

Ontario Perinatal Surveillance System: OPSS

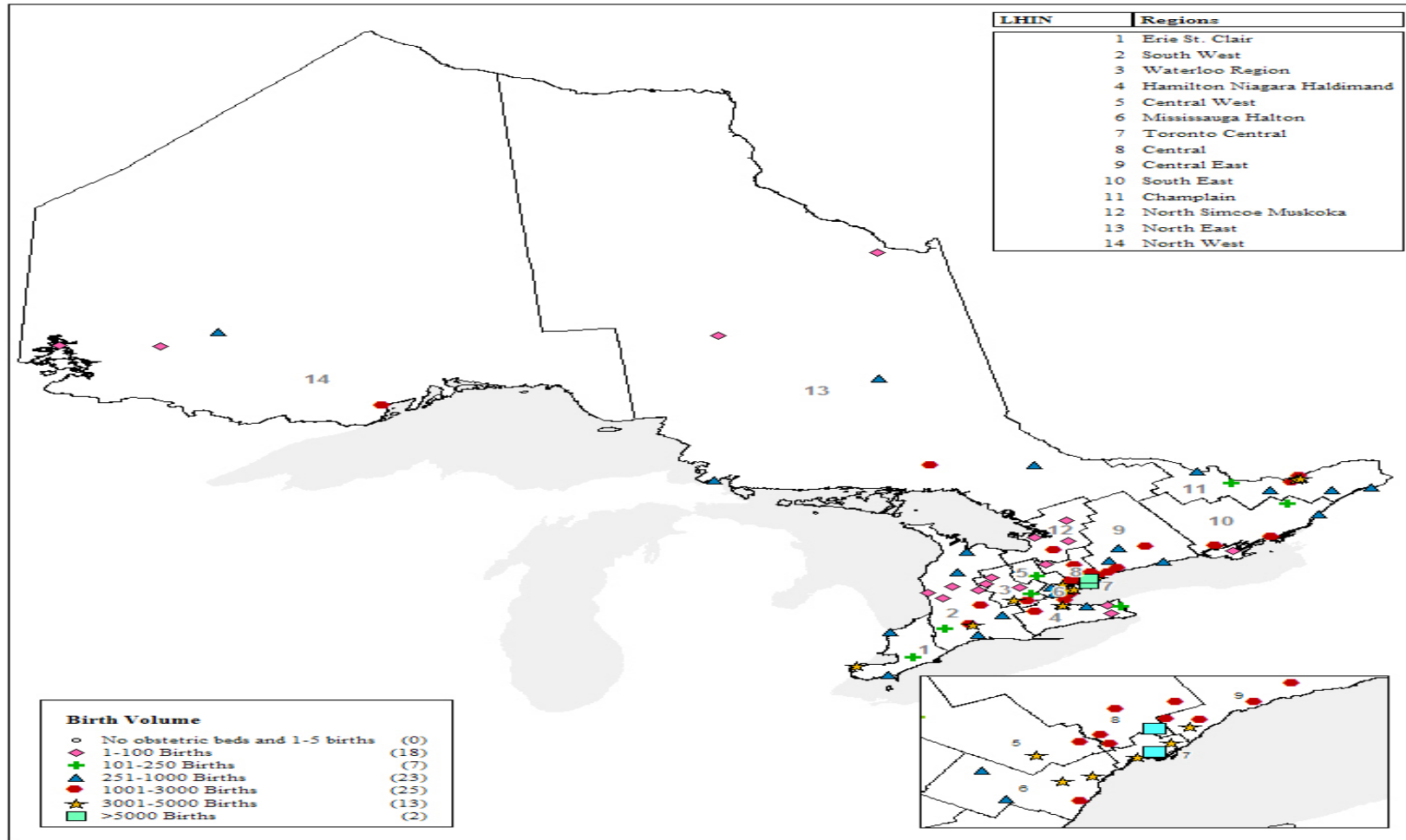
Wendy Katherine
Ministry of Health and Long-Term Care



Geography

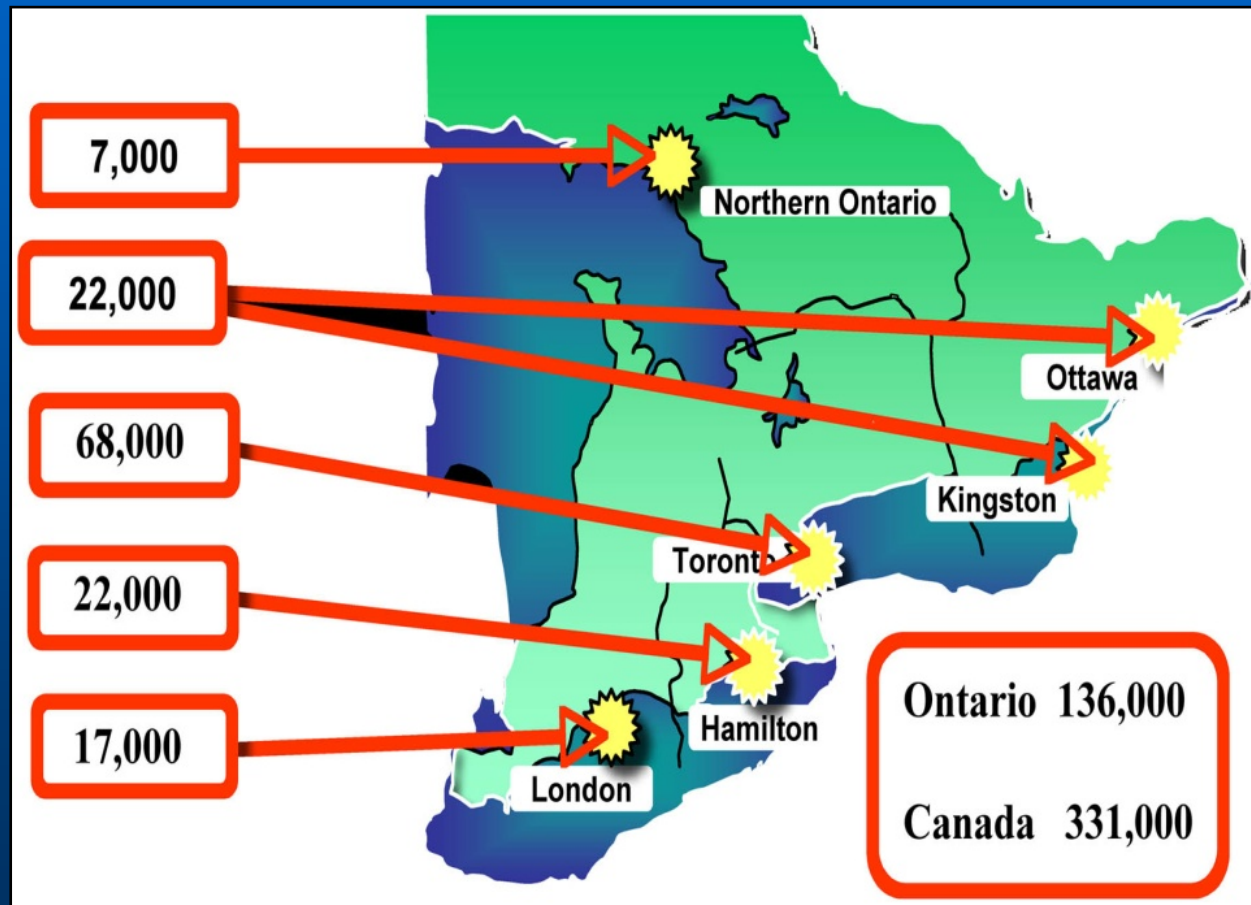


Figure 1 - Ontario Hospitals with Intrapartum Services by Birth Volume 2006-07



Source: Ontario Midwifery Program February 2008

Birth Volumes



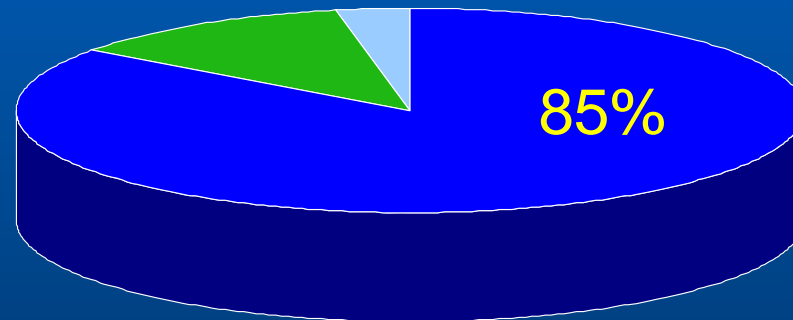
Population Risk Status



High-Risk

12% (~17,000)

3% (~5,000) x 2



~ 133,000 per year (~ 266,000)

An Optimal Surveillance System Contains:



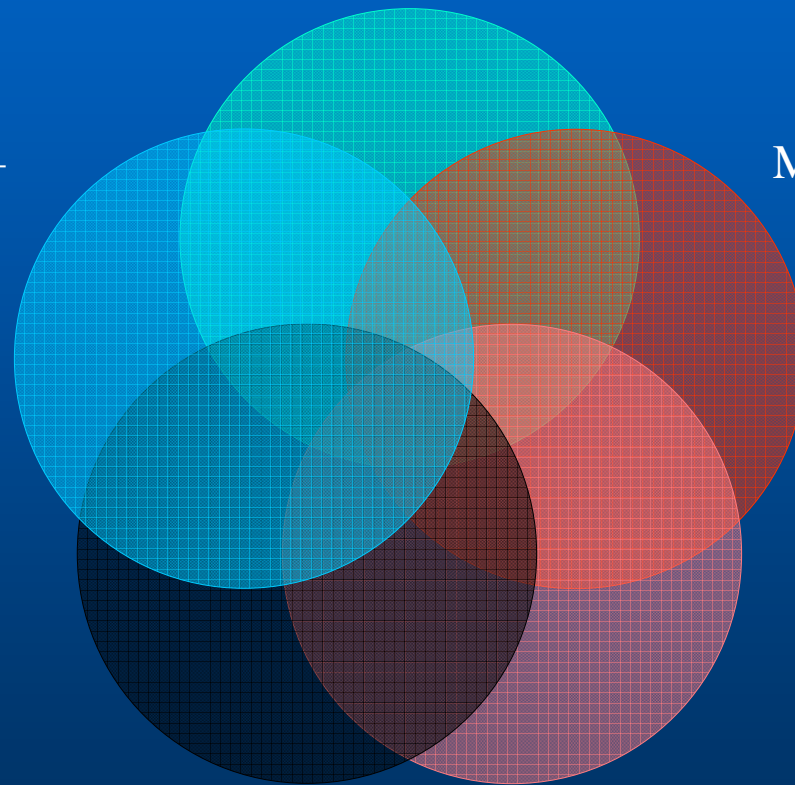
OPSS Partners



Niday Database—

Newborn Screening —

Midwifery Database—



Multiple Marker Screening —

Fetal Alert Network (FAN) —

OPSS PRIMED



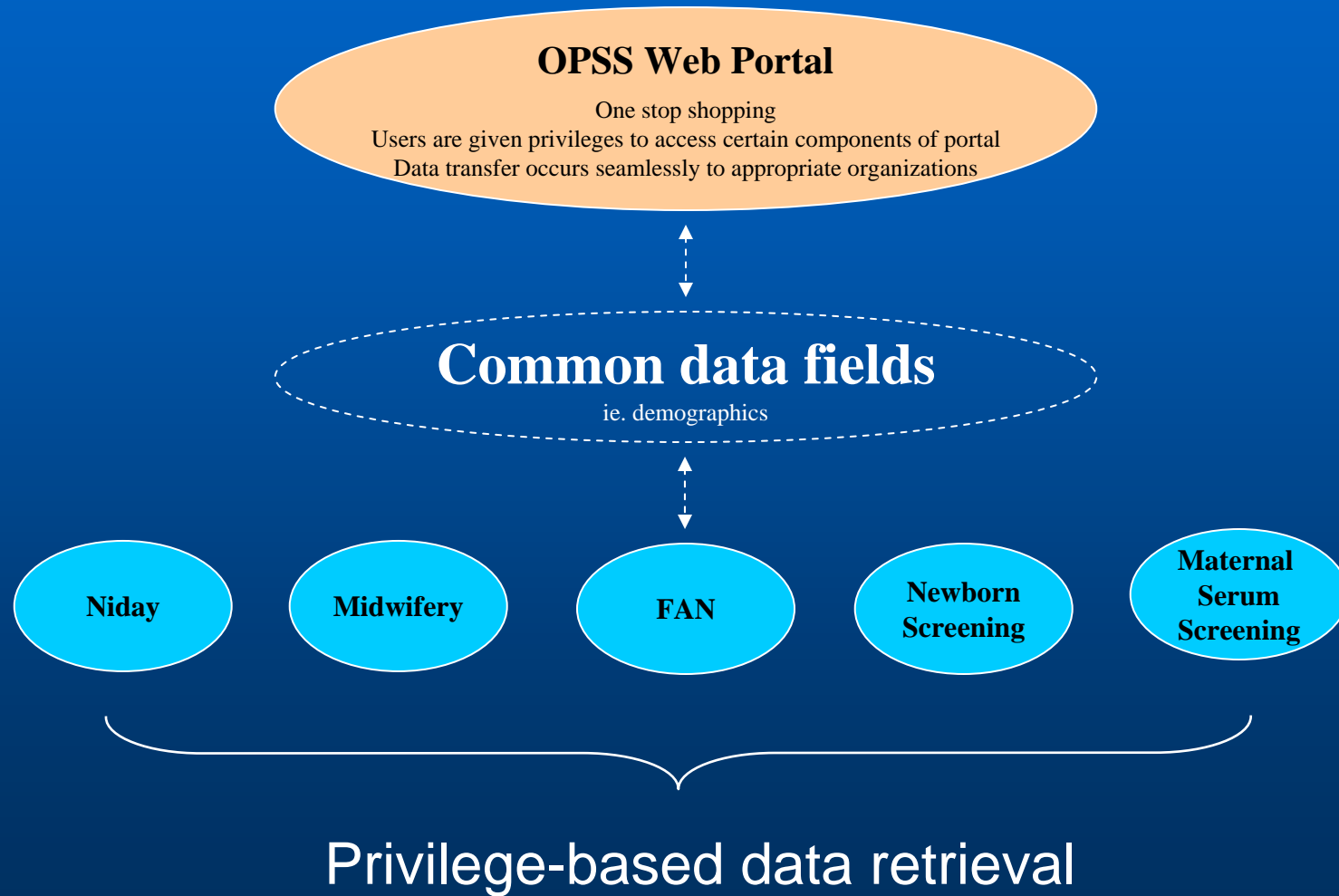
- **Perinatal Research and Information Management for Evidence based Decisions and Policy (PRIMED)**
- **Data support, Analysis and research group within OPSS**

OPSS Deliverables

- Capture data from 100% of births
- Develop integrated perinatal collection and reporting system
- Reduce duplication of data collection
- Develop and maintain a strategy to measure and report clinical and health improvement outcomes (PRIMED)
- Build partnerships with government, research community, practitioners and the public to provide protected access to data.
- Improve decision support for innovative strategies and service delivery policies



OPSS Data Vision



Health Services Research



OPSS Potential



- Maternal and perinatal surveillance
- Health Services Utilization
- Hospital Accountability
- Patient Safety
- Health Services and Outcomes-based Research
- Public health standards and public health practice

OPSS Surveillance

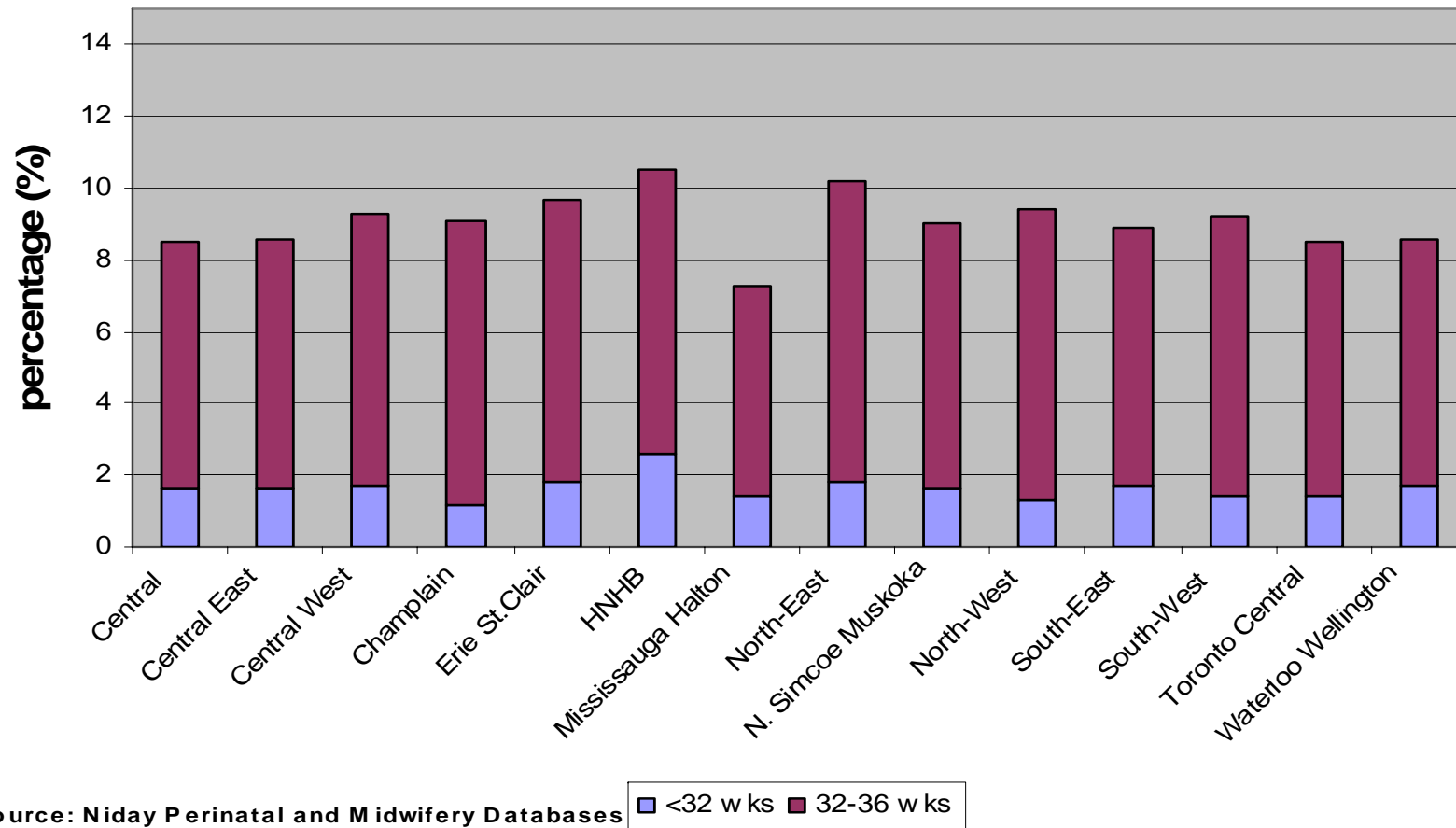


- Fetal and infant health outcomes
 - Preterm birth
 - Stillbirth
 - Perinatal mortality
 - Neonatal mortality
 - Prevalence of congenital anomalies
 - Twins
 - Screen positive for PKU, hypothyroidism

Detailed preterm birth rate by LHIN



Live births <37 weeks gestation 2006/07



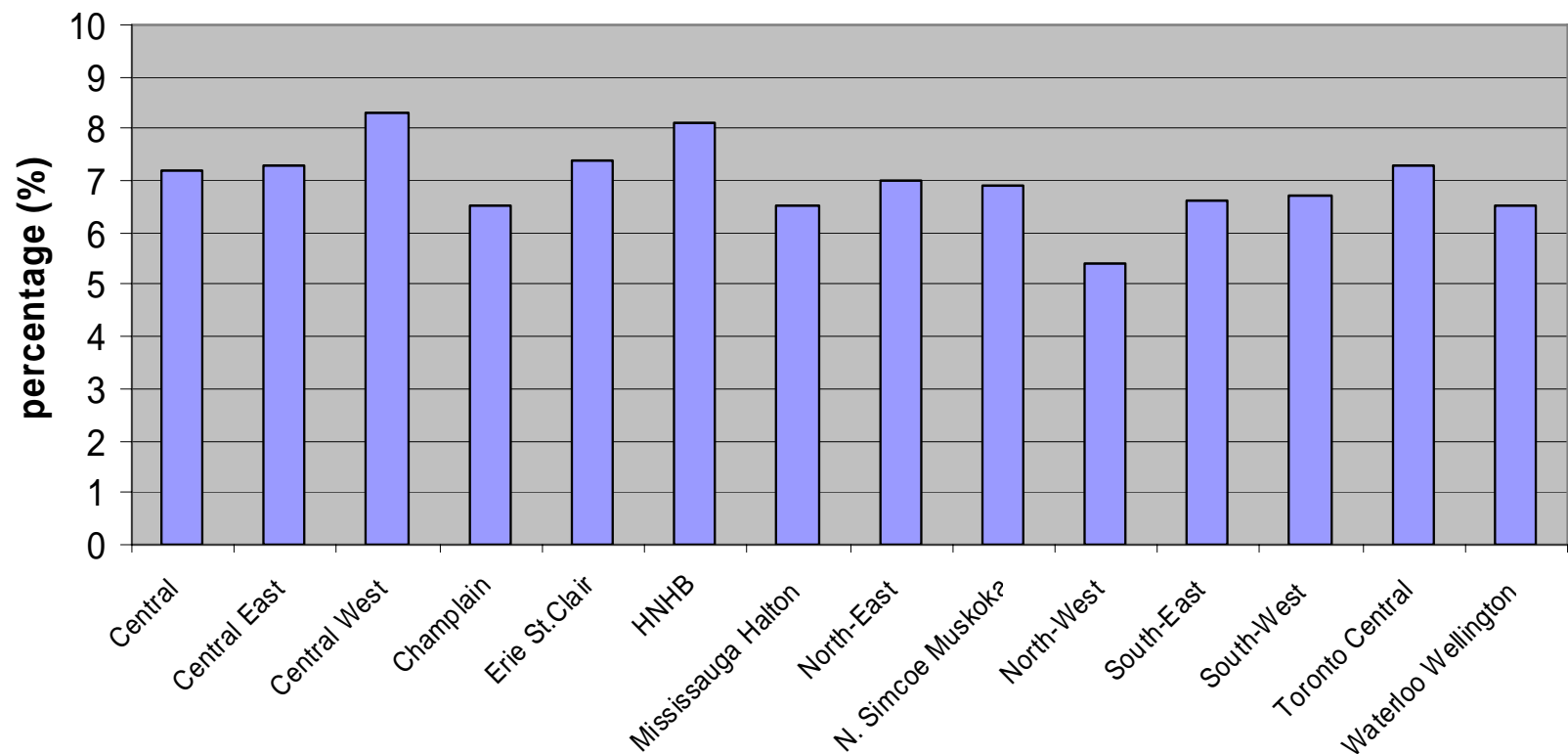
Source: Niday Perinatal and Midwifery Databases

Legend: ■ <32 w ks ■ 32-36 w ks

Low birth weight rate by LHIN



Live births <2500 gms 2006/07



Source: NidayPerinatal & Midwifery Databases

OPSS Surveillance

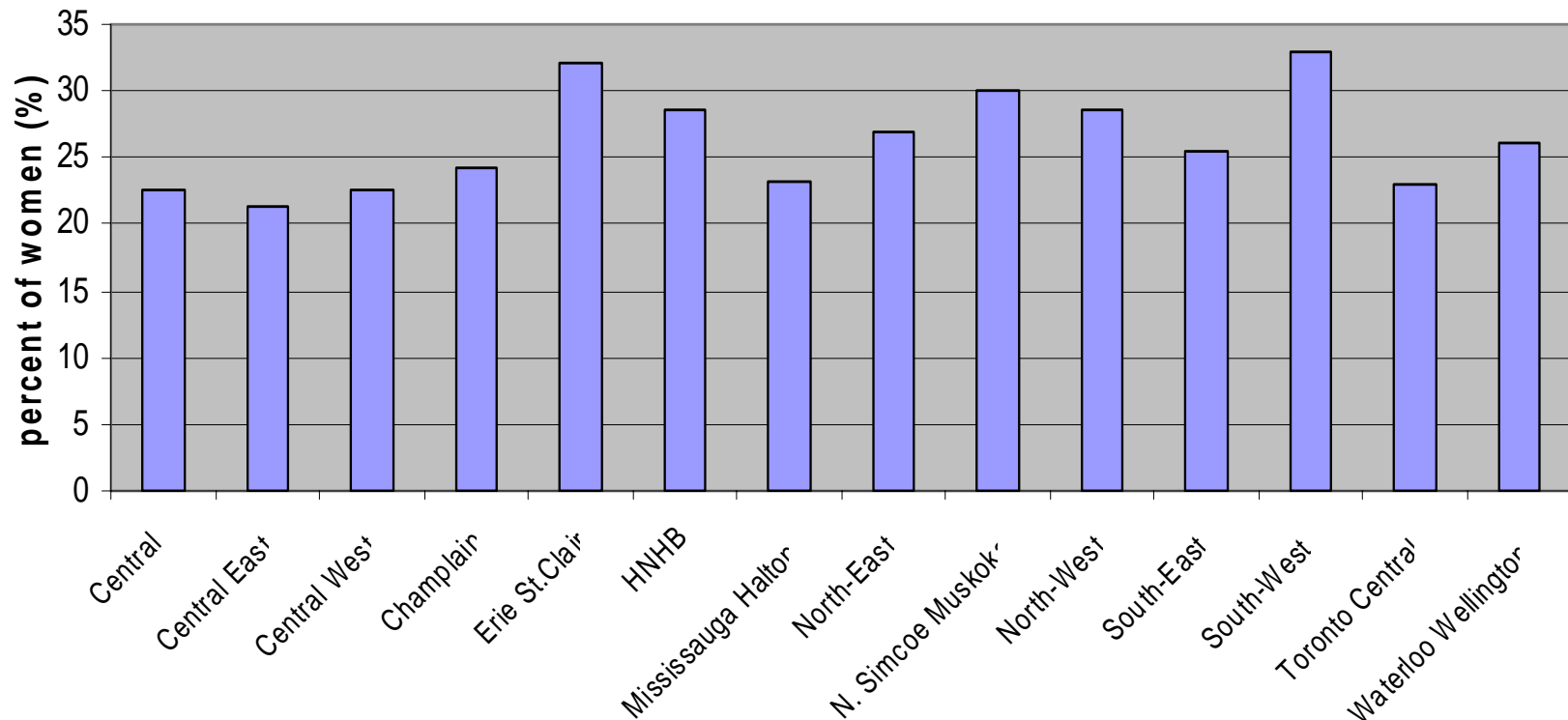


- Health services
 - Induction of labor
 - Cesarean section
 - Episiotomy
 - Operative vaginal delivery
 - Tracking of referral for anomalies and outcomes
 - Utilization of prenatal screening for Down's and NTD

Induction rate by LHIN



Induced Labour (Pharmaceutical & surgical) 2006/07



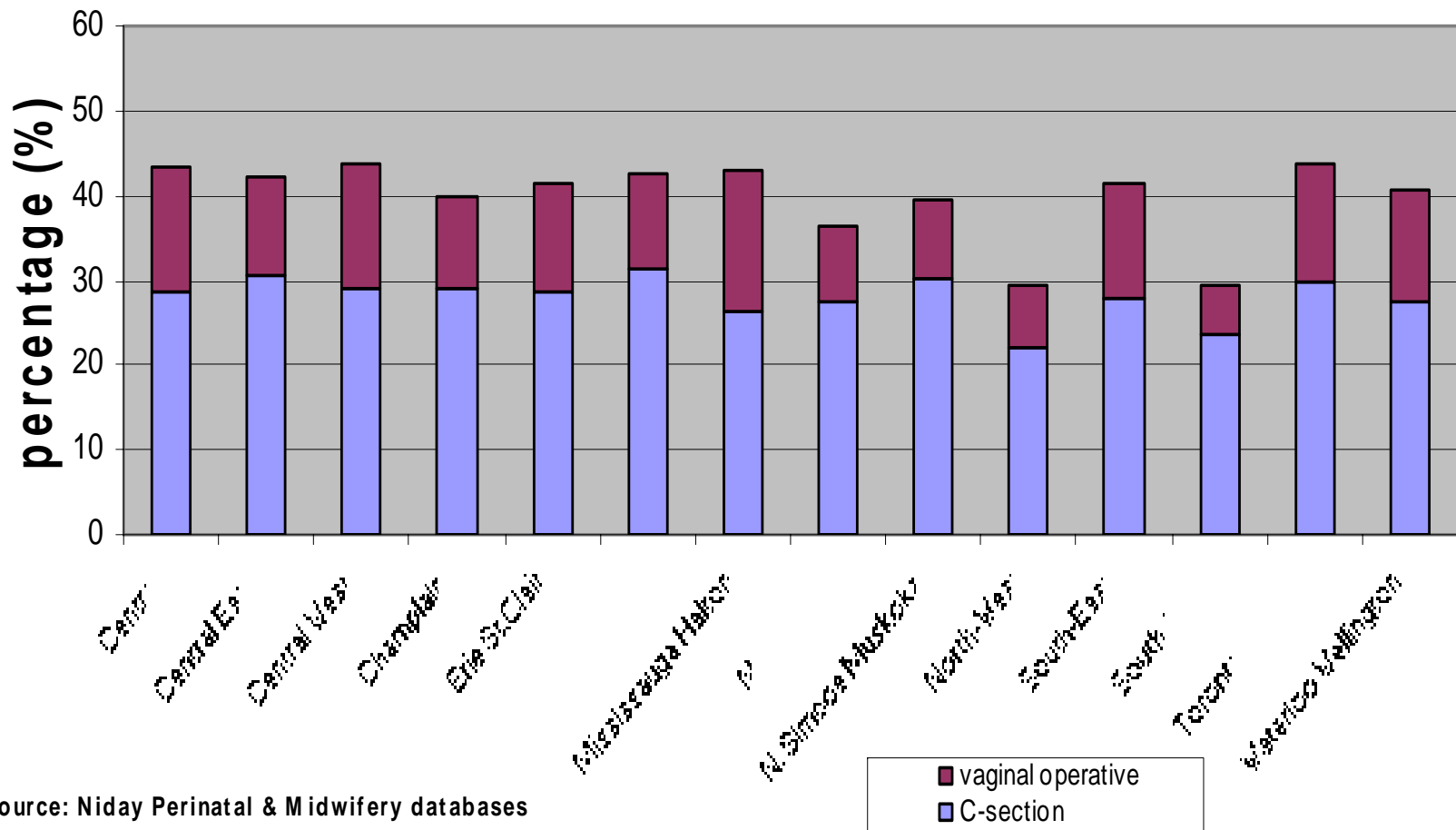
Methods: Amniotomy, Oxytocin, Cervidil, Cytotec/Misoprostol, Mechanical, Other prostaglandin, Other

Source: Niday Perinatal & Midwifery databases

Operative birth rate by LHIN



Vacuum/Forcep or C/Section births 2006/07

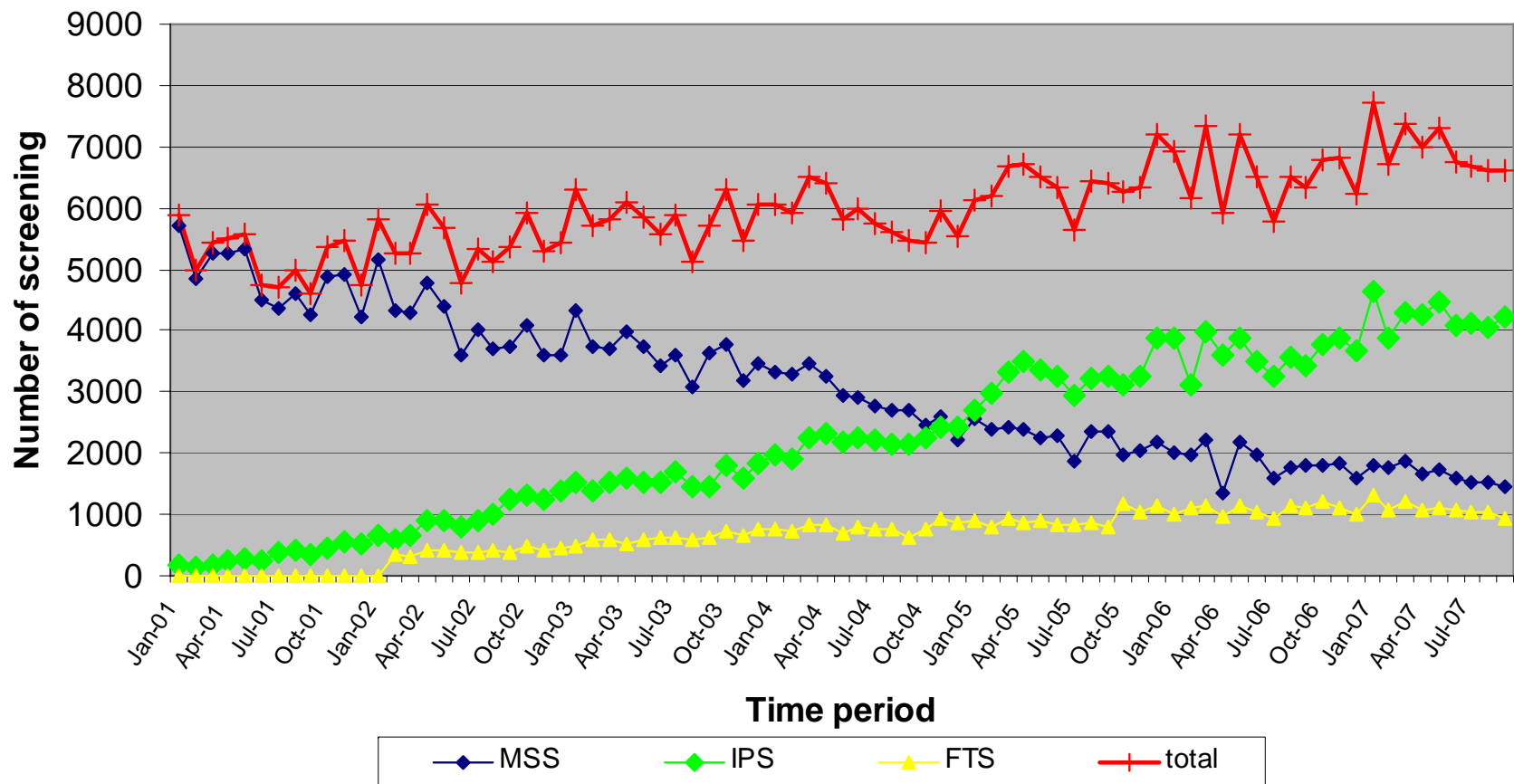


Source: Niday Perinatal & Midwifery databases

Prenatal Screening



Ontario screening modalities



OPSS Surveillance

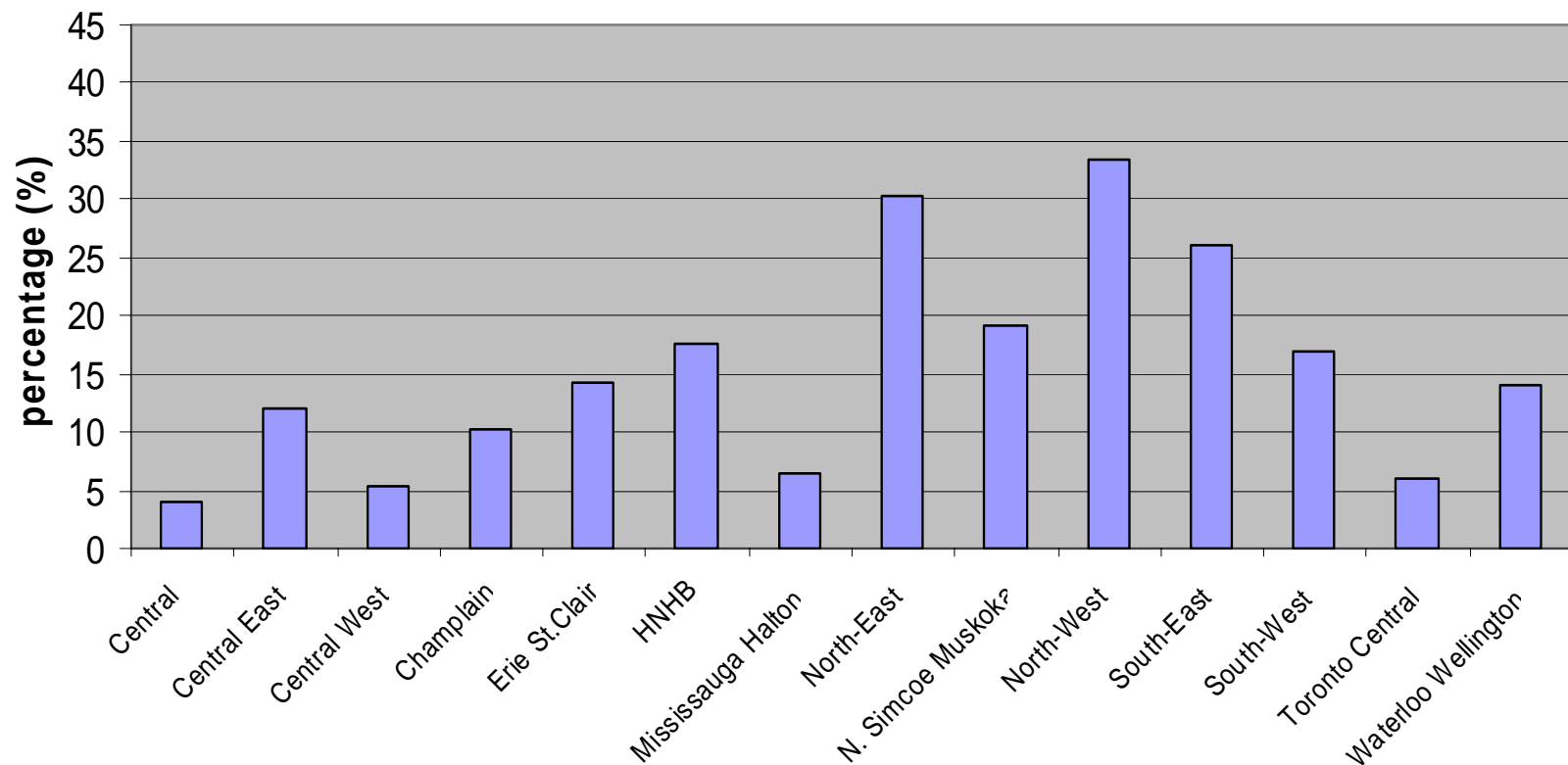


- Behaviors and practice
 - Smoking
 - Alcohol
 - First trimester visits
 - Intention to breastfeed

Self reported maternal smoking rate by LHIN



Women who reported smoking during pregnancy 2006/07

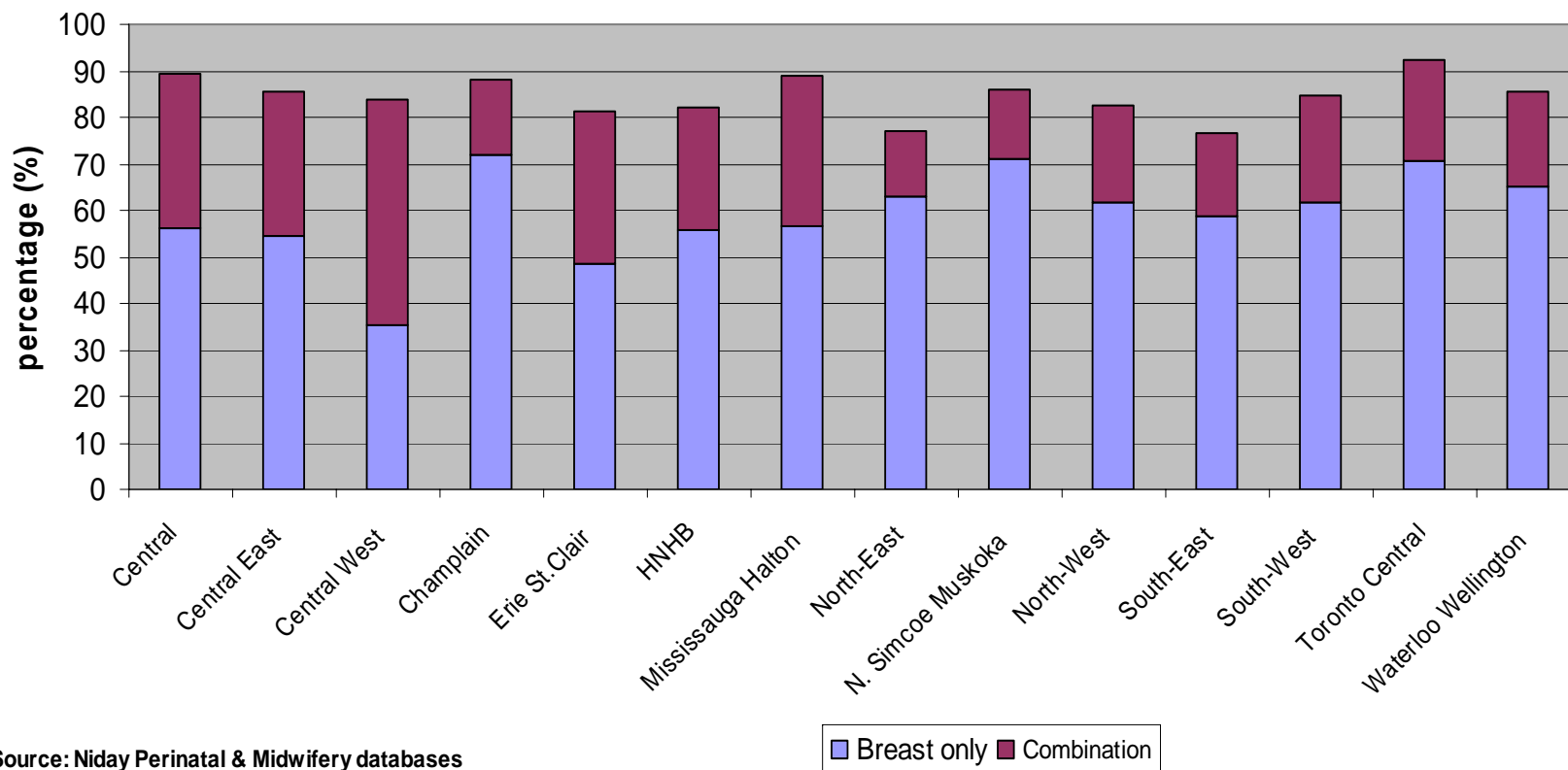


Source: Niday Perinatal & Midwifery Databases

Detailed feeding status on discharge by LHIN



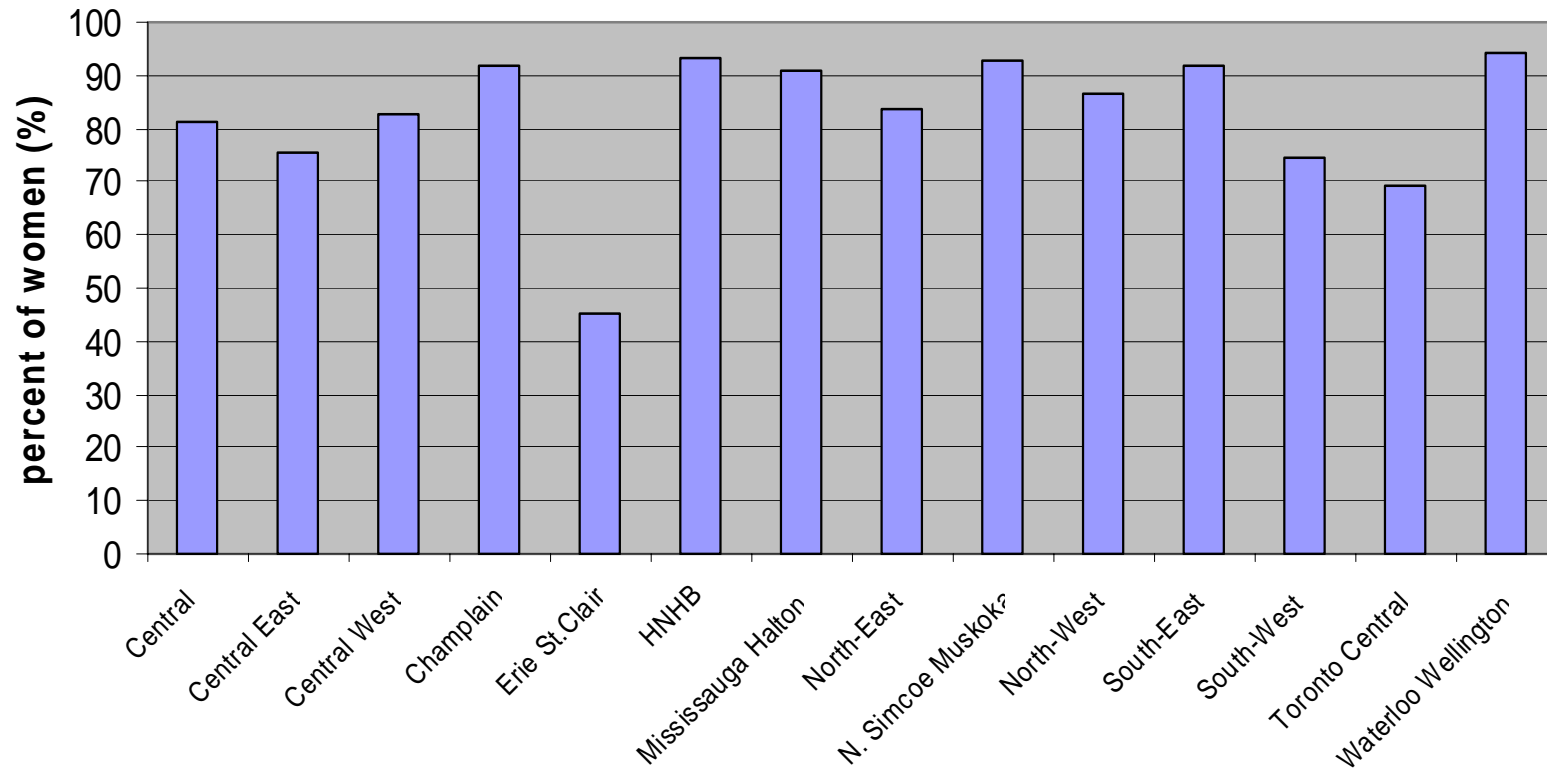
Feeding on discharge (Healthy infants 37+ weeks) 2006/07



First trimester visit rate by LHIN



First trimester visit 2006/07



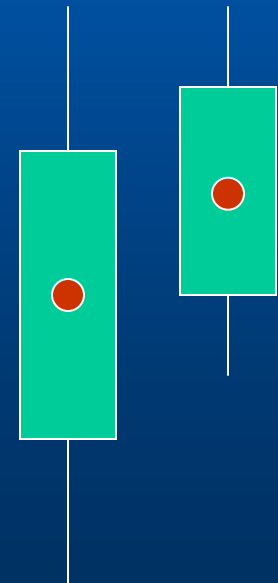
Data consideration – 34% “Unknown”

Source: Niday Perinatal & Midwifery Databases

Quality Improvement



- Increased application of evidence-based clinical practices
- Move the median and narrow the interquartile range
 - Less variability in practice
 - Less variability in outcomes

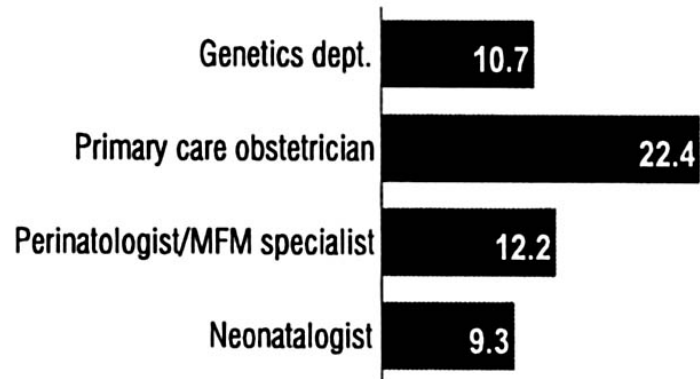


Access and Wait-times



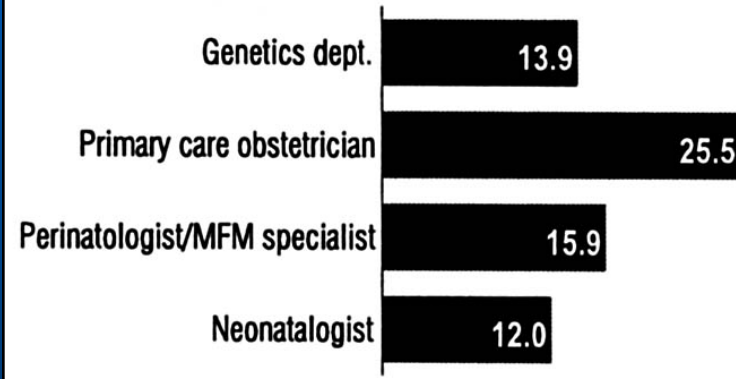
Number of days between referral and patient being seen by specialist

Health care providers Average 2004



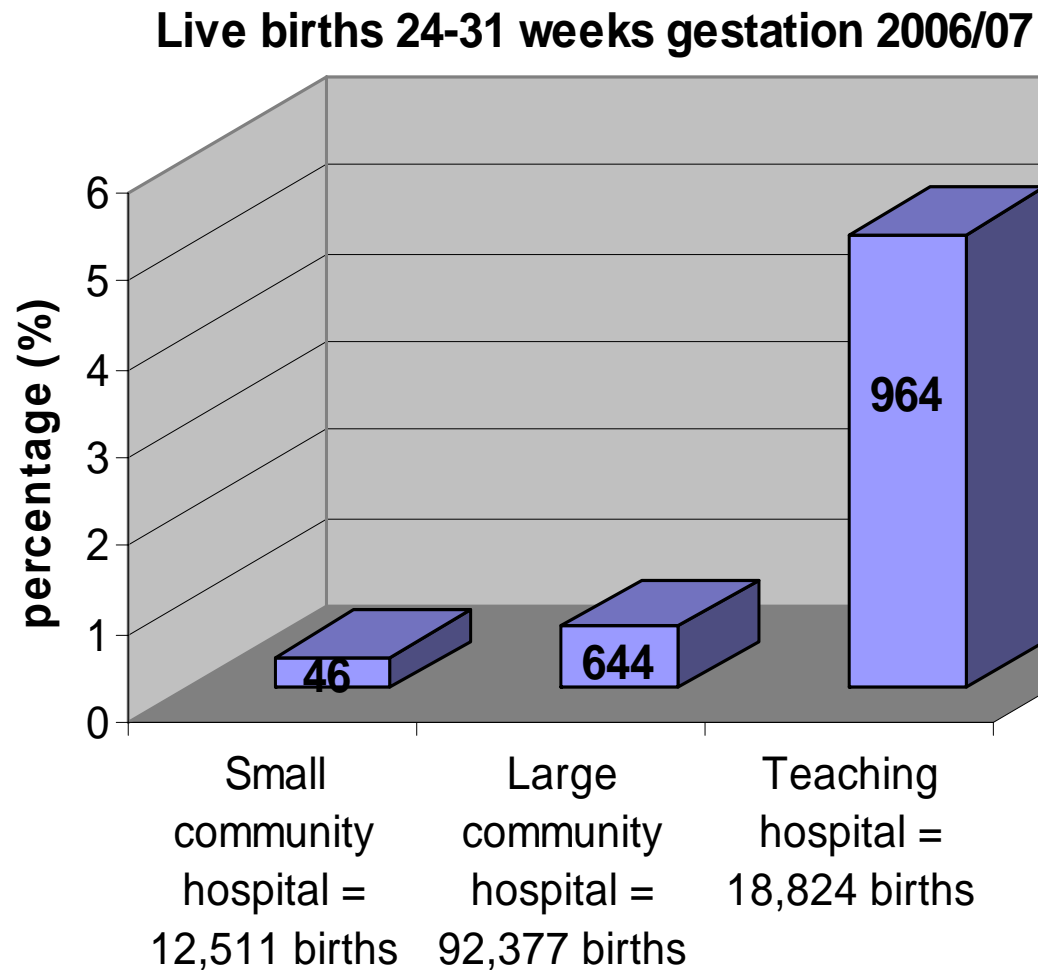
Number of days between referral and getting diagnosis/report from specialist

Health care providers Average 2004



Average Wait time: From 22.4 days to 9.4 Days

Preterm birth rate by hospital type



Source: Niday Perinatal & Midwifery databases

Information Management

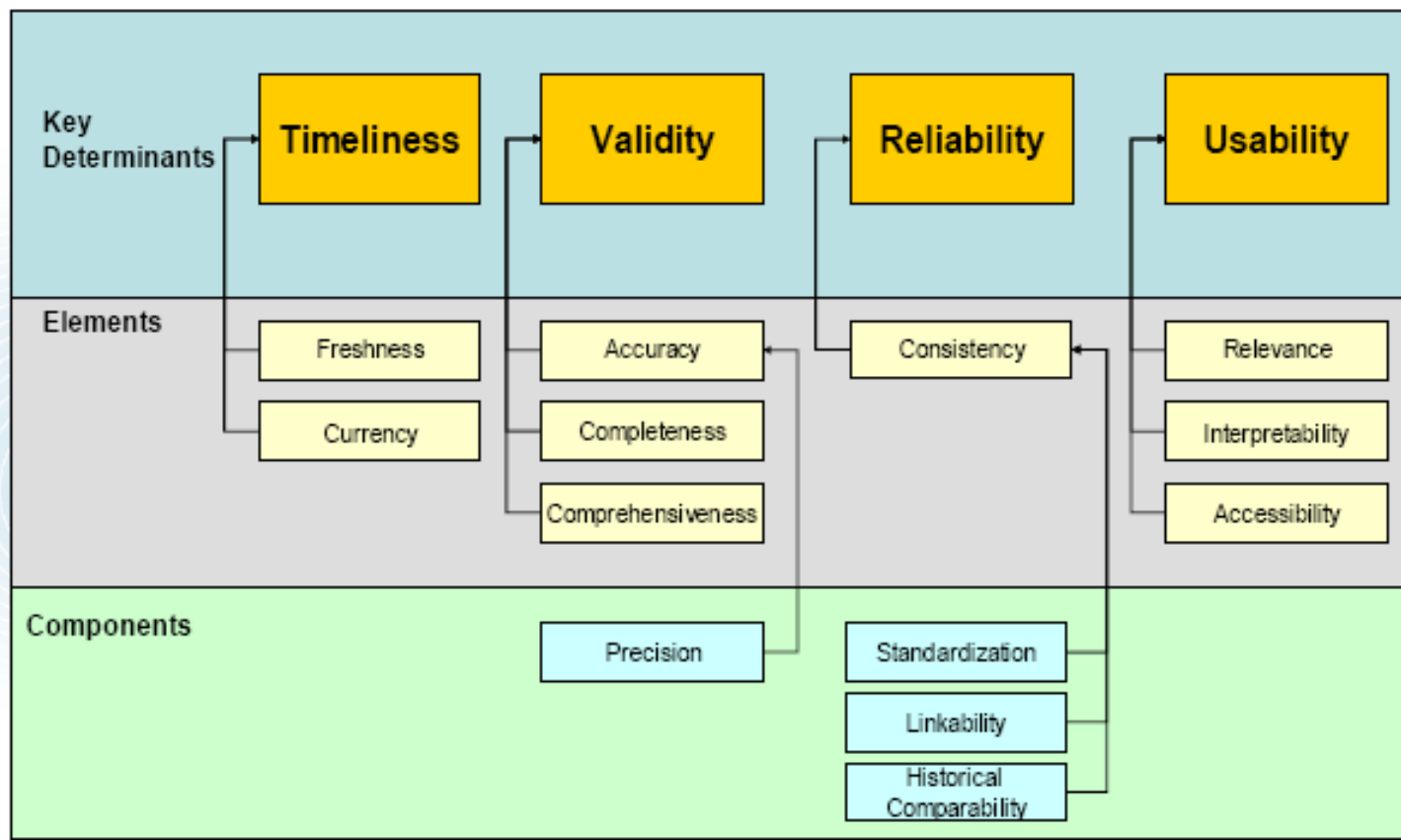


- Monthly, quarterly & annual data review generated by regional coordinators
- Data quality audits
- Surveys of data constituents
- Privacy
- Training and Professional Development

Key Determinants of Data Quality



1. Measurement Under Four Key Determinants (MOHLTC's Guideline)



Appendix: Database Descriptions



- **Niday Database** - The Niday Databases are two data repositories. One is a perinatal database that collects record level maternal-newborn information for each birth in Ontario. The second database collects record level information on neonates that require specialized care in a Neonatal Intensive Care Unit (NICU) and/or Special Care Nursery (SCN). Variables currently collected that are defined as Personal Health Information (PHI) are maternal postal code and health history and maternal-newborn demographics, interventions/therapies, outcomes and health service utilization.
- **Midwifery Program Database** - The Midwifery Program Database collects individual record level information on utilization, clinical outcomes and financial billing for midwifery services in Ontario (approximately 8% of Ontario births), including non-hospital births, from midwifery practice groups and 17 ministry-approved transfer payment agencies. Elements include maternal and newborn health card numbers (where applicable), maternal residence and institutional postal codes, midwife provider number, and client demographics, interventions/therapies, outcomes and health service utilization.
- **Fetal Alert Network (FAN)** - FAN collects detailed antenatal-perinatal-neonatal information regarding clinical and health systems utilization on pregnancies associated with anomalies detected antenatally in Ontario. These include maternal demographics, health, family and obstetric history, familial history and health outcomes including access to community and tertiary services.
- **Ontario Newborn Screening Program** - The program is a 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. Information collected relates to the dried blood spot collection process offered to all Ontario newborns. The program currently targets 28 diseases.
- **Ontario Multiple Marker Screening Database** - The Ontario Multiple Marker Screening Database is the repository of prenatal screening data for the province since 1993. The database collects information from all pregnant women who undertake prenatal screening for Down syndrome and open neural tube defects (ONTD) in the province of Ontario. It is dependent on input from multiple sources – labs, clinics, hospitals, MOHLTC and includes information on patient demographics, pregnancy details, test and interpretation results, counseling, cytogenetics and ultrasound, birth outcomes. The program evaluates screening tests and administers regional and provincial programs as well as generates research on outcomes.