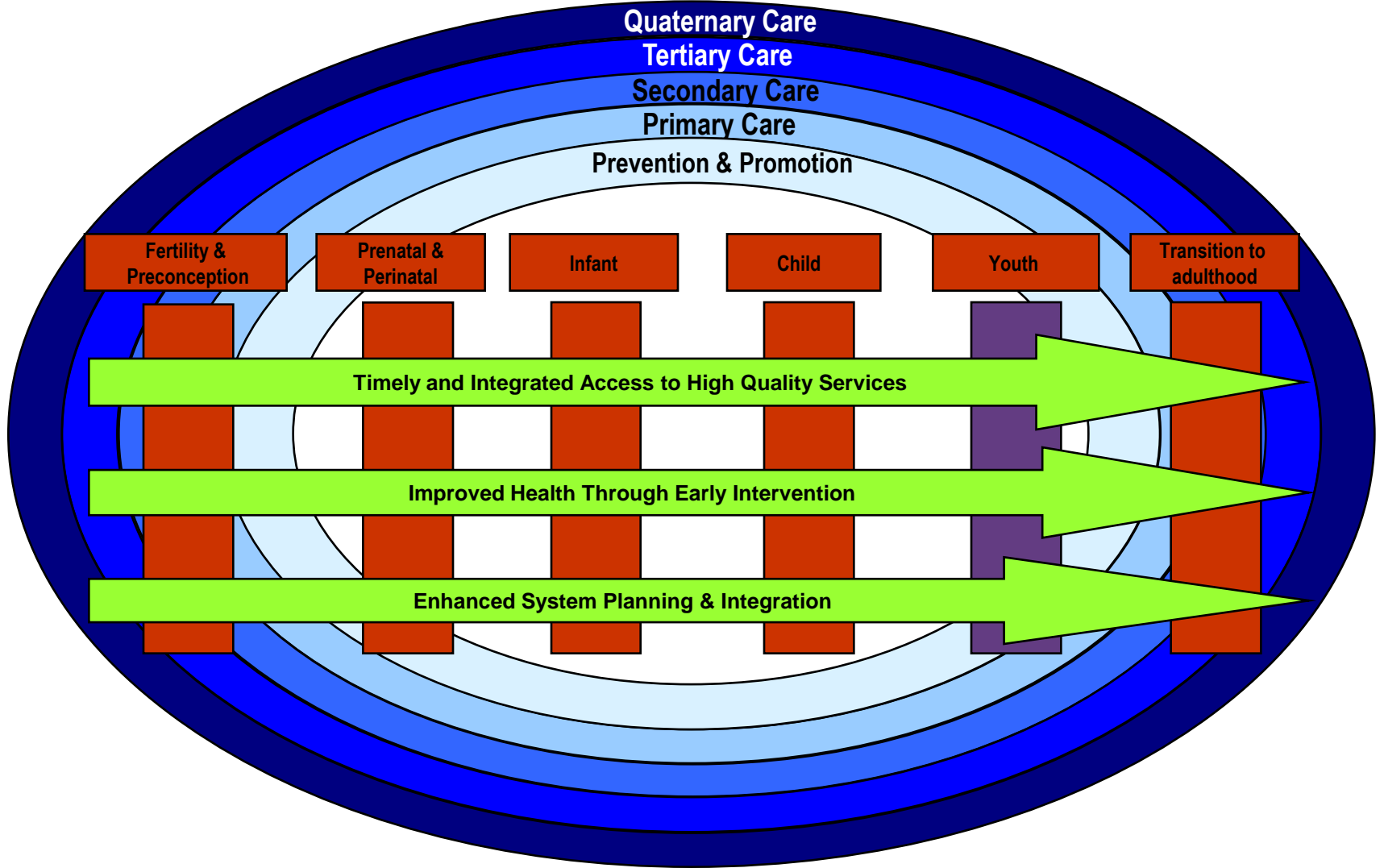
- Population based attempt to identify disorders in neonates that, if undetected, would lead to mental retardation or have life-threatening consequences and where treatment is available.”
- Targets 28 diseases:
 - Inborn errors of metabolism (e.g. PKU, MCAD)
 - Congenital hypothyroidism
 - Congenital adrenal hyperplasia
 - Sickle Cell disease
 - Cystic Fibrosis

A review of existing maternal-newborn data holdings funded by the Ministry of Health reveals that:

- **There are many rich sources of data, however:**
 - There is duplicate data collection
 - Data element definitions are misaligned
 - There are few appropriate and timely health system planning and accountability measures
 - There is little data linkage
- **Partnership is needed to ensure a comprehensive data solution that will effectively support the activities and goals of the emerging strategy**

Initiatives underway to enhance and expand the collection and use of perinatal data:

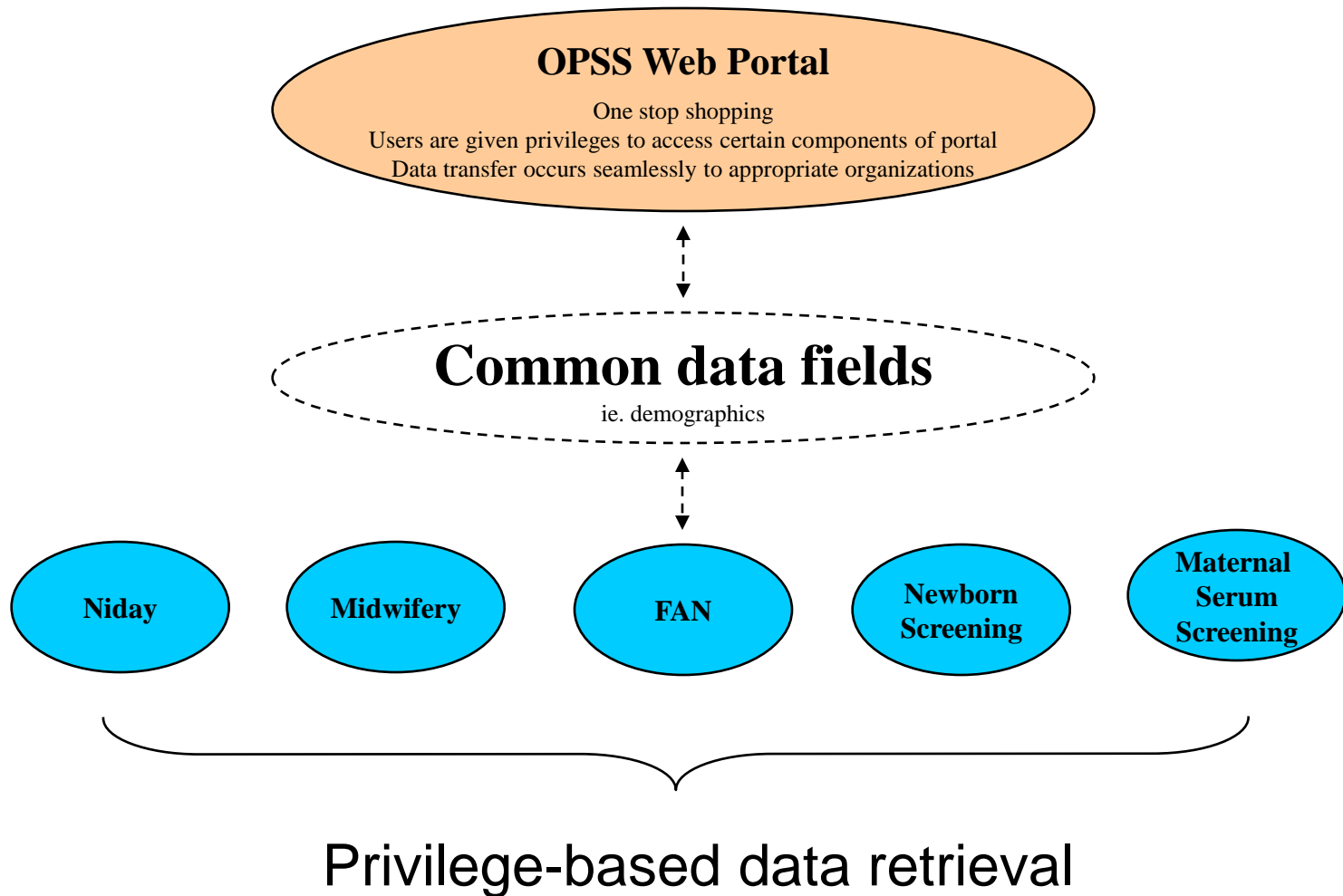
Ontario's Proposed Maternal, Child and Youth Health Strategy



The comprehensive data solution will:

- **Support evidence-based strategy development and implementation**
- **Provide high quality data that supports innovative health planning and health system management / evaluation**
- **Eliminate redundancies and enhance efficiency**
- **Mandate data standards**
- **Improve linkages between data holdings**
- **Track individuals through the “continuum of care”**
- **Support research and innovation**

OPSS Data Vision



OPSS Deliverables

- **Reduce Duplication**
- **Allow one point of data entry**
- **Appropriate access for users**
- **Privacy Status**
- **Design, develop and implement portal system**
- **Birth registration**

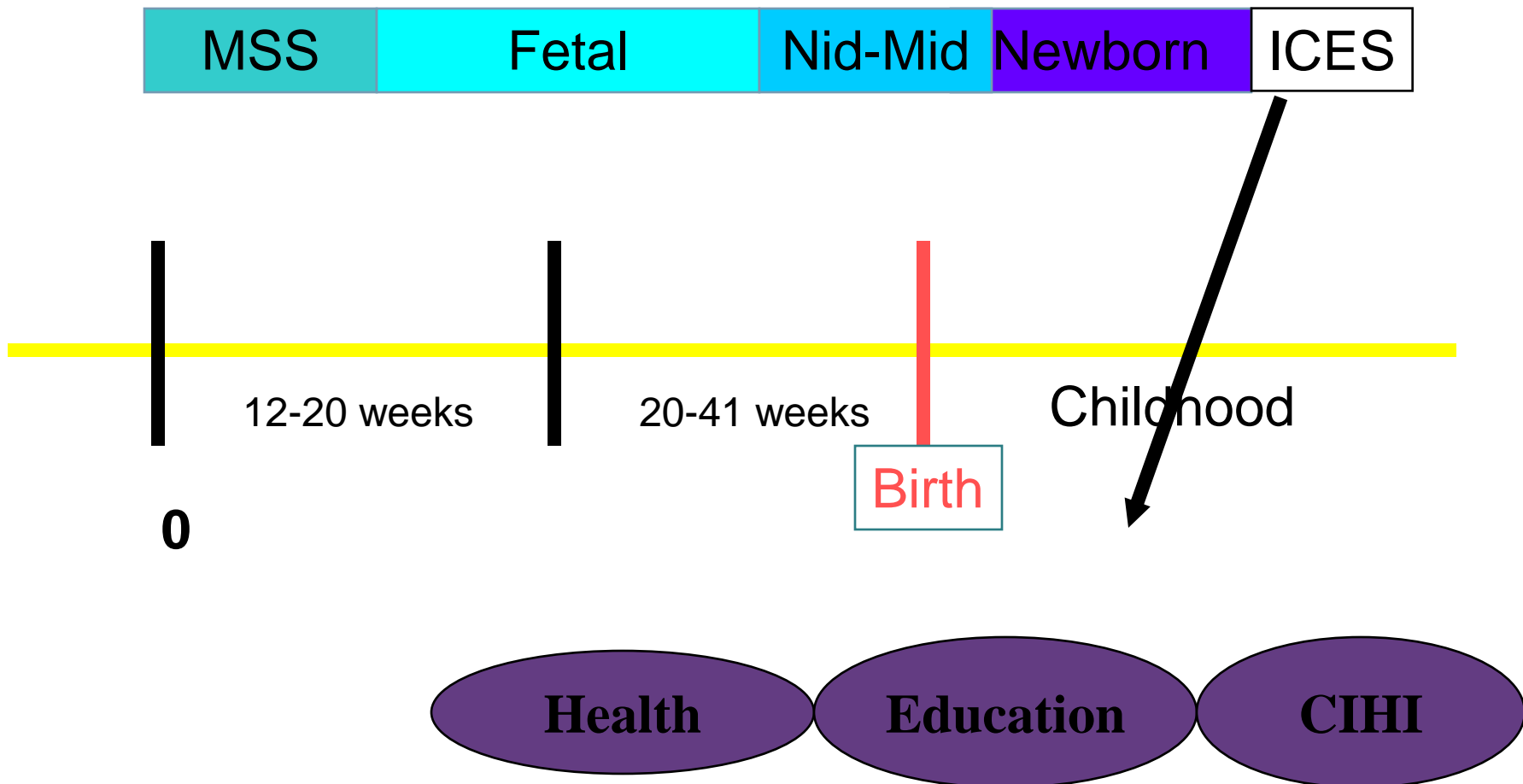
How does Ontario compare with Canadian Perinatal Surveillance System

- Real time data (not vital stats and CIHI)
- More robust variables
- Able to tract anomalies less than 20 weeks
- CIHI has no information on newborn screening or prenatal screening
- Birth registration and vital stats issue in Ontario
- Need unique identifier for linkage

High Quality Data can Improve Planning and Coordination of the delivery of care

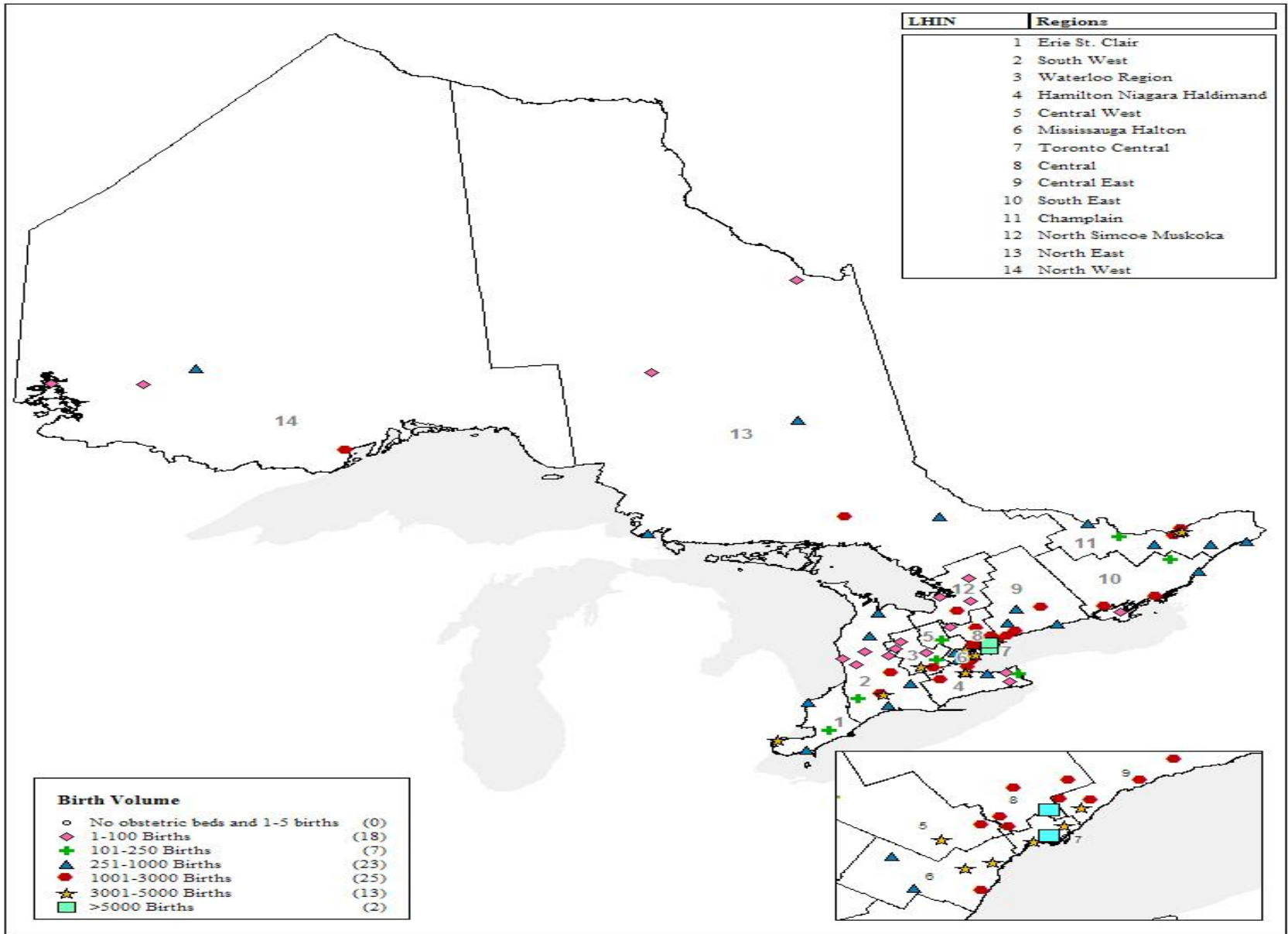
- **Indicator Reporting**
- **Quality Improvement**
- **Health Services Planning**
- **Clinical research**
- **Potential for longitudinal population health research**

Health Services Research



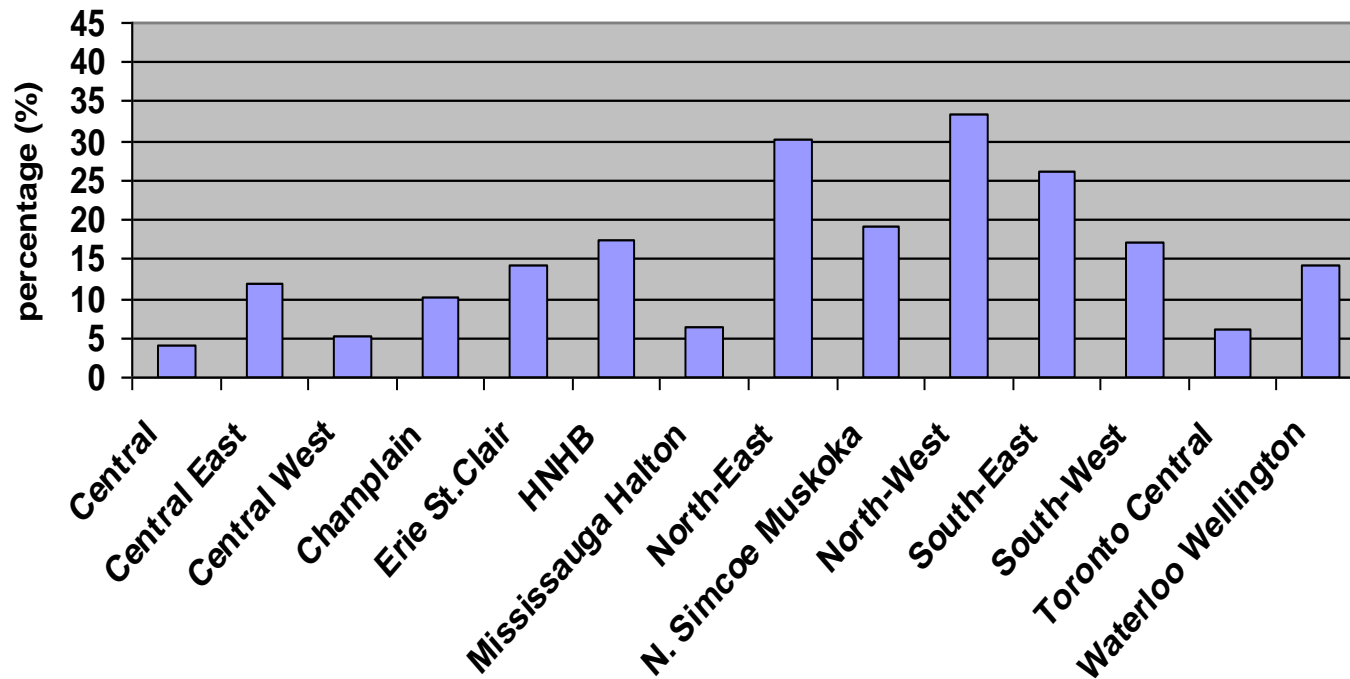
Examples of Ontario Perinatal Outcomes and Midwifery Services

Figure 1 - Ontario Hospitals with Intrapartum Services by Birth Volume 2006-07



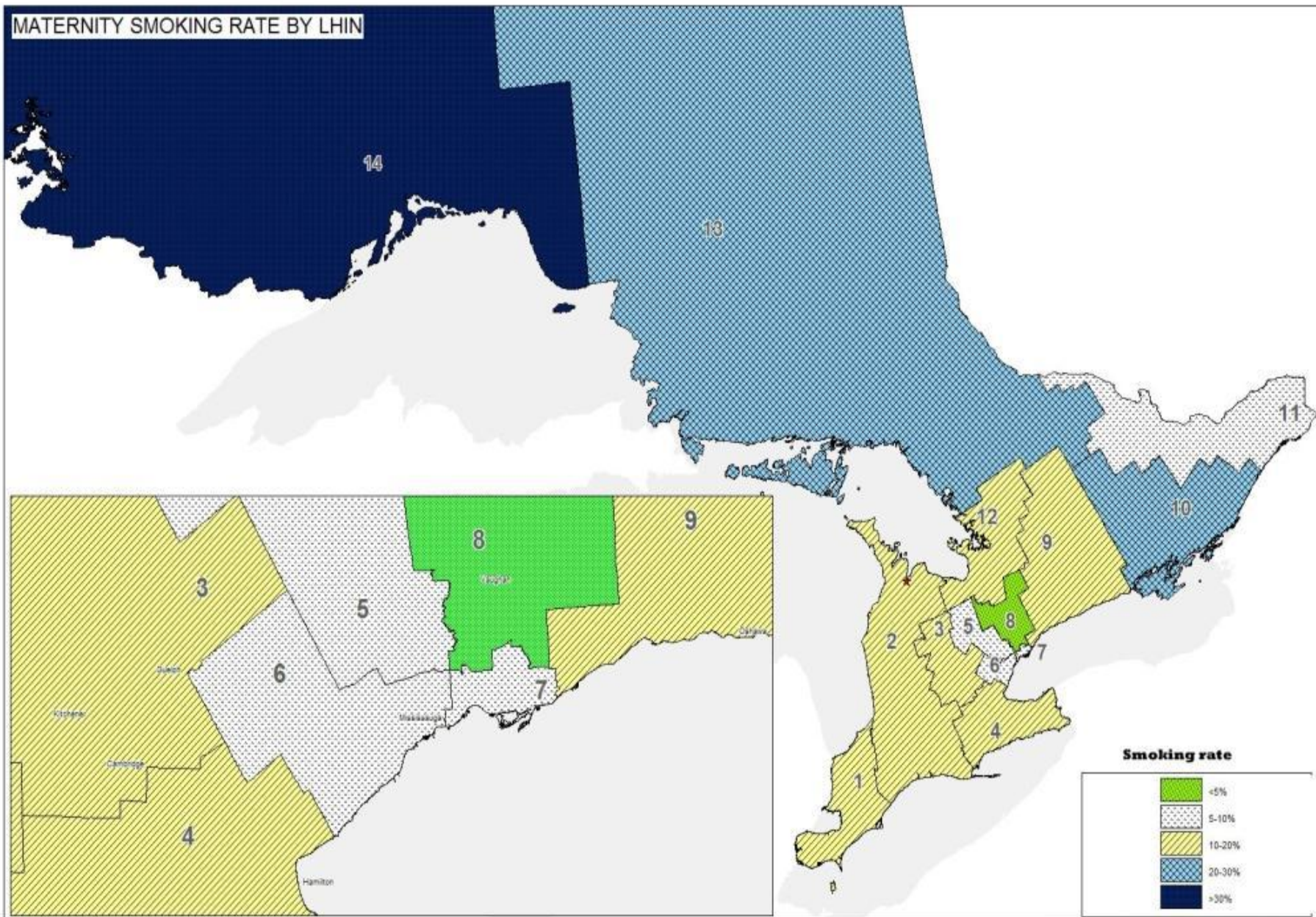
Source: Ontario Midwifery Program February 2008

Self reported maternal smoking rate by LHIN

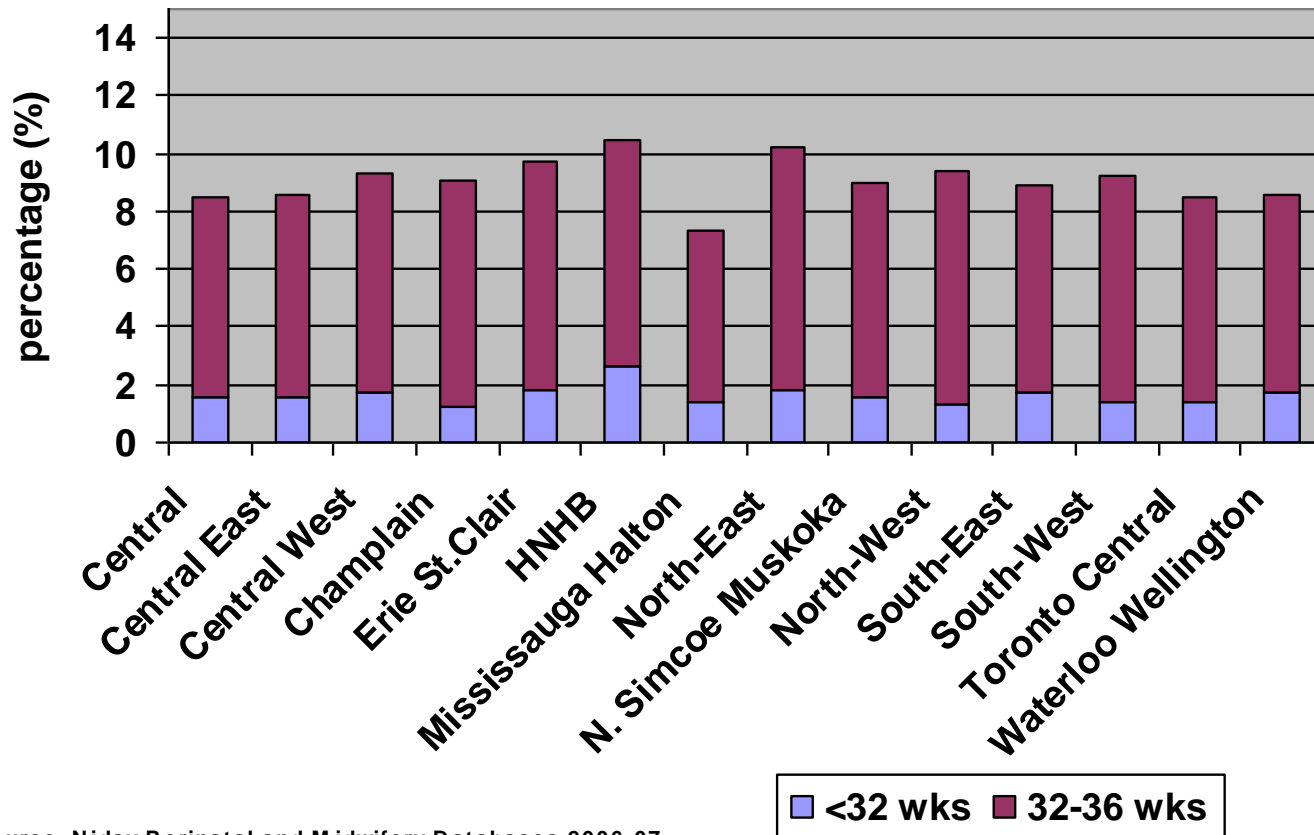


Source: Niday Perinatal & Midwifery Databases

MATERNITY SMOKING RATE BY LHIN

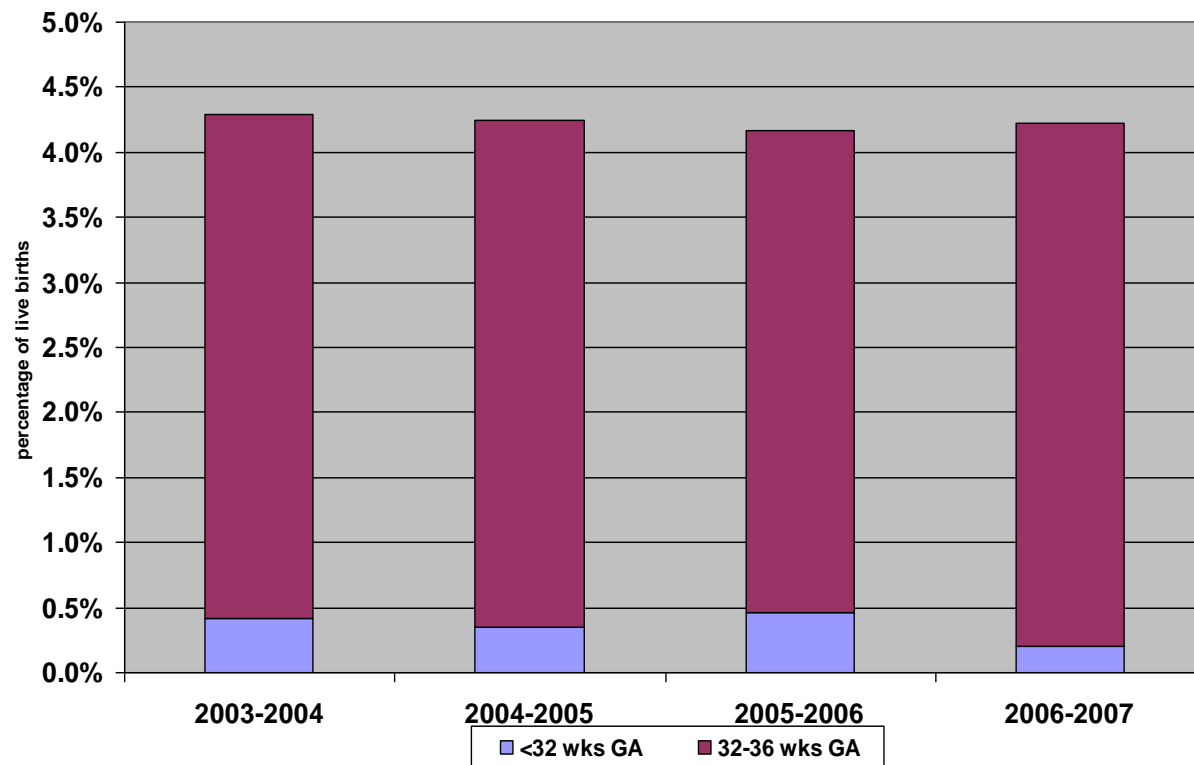


Preterm birth rate by LHIN - live births <37 weeks



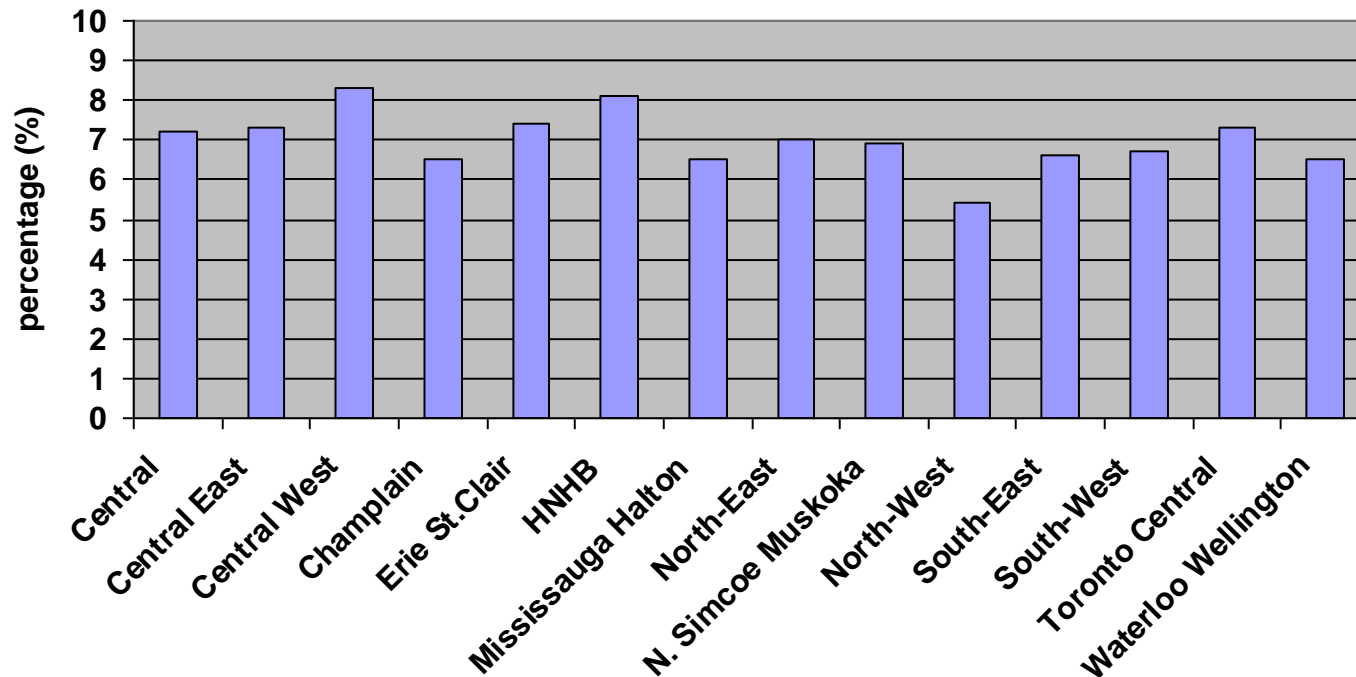
Source: Niday Perinatal and Midwifery Databases 2006-07

Preterm birth rate – midwife-attended live births



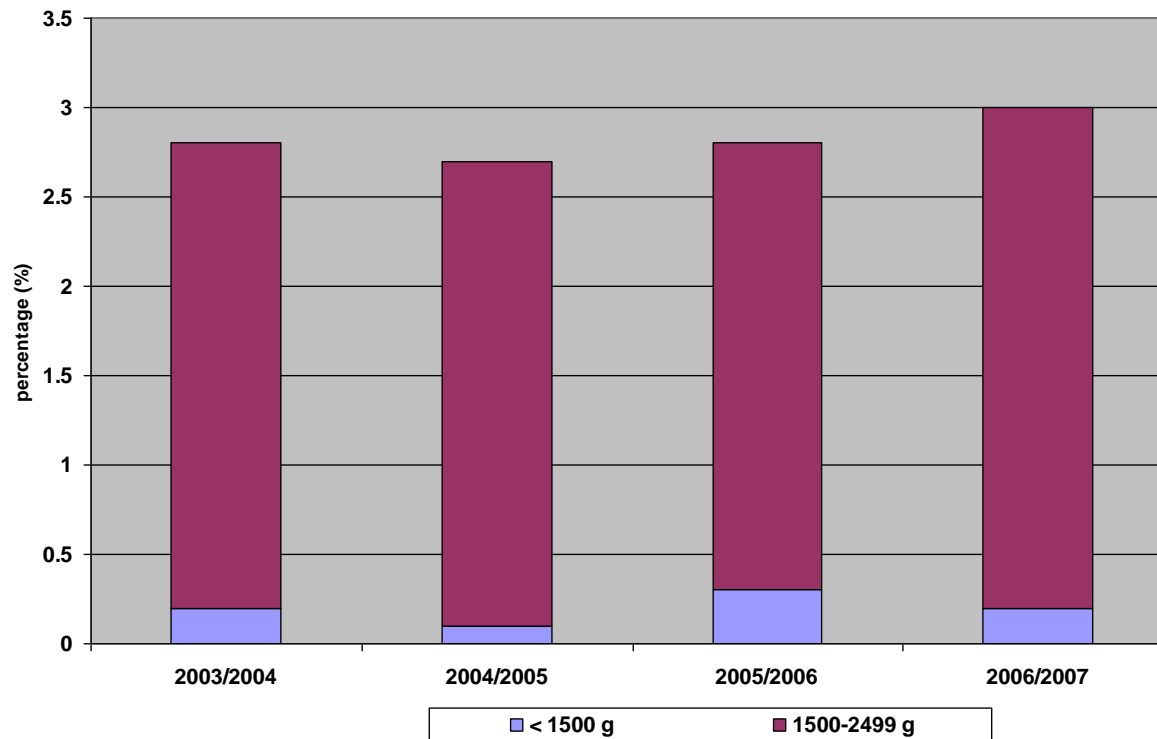
Source: Ontario Midwifery Program Database, Ministry of Health and Long-Term Care

Low birth weight rate by LHIN – live births <2500g



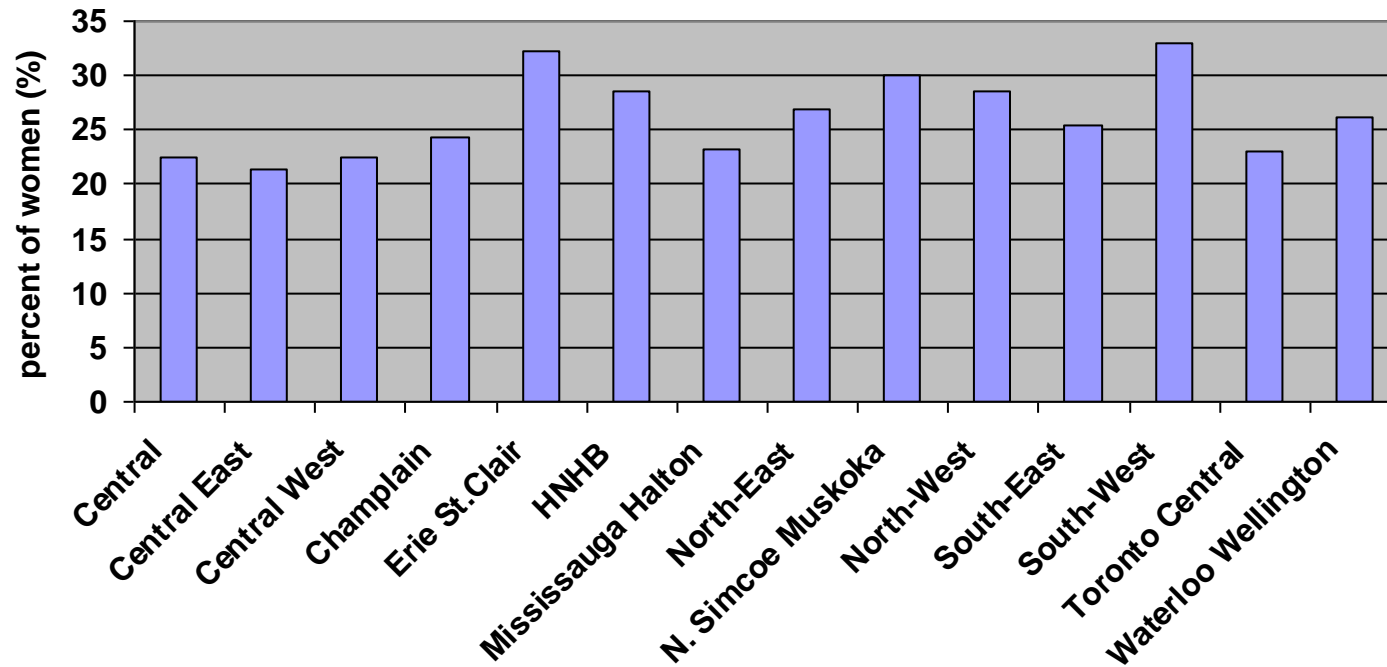
Source: Niday and Midwifery Databases 2006-07

Rate of low birth weight - midwife-attended births



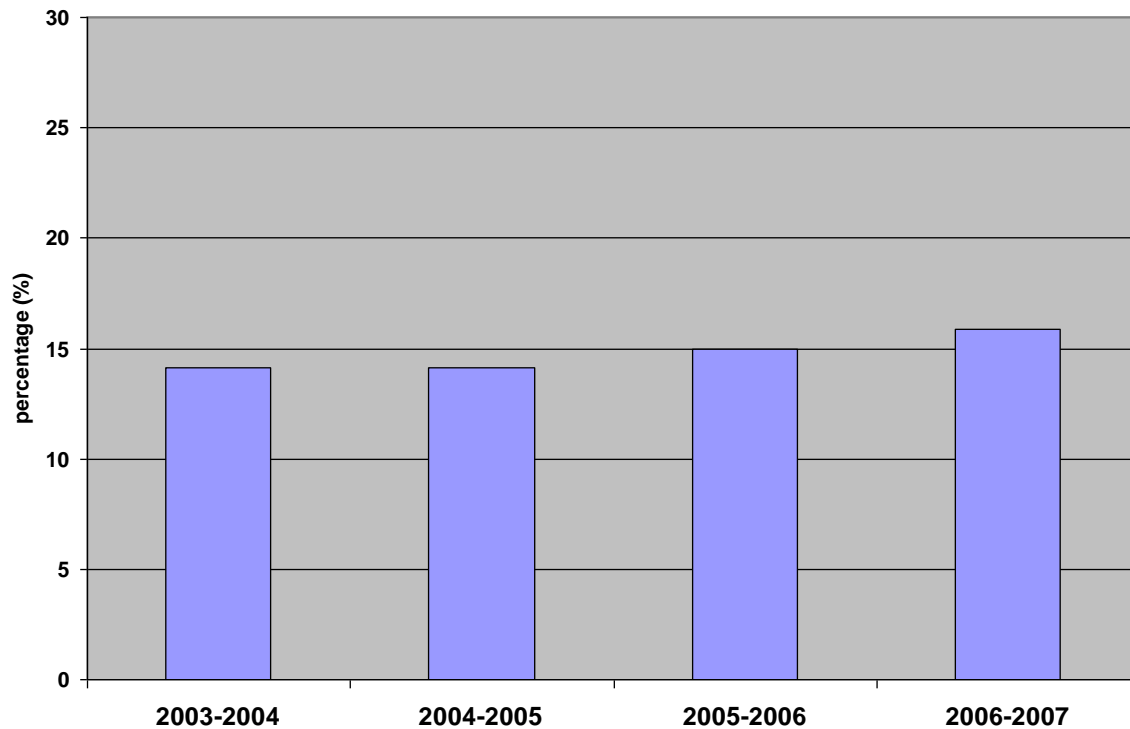
Source: Ontario Midwifery Program Database, Ministry of Health and Long-Term Care

Induction rate by LHIN - Ontario



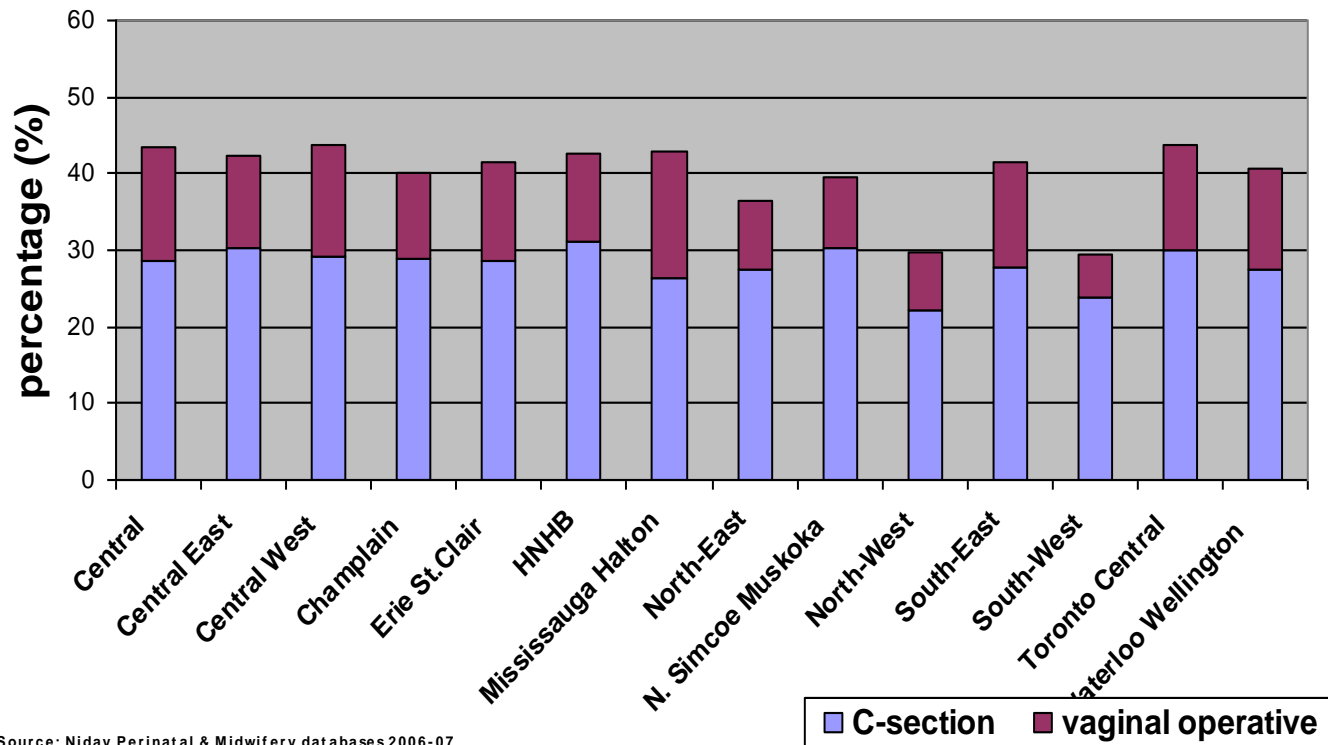
Methods: Amniotomy, Oxytocin, Cervidil, Cytotec/Misoprostol, Mechanical, Other
Niday and Midwifery Databases 2006-07

Induction rate - midwifery care in Ontario



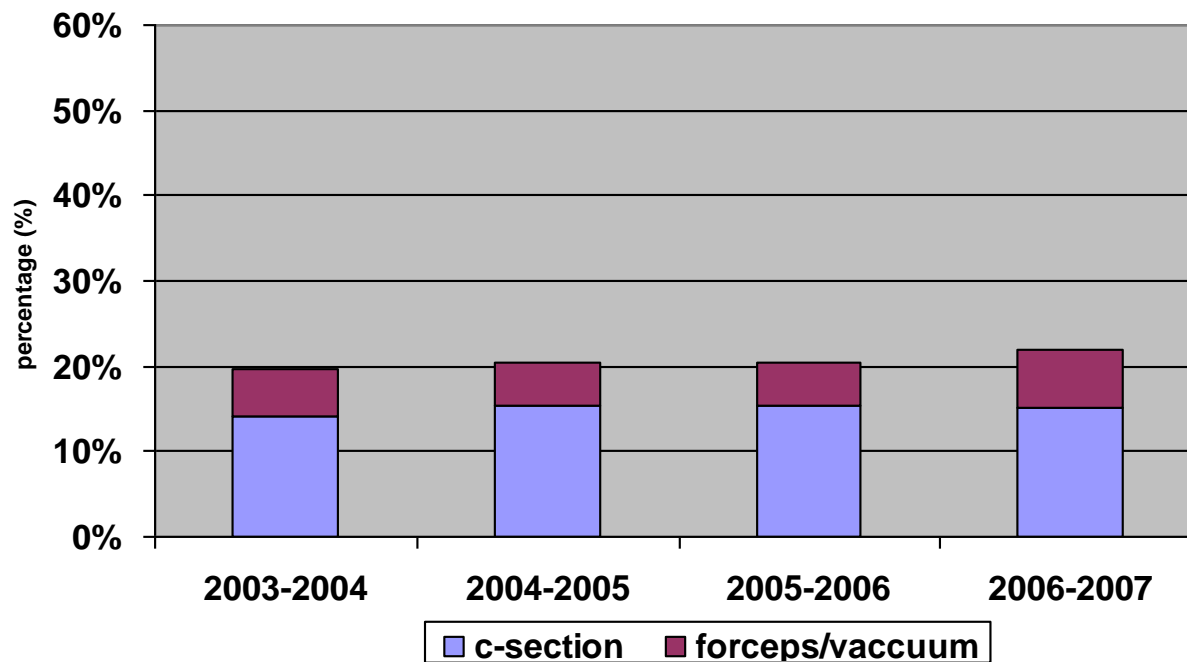
Source: Ontario Midwifery Program Database, Ministry of Health and Long-Term Care

Operative birth rate by LHIN



Source: Niday Perinatal & Midwifery databases 2006-07

Operative birth rate – live births in midwifery care



Source: Ontario Midwifery Program Database, Ministry of Health and Long-Term Care

Detailed feeding status on discharge by LHIN

