



# Reproductive & Gynaecological Health

Chapter 10 | Chapter Webinar

## AUTHORS

Sheila Dunn (*Abortion lead*)

Michelle Wise (*Prenatal Care & Childbirth lead*)

Lina Johnson (*Postpartum Care lead*)

Geoffrey Anderson (*Hysterectomy lead*)

Lorraine E. Ferris (*Abortion section*)

Naira Yeritsyan

Ruth Croxford (*Abortion section*)

Longdi Fu

Naushaba Degani

Arlene S. Bierman



Project for an Ontario Women's Health Evidence-Based Report

# A Tool for Monitoring and Improvement

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The **P**roject for an **O**ntario **W**omen's Health **E**vidence-Based **R**eport (**POWER**) is designed to serve as a tool to help policymakers and providers to improve the health of and reduce inequities among the women of Ontario.

# Overarching Objectives

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- Use of performance measurement and reporting
  - as a mechanism for knowledge translation
  - as a tool to drive equity in health care
- Provide evidence for use by a diverse group of stakeholders for use to improve women's (and men's) health in the province

# Ontario Women's Health Equity Report

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## Volume 1

- Burden of Illness
- Cancer
- Depression
- Cardiovascular disease (CVD)
- Access to Health Care

## Volume 2

- Musculoskeletal Disorders (arthritis, osteoporosis)
- Diabetes
- **Reproductive and Gynaecological Health**
- HIV Infection
- Populations at Risk
- Conclusions and Policy Implications

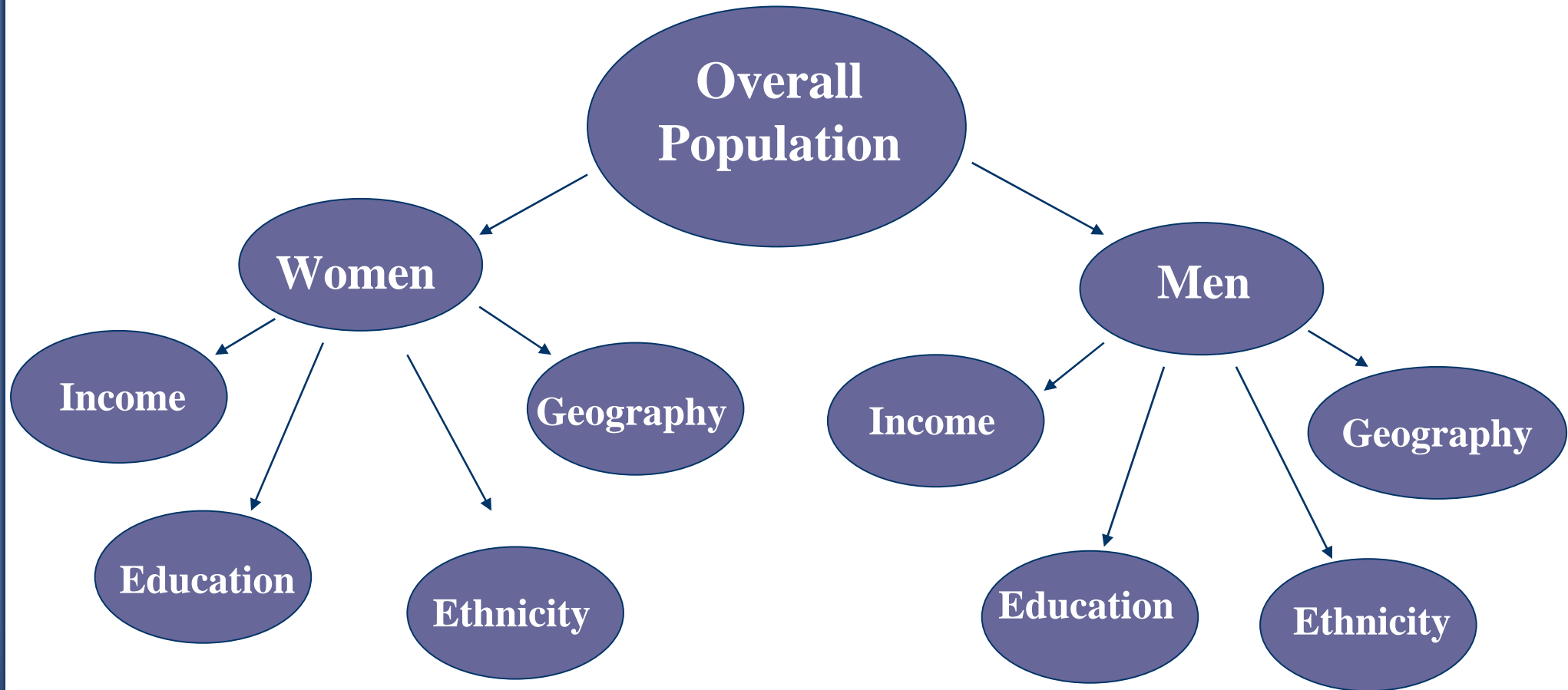
## Web-based reporting

# Community-Engaged Research

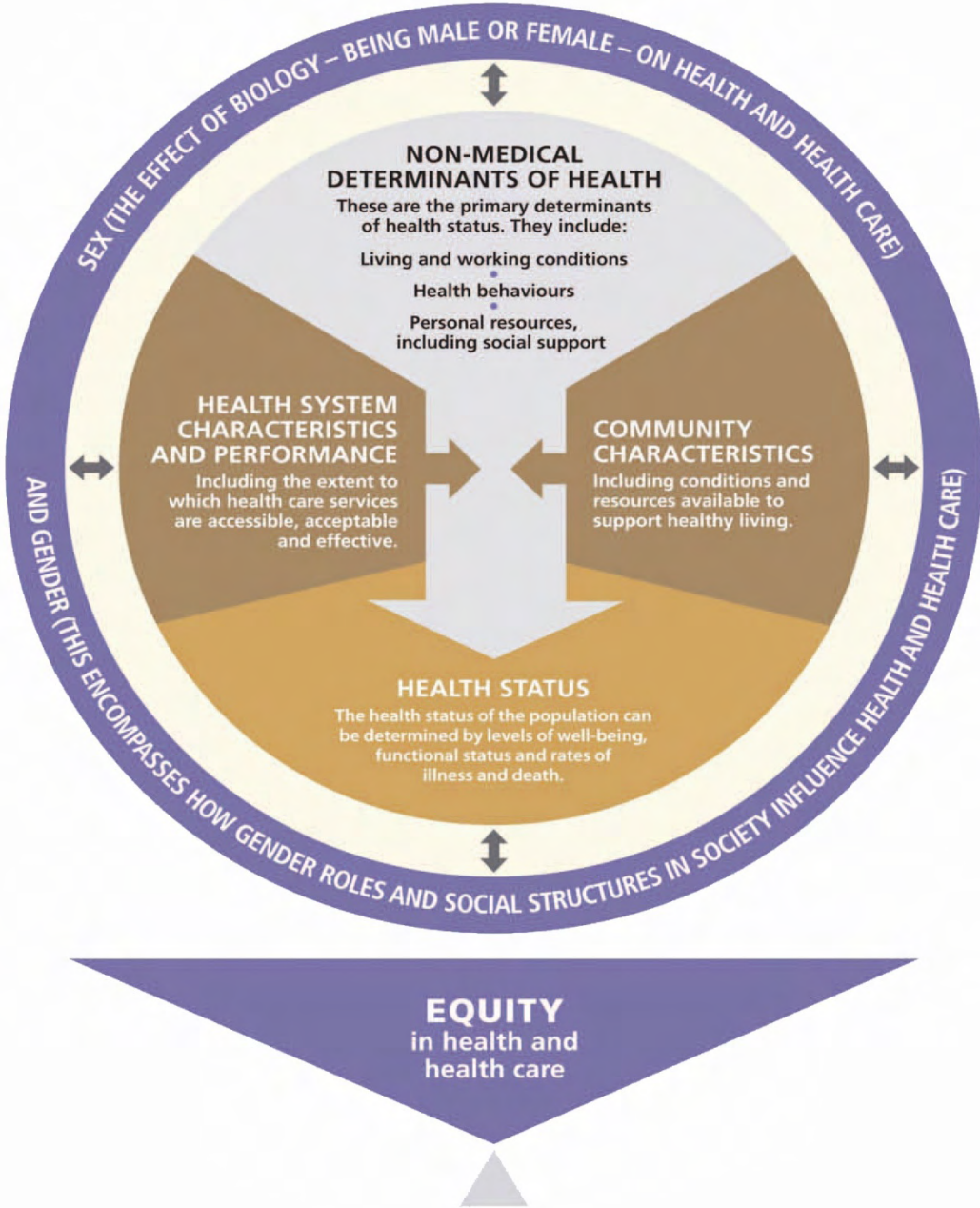
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- POWER Study Roundtables
  - Inform indicator selection and interpretation
  - Increase uptake of findings
- Consumers: representatives of community based organizations and associations
- Providers: clinicians, hospitals, community health centres (CHCs)
- Policymakers: government, regional health authorities, public health, health data agencies

# Assessing Equity



# POWER Study Gender and Equity Health Indicator Framework



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# Reproductive and Gynaecological Health



# Chapter sections

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- Prenatal Care
- Childbirth
- Postpartum Care
- Abortion
- Hysterectomy
- Sexually Transmitted Infections

# Indicator data shared with LHINs

	LHIN	By income	By age
<b>Section A: Prenatal Care</b>			
Types of health care professional providing prenatal care (percentage of hospital deliveries)			
Obstetricians	√	√	√
General practitioners/family physicians			
Midwives			
Screening for group B streptococcus (GBS) colonization (percentage of hospital deliveries)	√	√	√

# Indicator data shared with LHINs

	LHIN	By Income	By age
<b>Section B: Childbirth</b>			
Live births to teenage women (per 1,000 women aged 15-19)	√	√	
Types of providers attending childbirth (percentage of hospital deliveries)			
Obstetricians	√	√	√
General practitioners/family physicians			
Midwives			
Rate of episiotomy (percentage of hospital deliveries)	√	√	√
Rate of forceps and/or vacuum assisted vaginal births (percentage of hospital deliveries)	√	√	√
Caesarean section rate (percentage of hospital deliveries)			
Among all women who delivered in hospital			
Among women with full-term (37 or more weeks gestation), singleton, vertex presentations	√	√	√
Among women with full-term (37 or more weeks gestation), singleton, breech presentations			
Rate of third or fourth degree perineal lacerations (percentage of hospital deliveries)	√		

# Indicator data shared with LHINs

	LHIN	By Income	By age
Severe maternal morbidity rate (per 1,000 hospital deliveries) Overall Postpartum hemorrhage	√		
Percentage of term newborns (37 or more weeks gestation) who had a 5-minute Apgar score of 3 or less	√		
<b>Section C. Postpartum Care</b>			
Early postpartum maternal discharge from hospital Among women with vaginal deliveries Among women with caesarean deliveries	√	√	
14-day maternal readmission rates (all-cause and postpartum-related) Among women with vaginal deliveries (all-cause and postpartum-related) Among women with caesarean deliveries (all-cause and postpartum-related)	√	√	
90-day maternal readmission rates Among women with vaginal deliveries Among women with caesarean deliveries	√		
Neonatal readmission rates (within 28 days of birth)	√		√

# Indicator data shared with LHINs

	LHIN	By Income	By age
<b>Section D: Abortion</b>			
Abortion rate (among women aged 15-49) Overall Early stage (less than 16 weeks gestation)	√		
Abortion ratio per 100 live births (among women aged 15-49) Overall Early stage (less than 16 weeks gestation)	√		
Prior induced abortions among women having a hospital abortion	√		
Rate of short-term (within 14 days) post-abortion complications Percentage of women who had an emergency department/same day surgery visit for any reason Percentage of women who had a hospitalization for any reason	√		

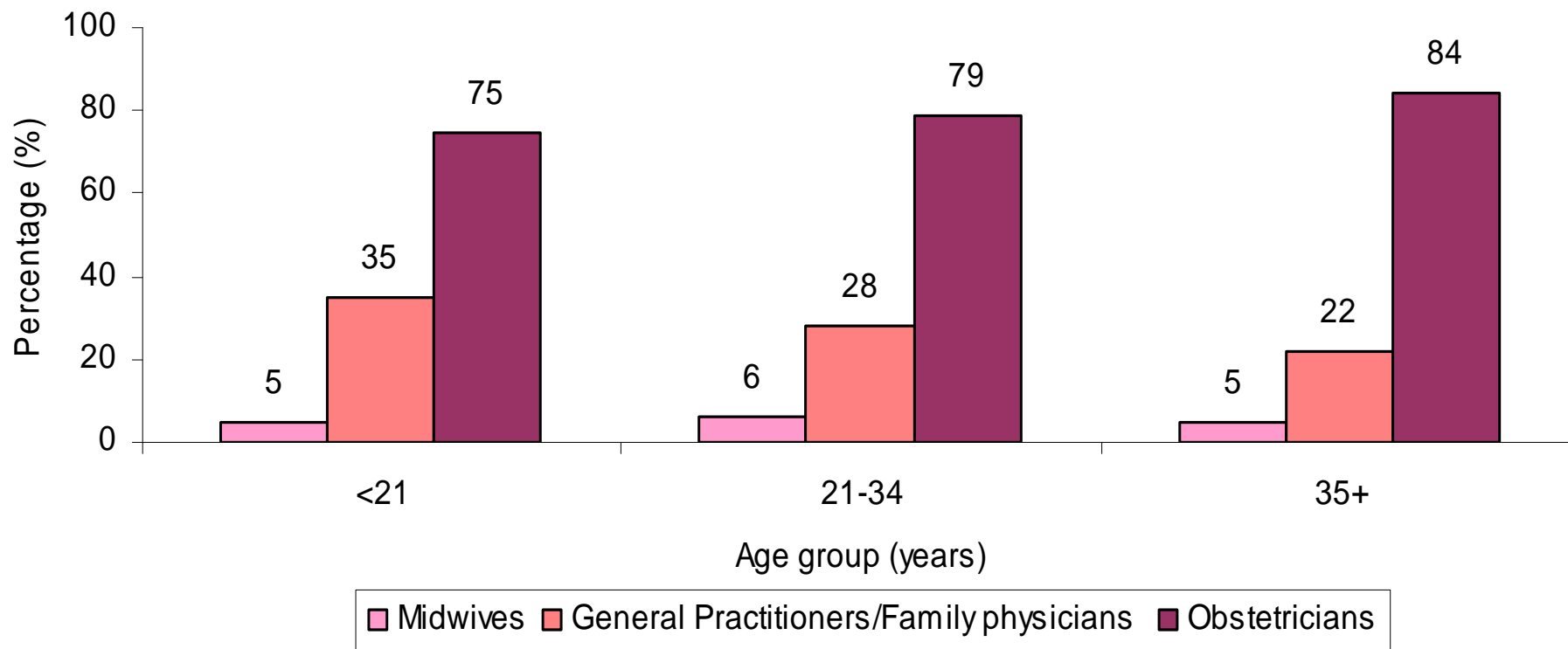
# Indicator data shared with LHINs

	LHIN	By Income	By age
<b>Section E: Hysterectomy</b>			
Hysterectomy rate for benign gynaecological conditions (among women aged 15-84)	√	√	√
Percentage of women who had a hysterectomy who had either a vaginal or laparoscopic hysterectomy	√	√	√
Complication rate in women who underwent a hysterectomy for fibroids or abnormal uterine bleeding	√		

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# Prenatal Care

# Types of health care professionals providing prenatal care<sup>^</sup> to women who gave birth in Ontario hospitals and received prenatal care, by type of professional and age group, in Ontario, 2007



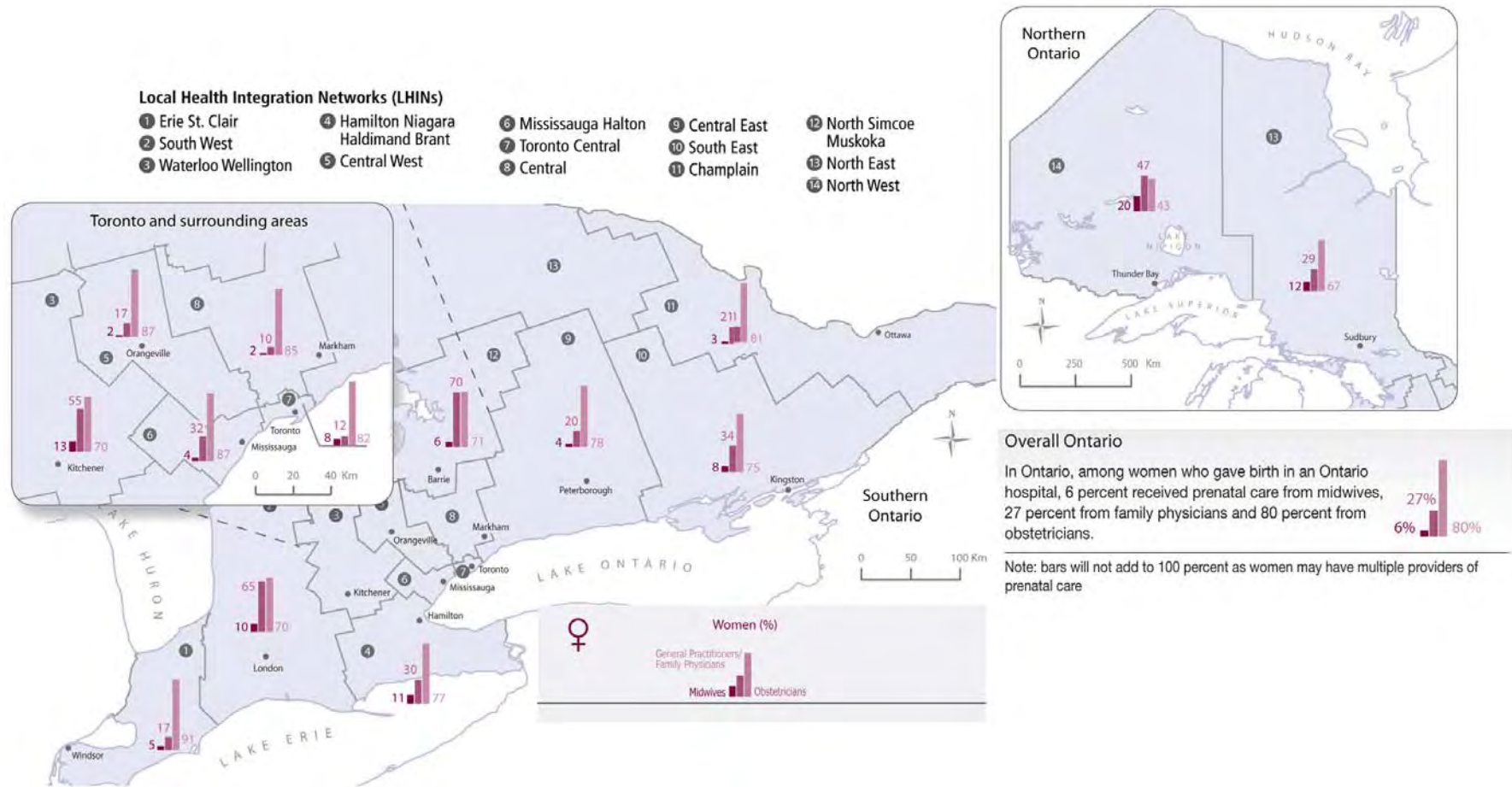
**Data source:** Better Outcomes and Registry Network (BORN) Ontario's Niday Perinatal Database

<sup>^</sup> Limited to prenatal care received after the first trimester

**Note:** Women may receive prenatal care from multiple providers and so values will not sum to 100 percent.



# Types of health care professionals providing prenatal care<sup>^</sup> to women who gave birth in Ontario hospitals and received prenatal care, by type of professional and Local Health Integration Network (LHIN), in Ontario, 2007

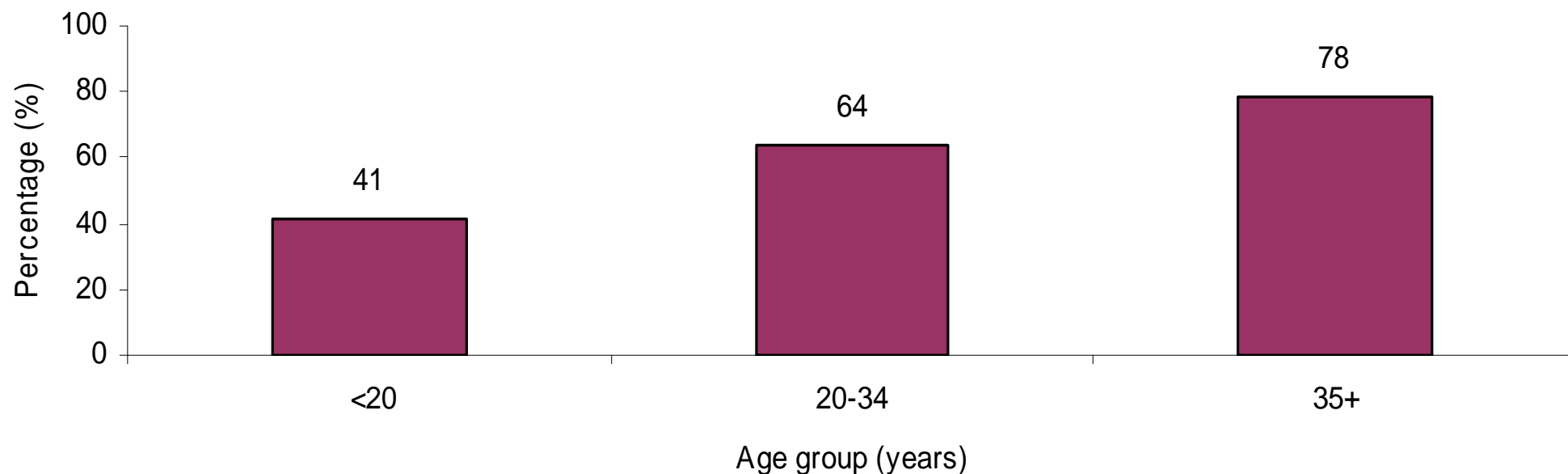


**Data source:** Better Outcomes and Registry Network (BORN) Ontario's Niday Perinatal Database

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**Note:** Women may receive prenatal care from multiple providers and so values will not sum to 100 percent.

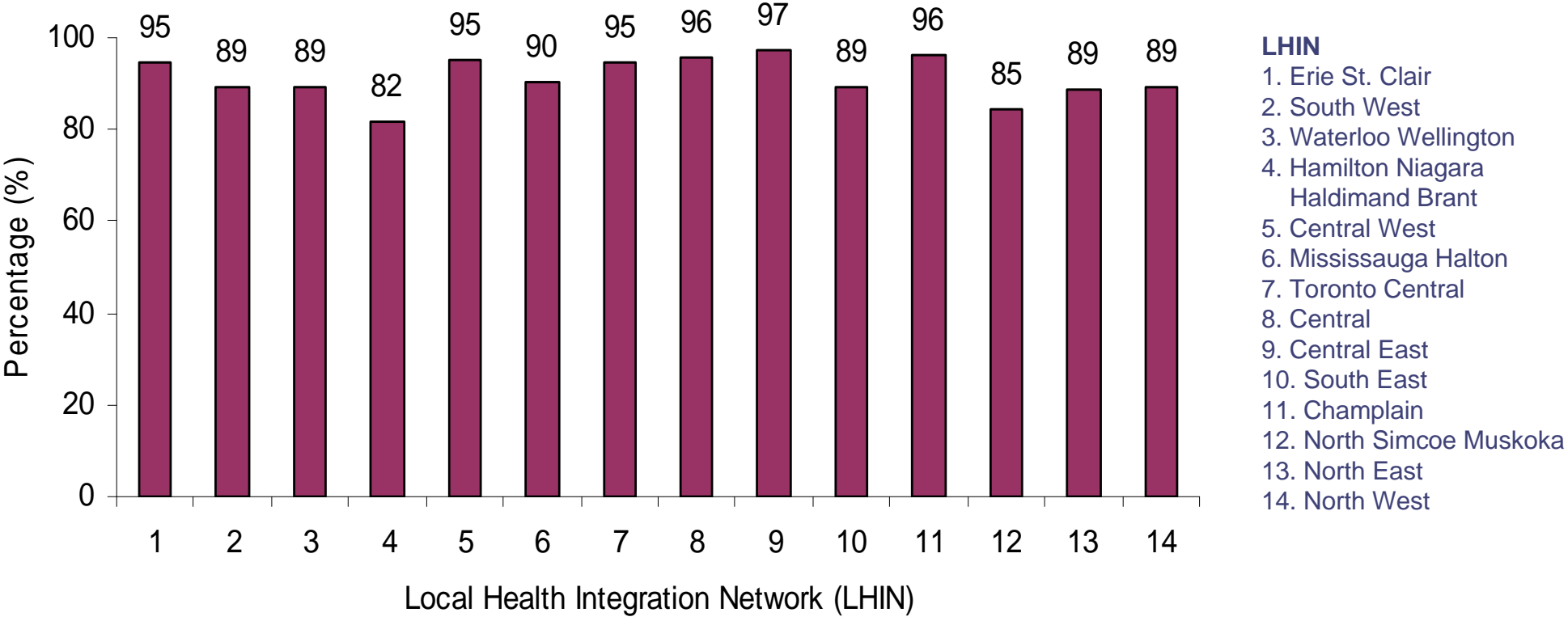
# Maternal multiple marker screening rate<sup>^</sup> (percentage of hospital deliveries) during the prenatal period, by age group, in Ontario, 2007



**Data sources:** Ontario Maternal Multiple Marker Screening (OMMMS); Better Outcomes and Registry Network (BORN) Ontario's Niday Perinatal Database

<sup>^</sup> Prenatal screening for Down syndrome, trisomy 18 and/or open neural tube defects

# Age-standardized prenatal screening rate (percentage of hospital deliveries) between 35 and 37 weeks gestation for group B streptococcus (GBS) colonization among women who gave birth after 37 weeks of gestation, by Local Health Integration Network (LHIN), in Ontario, 2007



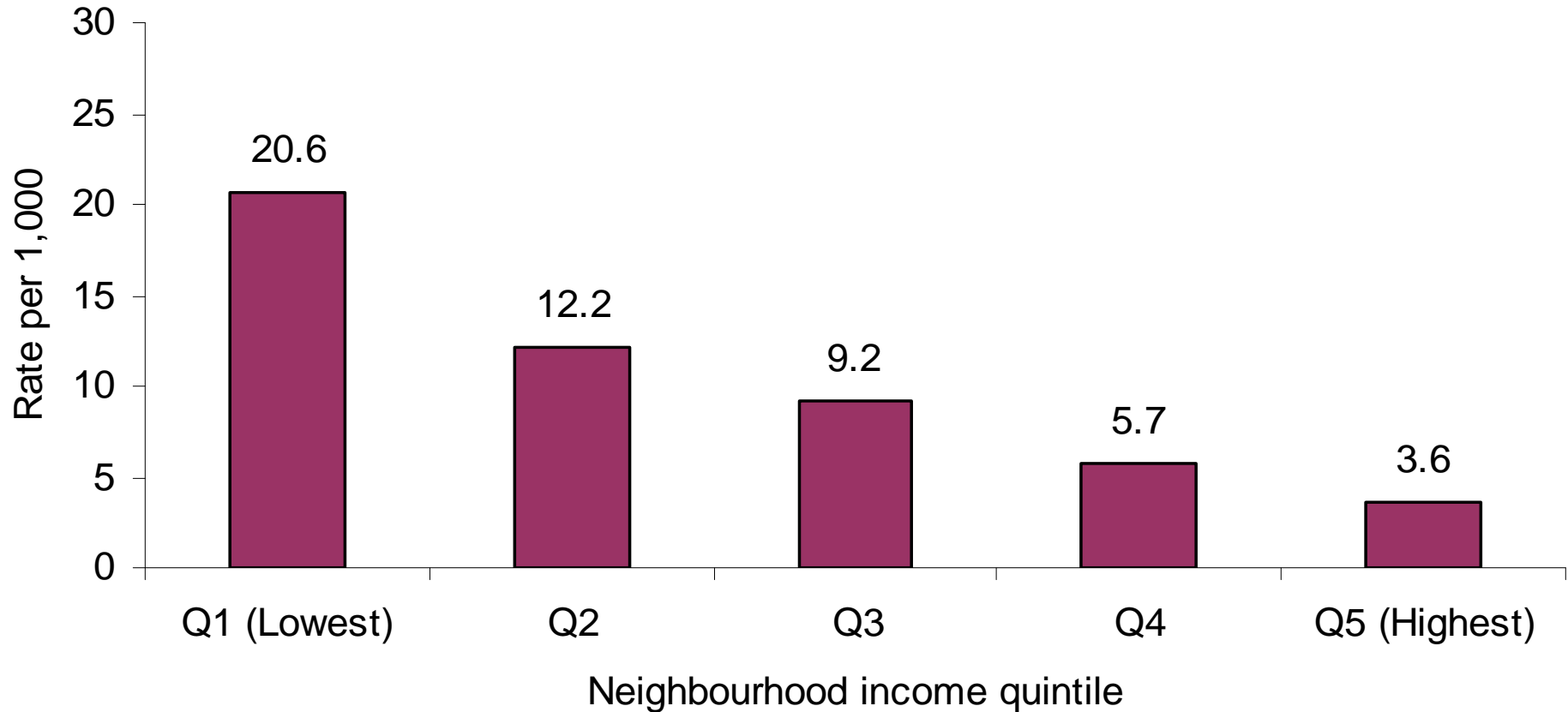
Data source: Better Outcomes and Registry Network (BORN) Ontario's Niday Perinatal Database



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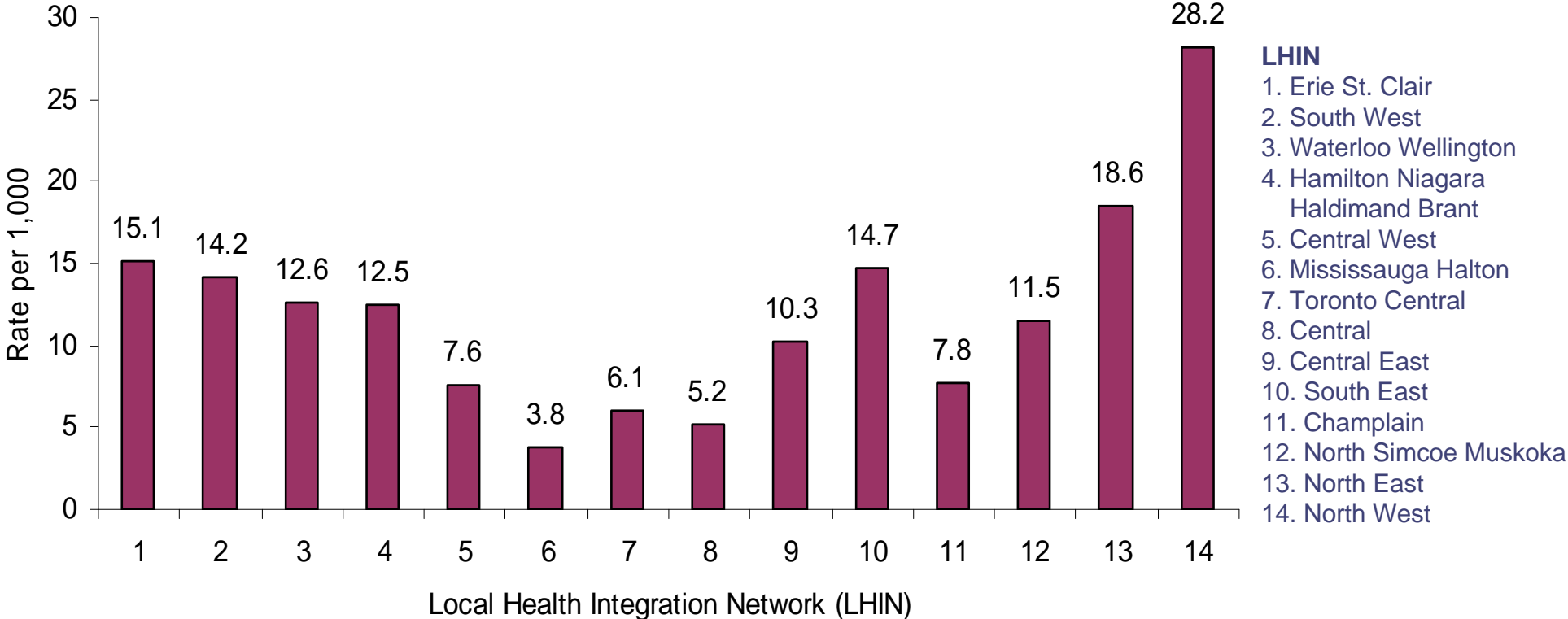
# Childbirth

# Age-standardized rate of live births to teenage mothers (per 1,000 women aged 15-19), by neighbourhood income quintile, in Ontario 2007



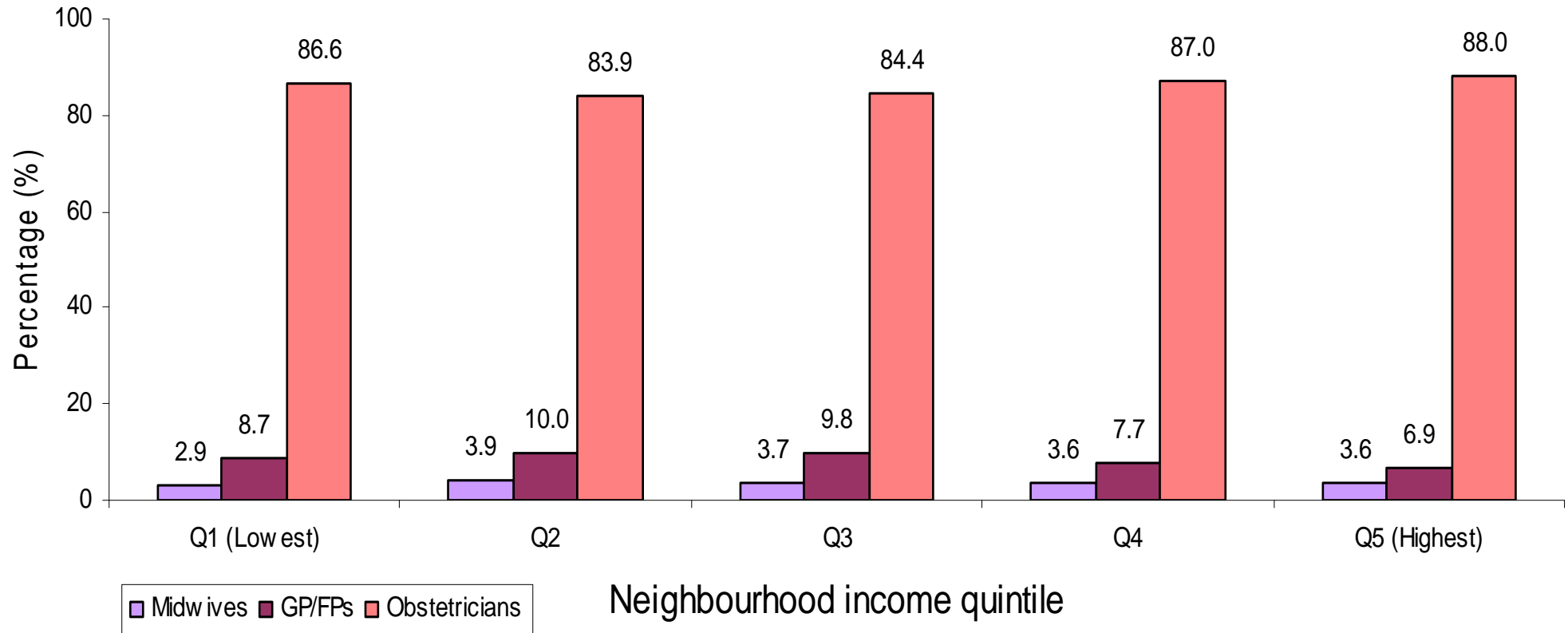
**Data sources:** Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD) (ICES Mother-Baby (MOMBABY) linked database); Statistics Canada 2006 Census

# Age-standardized rate of live births to teenage mothers (per 1,000 women aged 15-19), by Local Health Integration Network (LHIN), in Ontario 2007

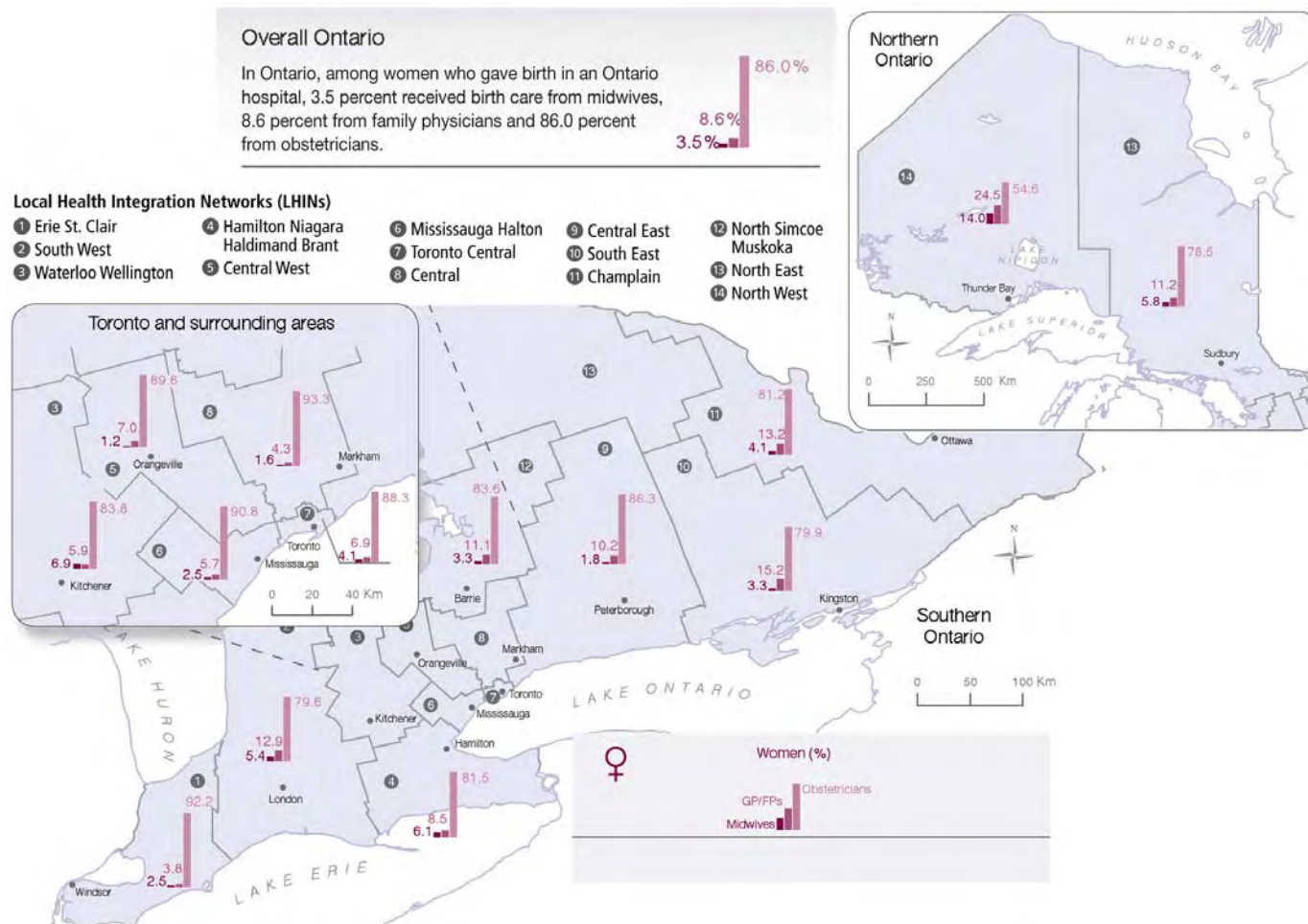


Data sources: Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD) (ICES Mother-Baby (MOMBABY) linked database)

# Age-standardized percentage of hospital deliveries that were attended by midwives, general practitioners/family physicians (GP/FP) or obstetricians, by neighbourhood income quintile, in Ontario, 2007

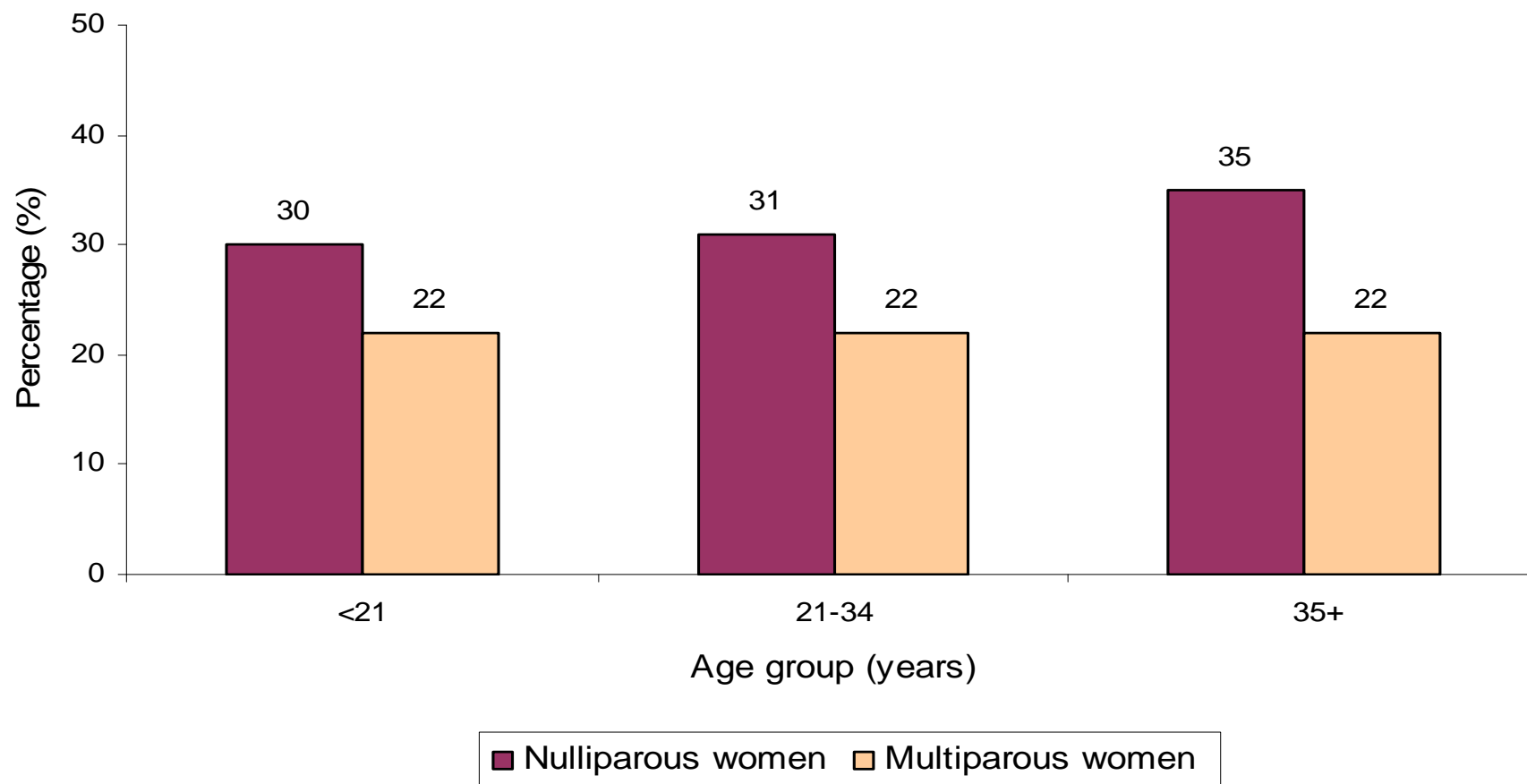


# Age-standardized percentage of hospital deliveries that were attended by midwives, general practitioners/family physicians (GP/FP) or obstetricians, by Local Health Integration Network (LHIN), in Ontario, 2007

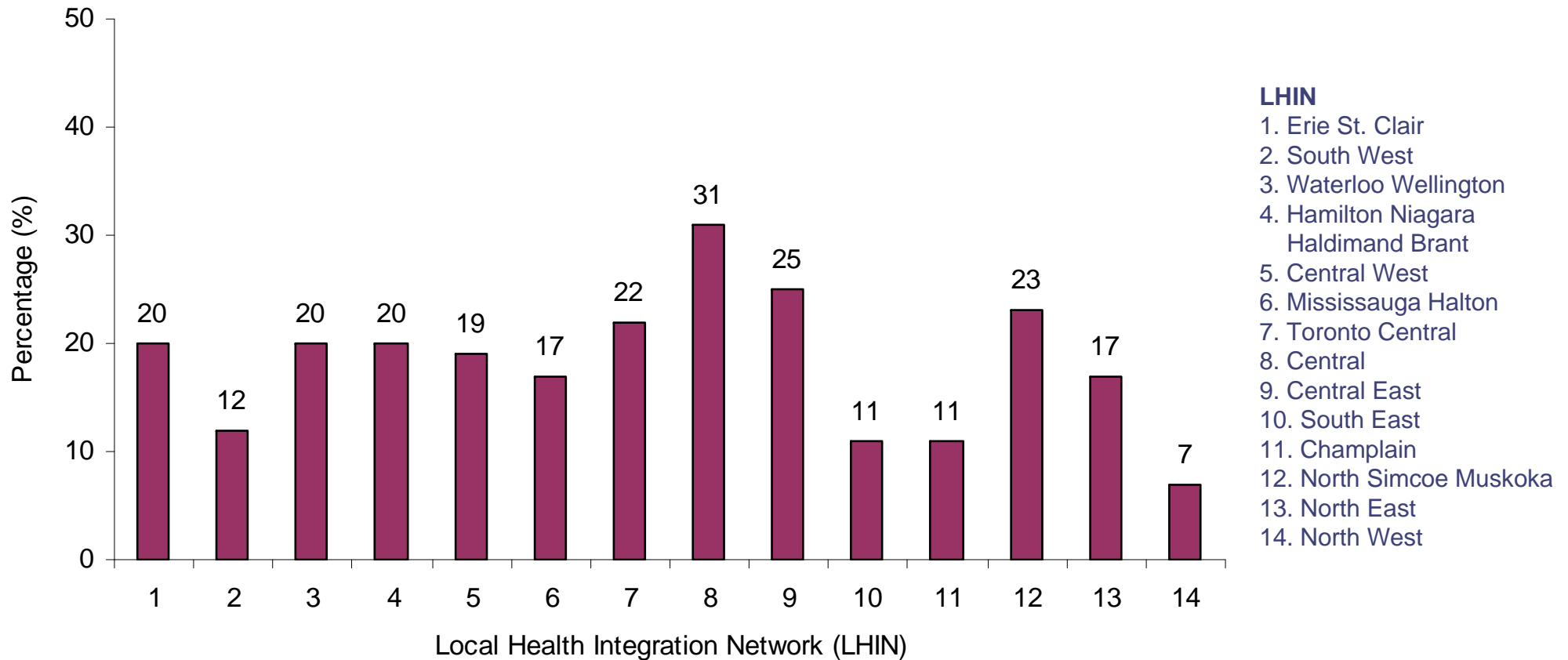




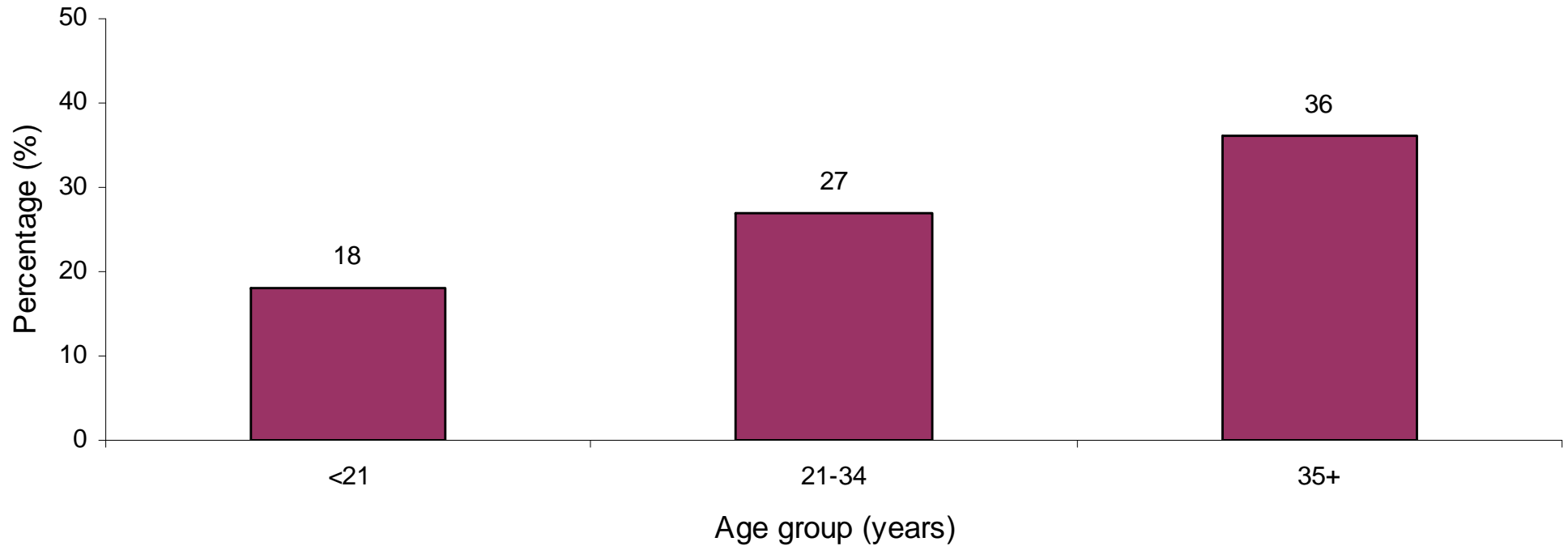
# Rate of labour induction (percentage of hospital deliveries) among women who had full-term, singleton, vertex presentations, by parity and age group, in Ontario, 2007



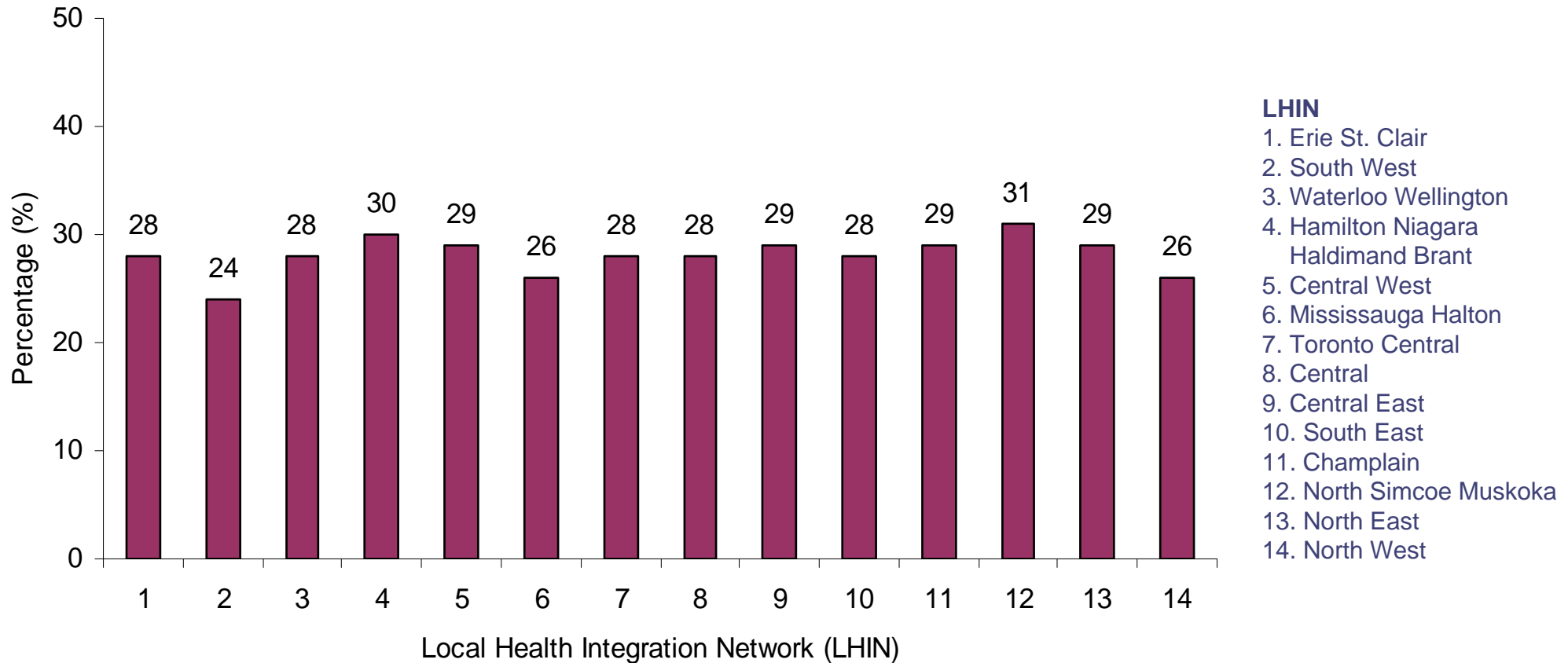
# Age-standardized episiotomy rate (percentage of hospital deliveries) among women who had full-term, singleton, vertex, vaginal deliveries, by Local Health Integration Network (LHIN), in Ontario, 2007



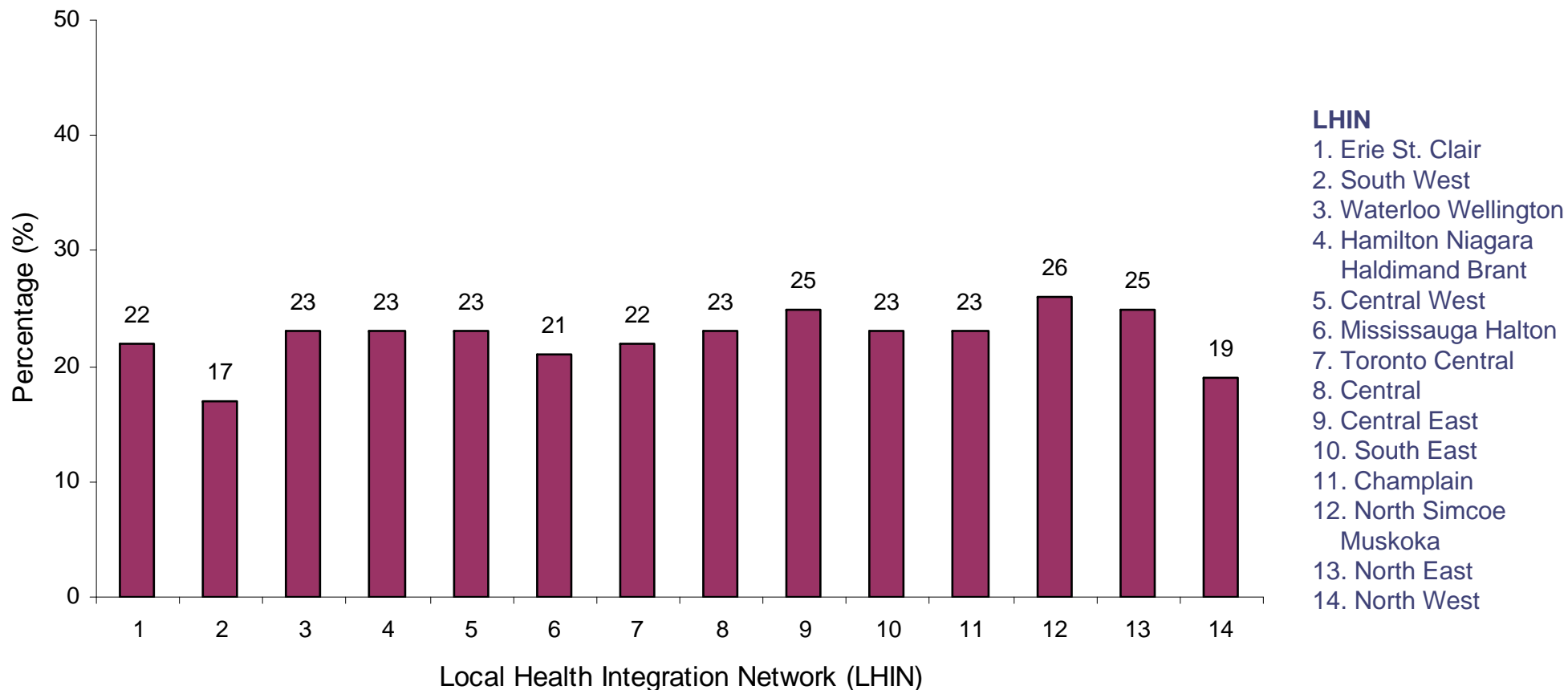
# Caesarean section rate (percentage of hospital deliveries), by age group, in Ontario, 2007



# Age-standardized caesarean section rate (percentage of hospital deliveries), by Local Health Integration Network (LHIN), in Ontario, 2007

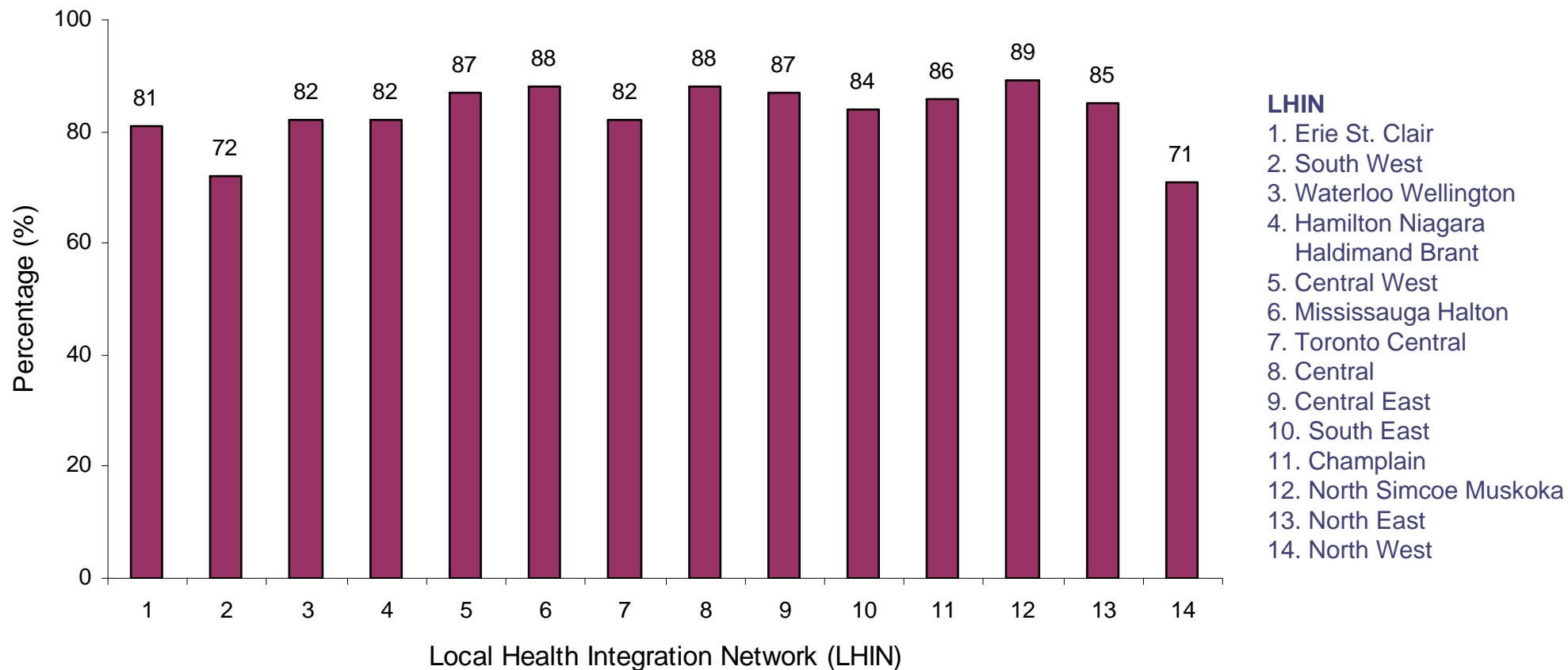


# Age-standardized caesarean section rate (percentage of hospital deliveries) among women who had full-term, singleton, vertex presentations, by Local Health Integration Network, in Ontario, 2007

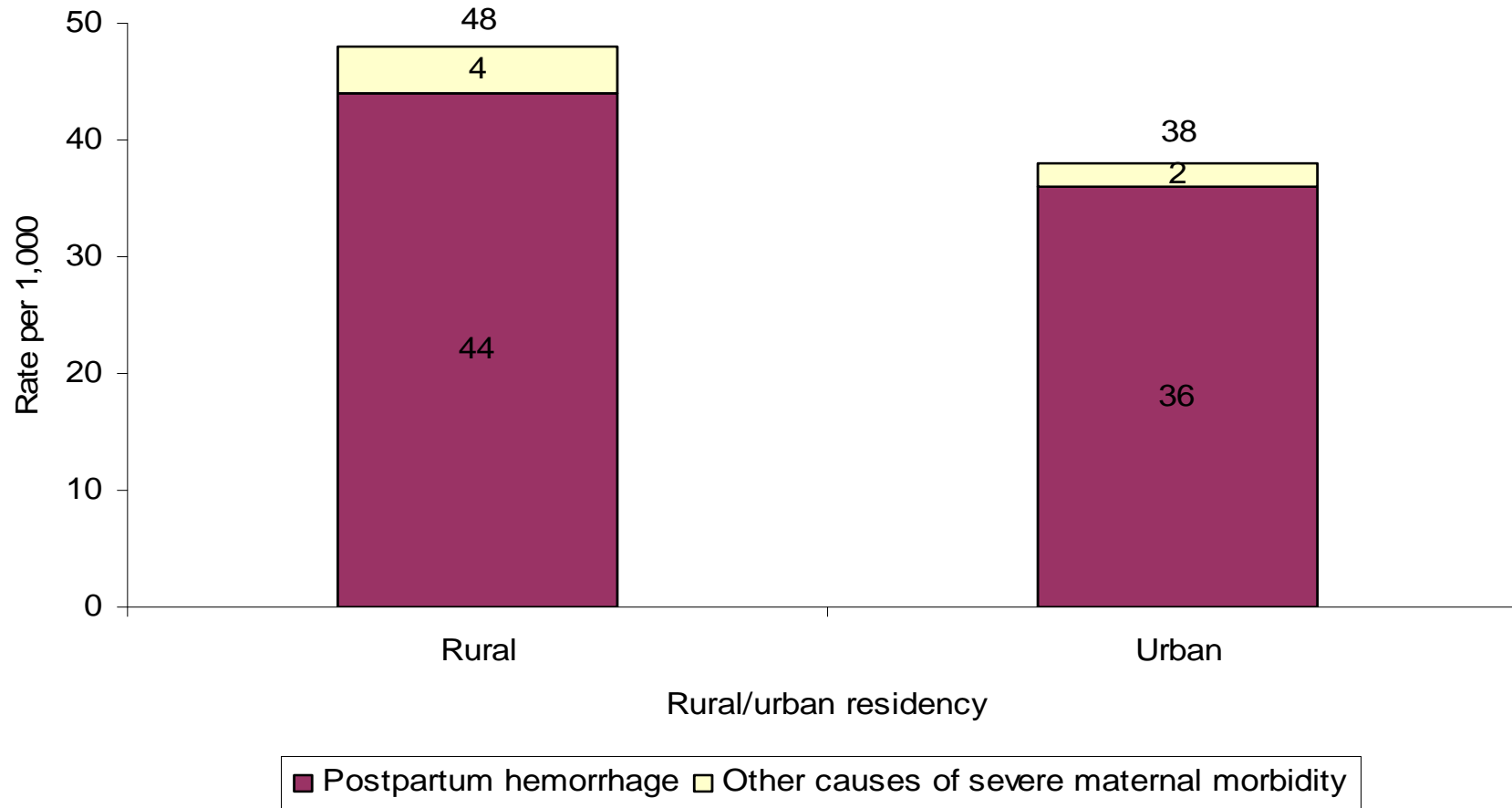


**Data sources:** Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD) (ICES Mother-Baby (MOMBABY) linked database)

# Age-standardized caesarean section rate (percentage of hospital deliveries) among women with a history of previous caesarean section, by Local Health Integration Network (LHIN), in Ontario, 2007

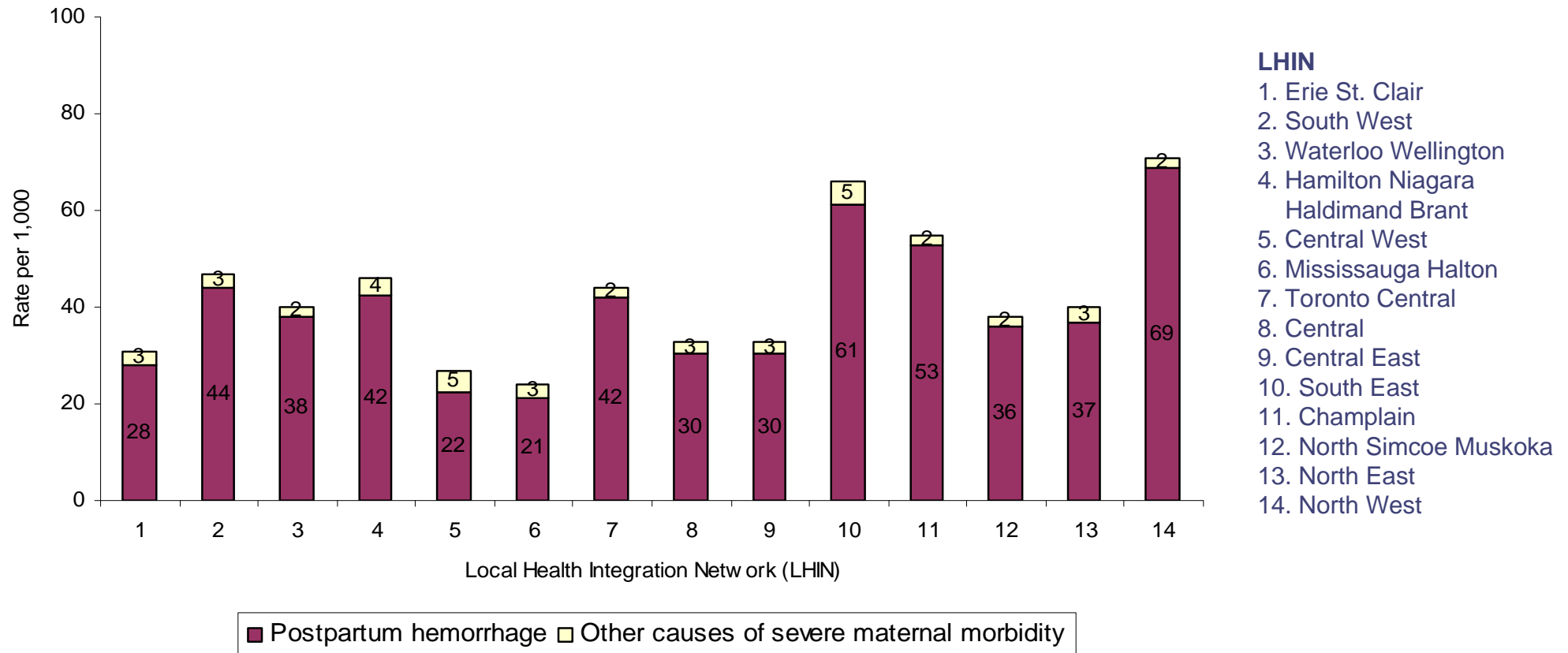


# Age-standardized rate of severe maternal morbidity and postpartum hemorrhage (per 1,000 hospital deliveries) within 30 days after delivery, by rural/urban residency, in Ontario, 2007



Data source: Canadian Institute for Health Information Discharge Abstract Database (ICES Mother-Baby (MOMBABY) linked database)

# Age-standardized rate of severe maternal morbidity and postpartum hemorrhage (per 1,000 hospital deliveries) within 30 days after delivery, by Local Health Integration Network (LHIN), in Ontario, 2007



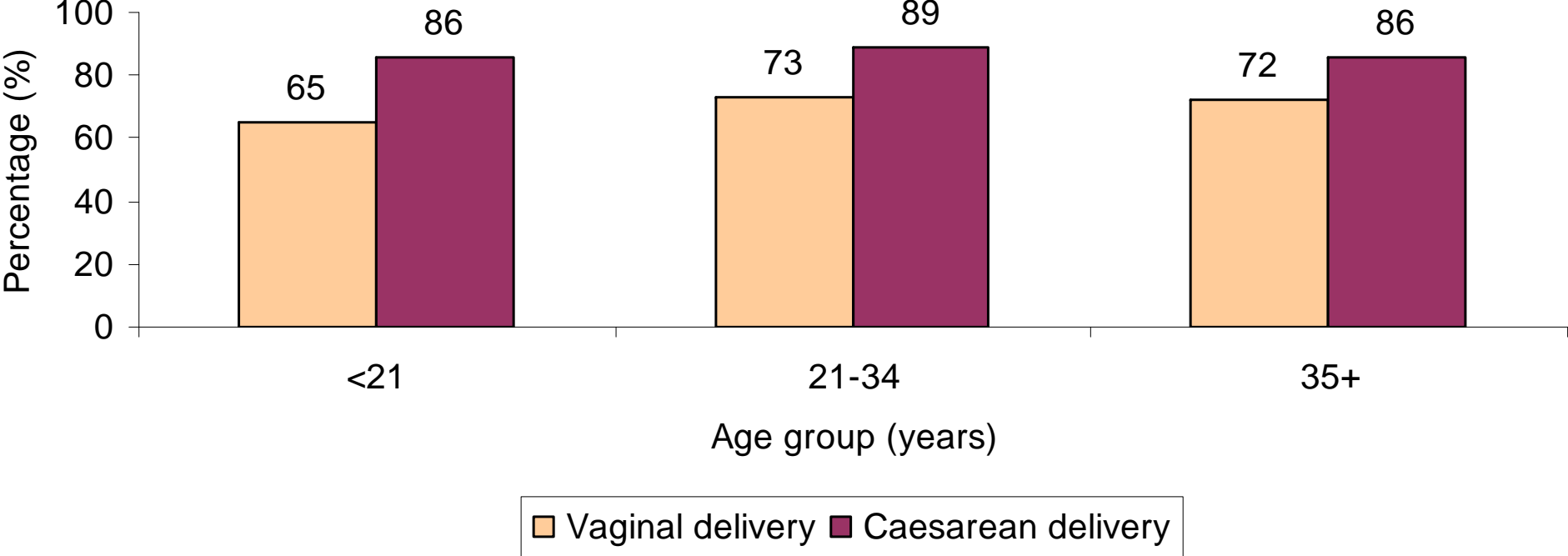
**Data source:** Canadian Institute for Health Information Discharge Abstract Database (ICES Mother-Baby (MOMBABY) linked database)



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# Postpartum Care

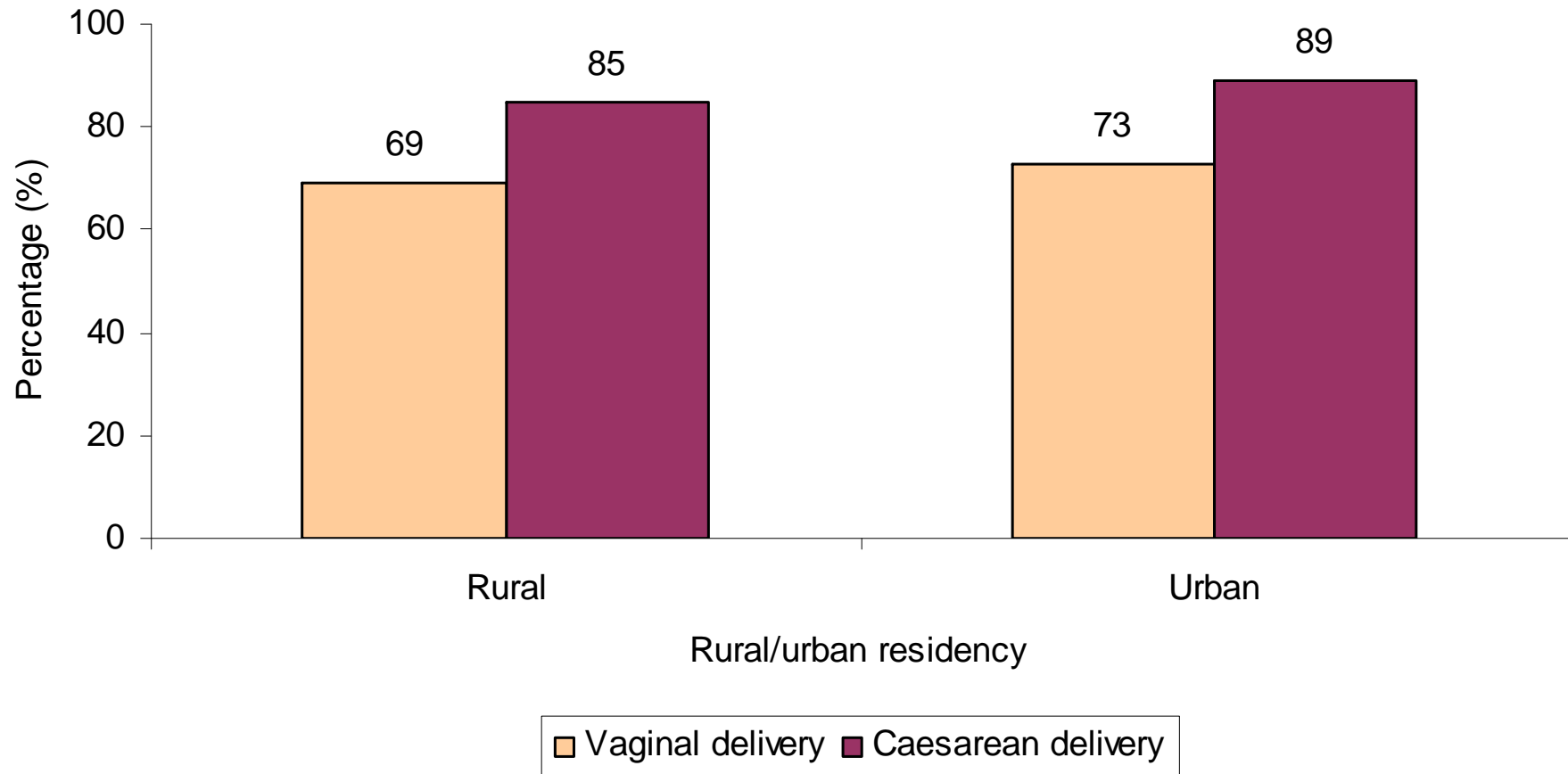
# Early postpartum maternal discharge rate (percentage of hospital deliveries)^ among women who delivered in hospital, by method of delivery and age group, in Ontario, 2007



Data source: Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD) (ICES Mother-Baby (MOMBABY) linked Database)

^Early discharge is defined as less than 48 hours after a vaginal delivery or less than 96 hours after a caesarean delivery

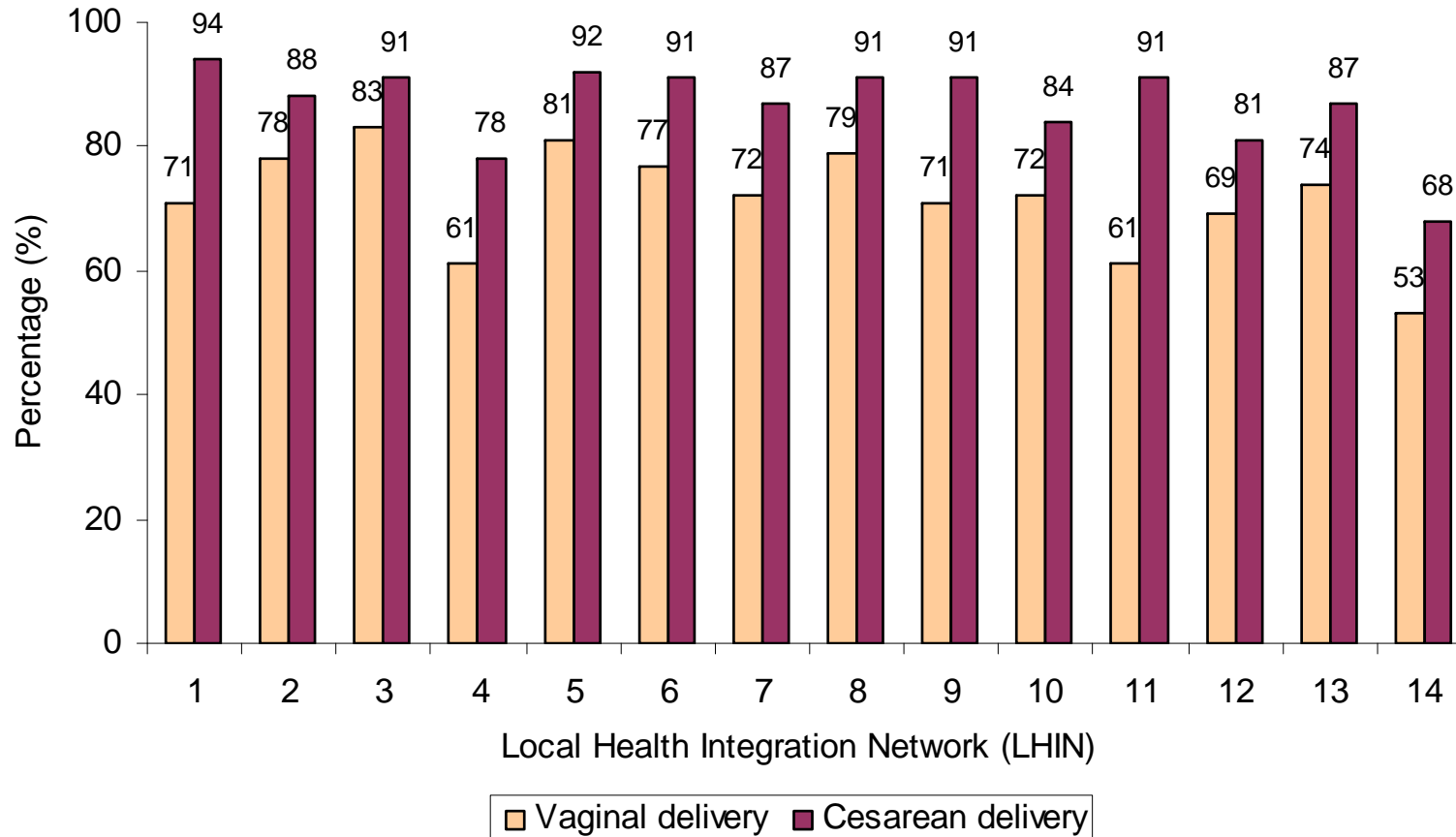
# Age-standardized early postpartum maternal discharge rate (percentage of hospital deliveries)^ among women who delivered in hospital, by method of delivery and rural/urban residency, in Ontario, 2007



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# Age-standardized early postpartum maternal discharge rate (percentage of hospital deliveries)<sup>^</sup> among women who delivered in hospital, by method of delivery and Local Health Integration Network (LHIN), in Ontario, 2007



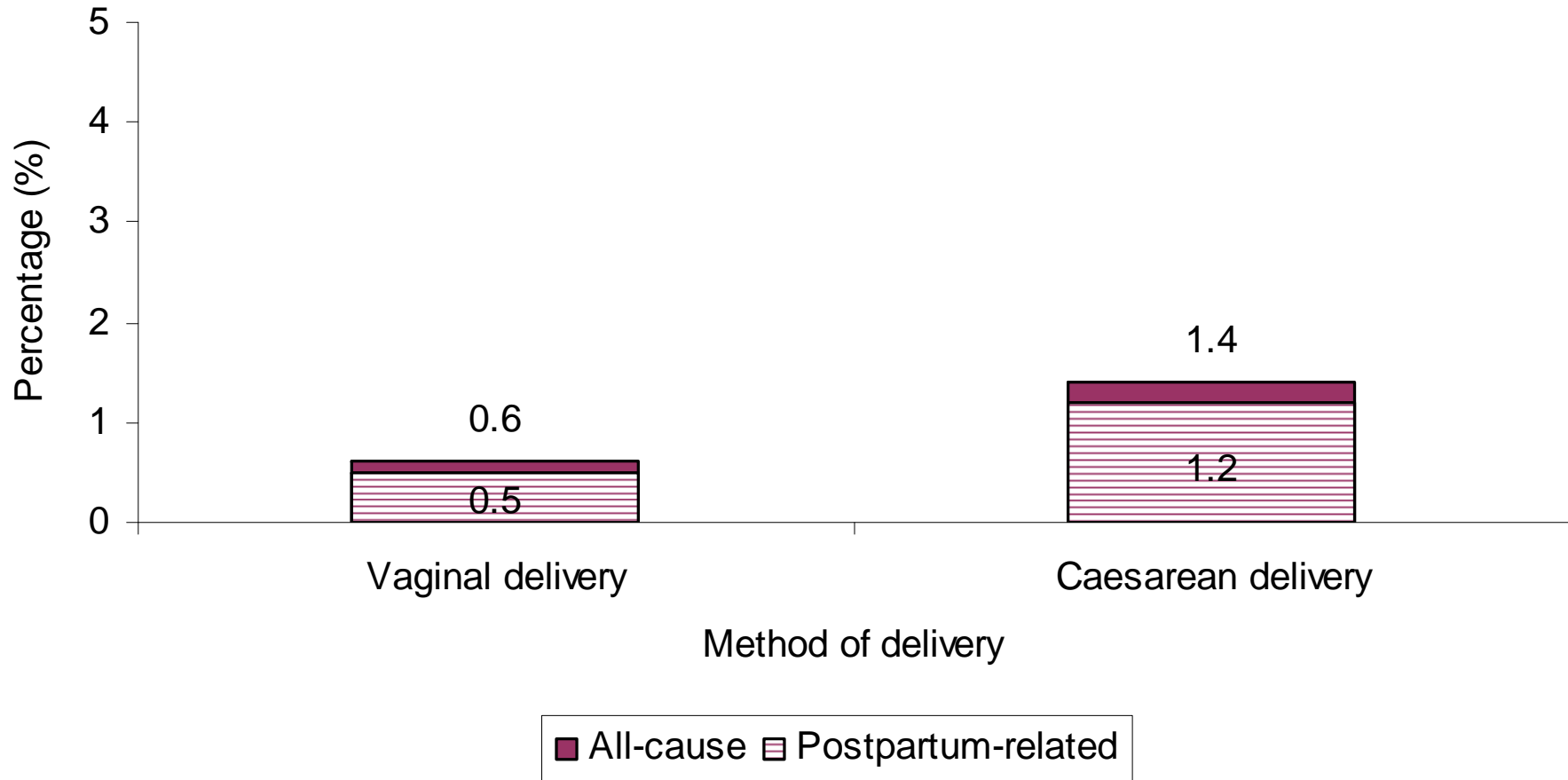
## LHIN

1. Erie St. Clair
2. South West
3. Waterloo Wellington
4. Hamilton Niagara Haldimand Brant
5. Central West
6. Mississauga Halton
7. Toronto Central
8. Central
9. Central East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

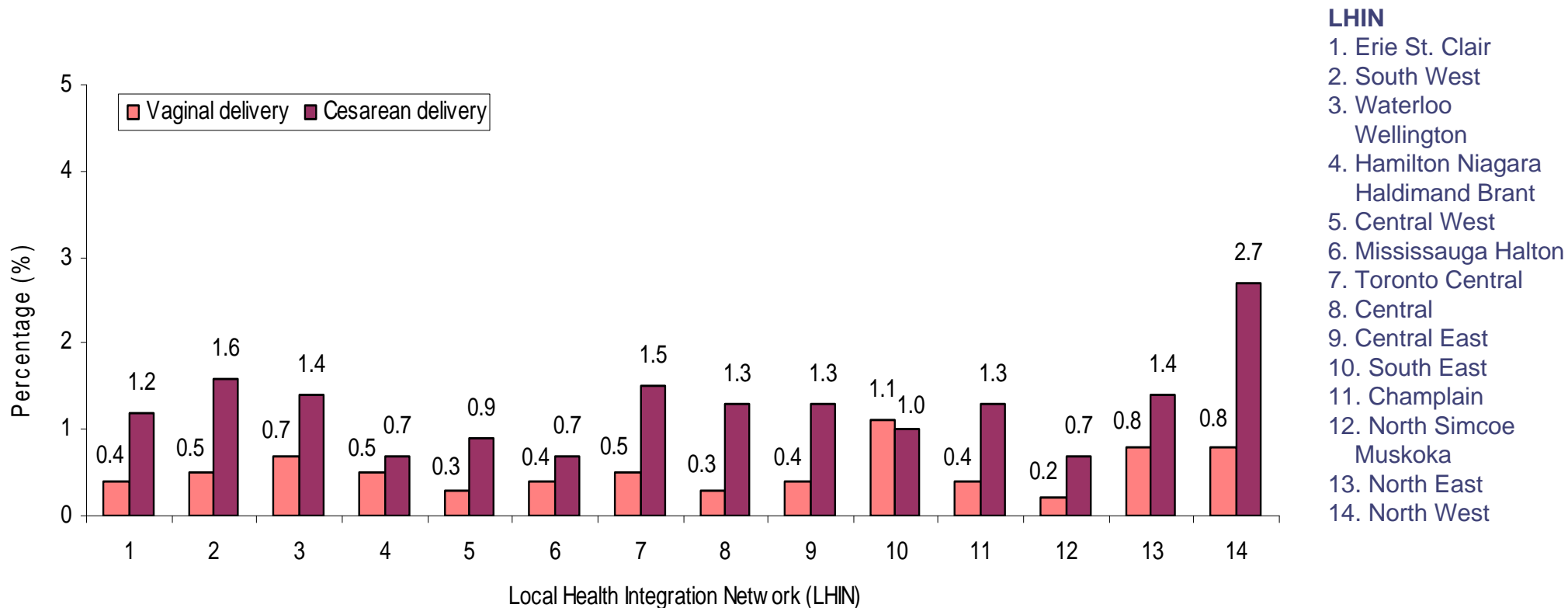
**Data source:** Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD) (ICES Mother-Baby (MOMBABY) linked Database)

<sup>^</sup>Early discharge is defined as less than 48 hours after a vaginal delivery or less than 96 hours after a caesarean delivery

# Fourteen-day all-cause and postpartum-related readmission rates (percentage of hospital deliveries) among women discharged after delivery in hospital, by method of delivery, in Ontario, 2007

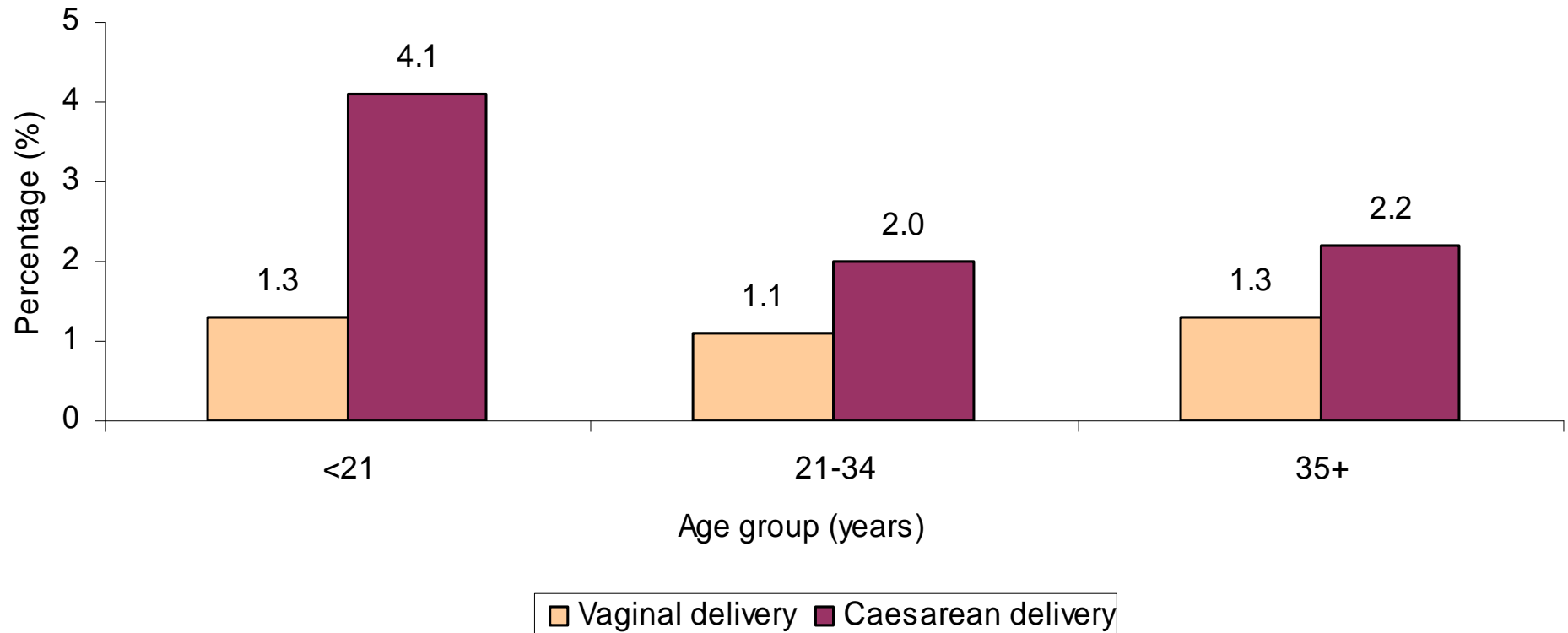


# Age-standardized 14-day postpartum-related readmission rates (percentage of hospital deliveries) among women discharged after delivery in hospital, by method of delivery and Local Health Integration Network (LHIN), in Ontario, 2007

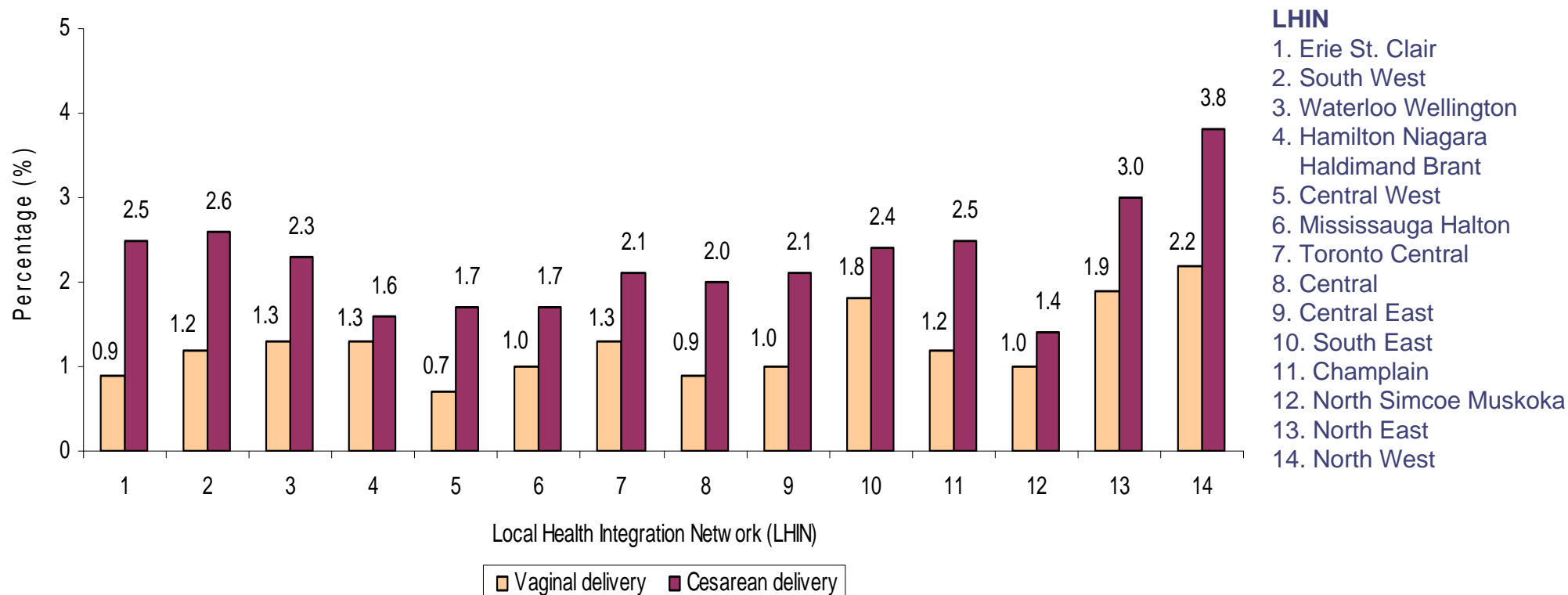


**Data source:** Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD) (ICES Mother-Baby (MOMBABY) linked Database)

# Ninety-day, all-cause maternal readmission rate (percentage of hospital deliveries) among women discharged after delivery in hospital, by method of delivery and age group, in Ontario, 2007



# Age-standardized 90-day, all-cause maternal readmission rate (percentage of hospital deliveries) among women discharged after delivery in hospital, by method of delivery and Local Health Integration Network (LHIN), in Ontario, 2007



**Data source:** Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD) (ICES Mother-Baby (MOMBABY) linked Database)



# Neonatal outcomes

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## ■ Birth Outcomes

- The rate of birth trauma or injury to newborns was 6.6 per 1,000 live births
- The rate of low (3 or less) Apgar score was 2.5 per 1,000 full-term newborns.
- These indicators did not vary by neighbourhood income quintile or by maternal age, but the indicator of low Apgar score did vary by LHIN.

## ■ Hospital Readmissions

- About 1 in 30 infants were readmitted within 28 days of birth and jaundice accounted for almost half of all readmissions.
- Neonatal readmission rates did not vary by neighbourhood income but did vary by LHIN and were higher among those living in urban areas as compared to rural areas.

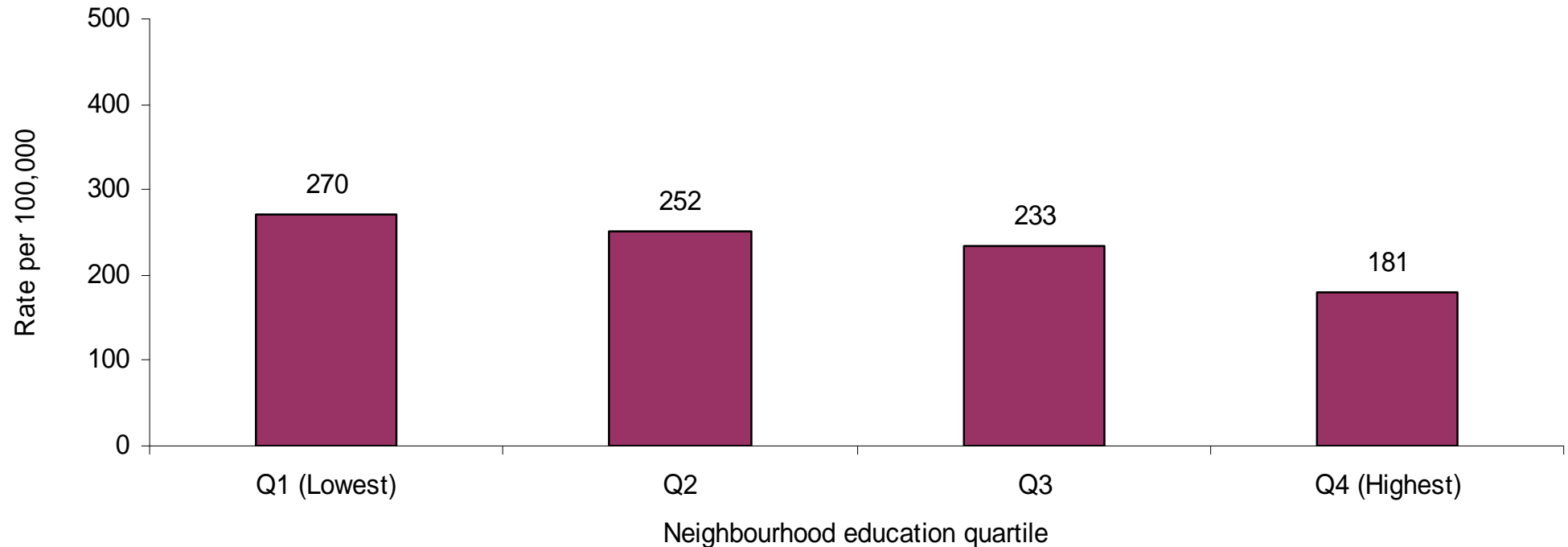
**Data sources:** Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD) (ICES Mother-Baby (MOMBABY) linked Database); Better Outcomes and Registry Network (BORN) Ontario's Niday Perinatal Database

**Note:** see chapter for indicator specific definitions and exclusions

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# Hysterectomy

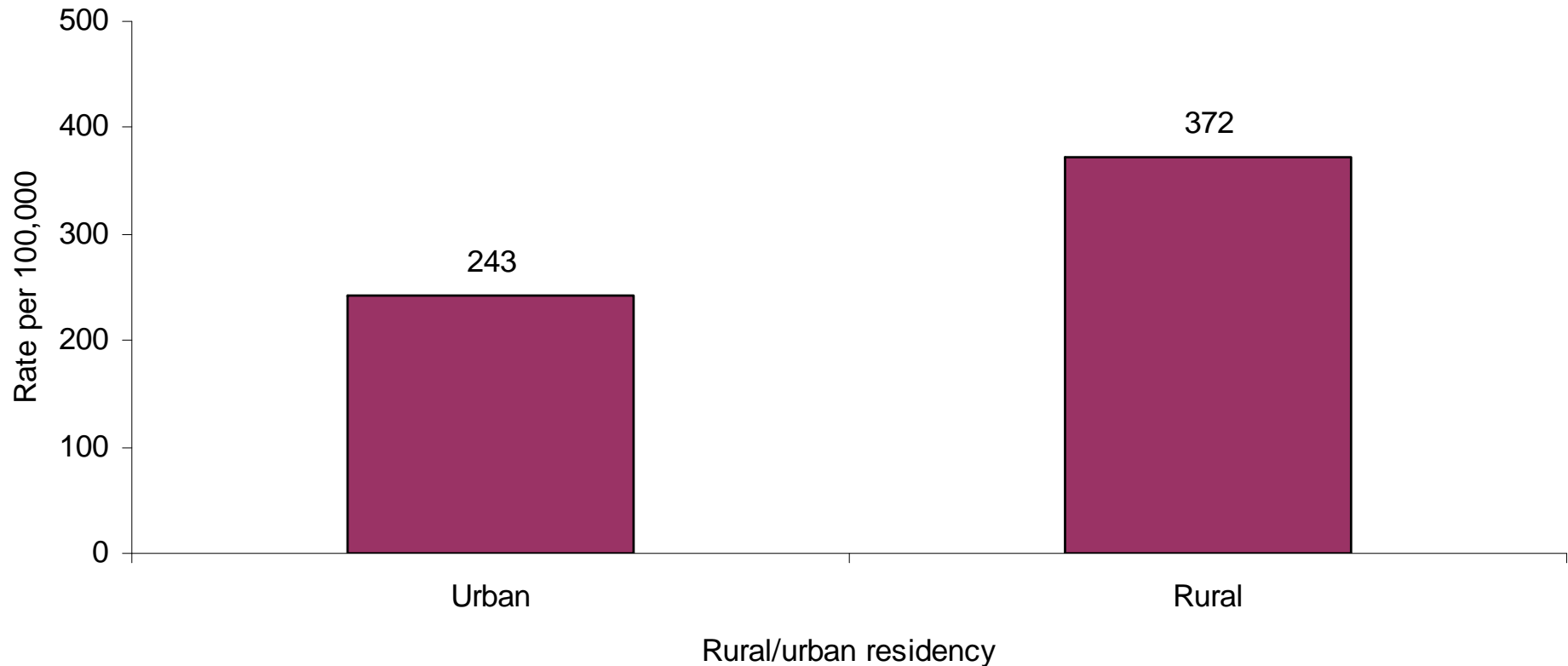
# Age-standardized hysterectomy rates for benign conditions<sup>^</sup> per 100,000 women aged 15-84, by neighbourhood education quartile, in Ontario, 2007



**Data sources:** Canadian Institute for health Information Discharge Abstract Database (CIHI-DAD); Registered Persons Database (RPDB); Statistics Canada 2006 Census

<sup>^</sup> Benign conditions include fibroids, excessive, frequent and irregular menstruation, abnormal uterine and vaginal bleeding, endometriosis, female genital prolapse and inflammatory diseases of female pelvic organs.

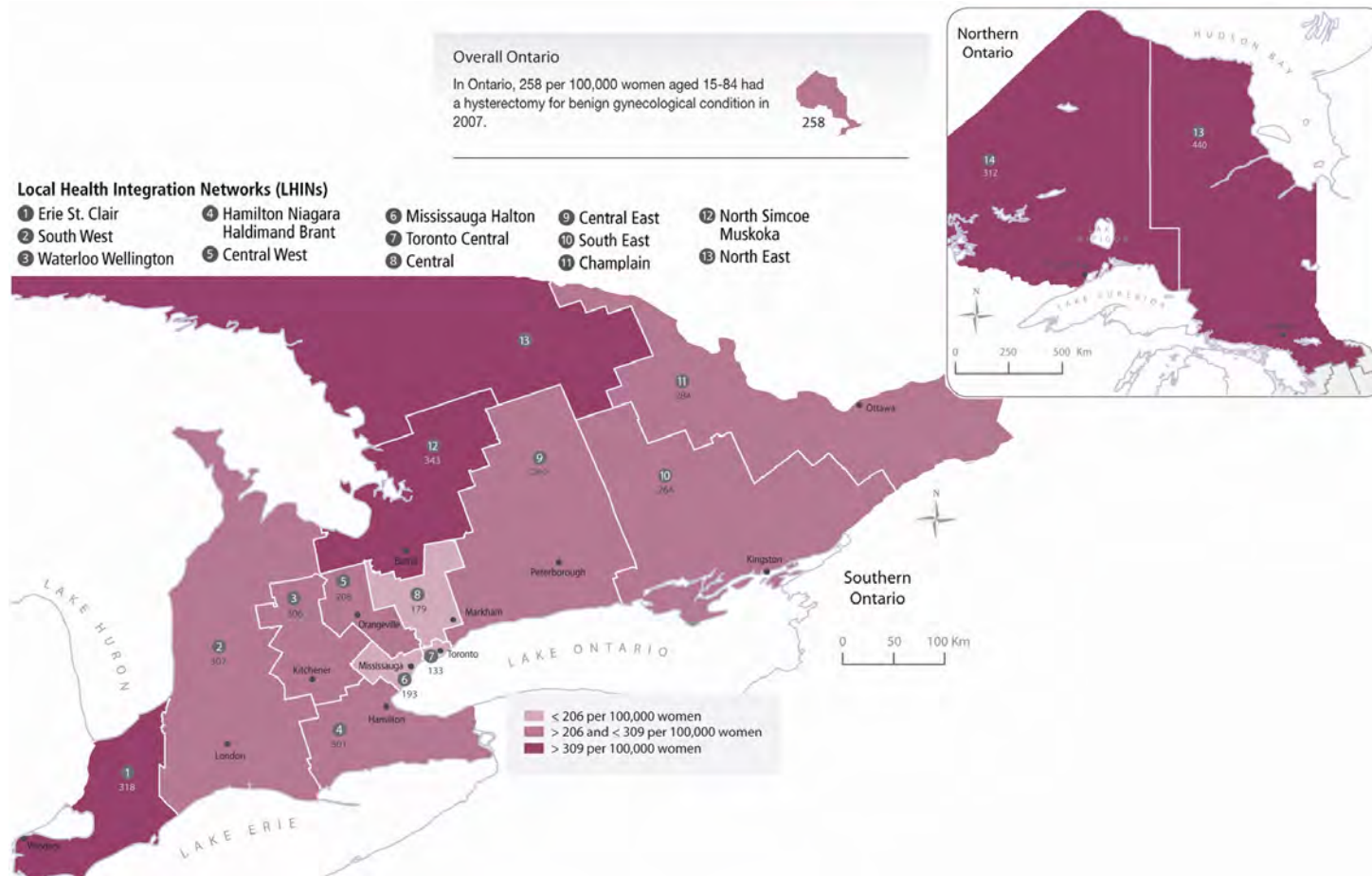
# Age-standardized hysterectomy rate for benign conditions<sup>^</sup> per 100,000 women aged 15-84, by rural/urban residency, in Ontario, 2007



**Data sources:** Canadian Institute for health Information Discharge Abstract Database (CIHI-DAD); Registered Persons Database (RPDB)

<sup>^</sup> Benign conditions include fibroids, excessive, frequent and irregular menstruation, abnormal uterine and vaginal bleeding, endometriosis, female genital prolapse and inflammatory diseases of female pelvic organs.

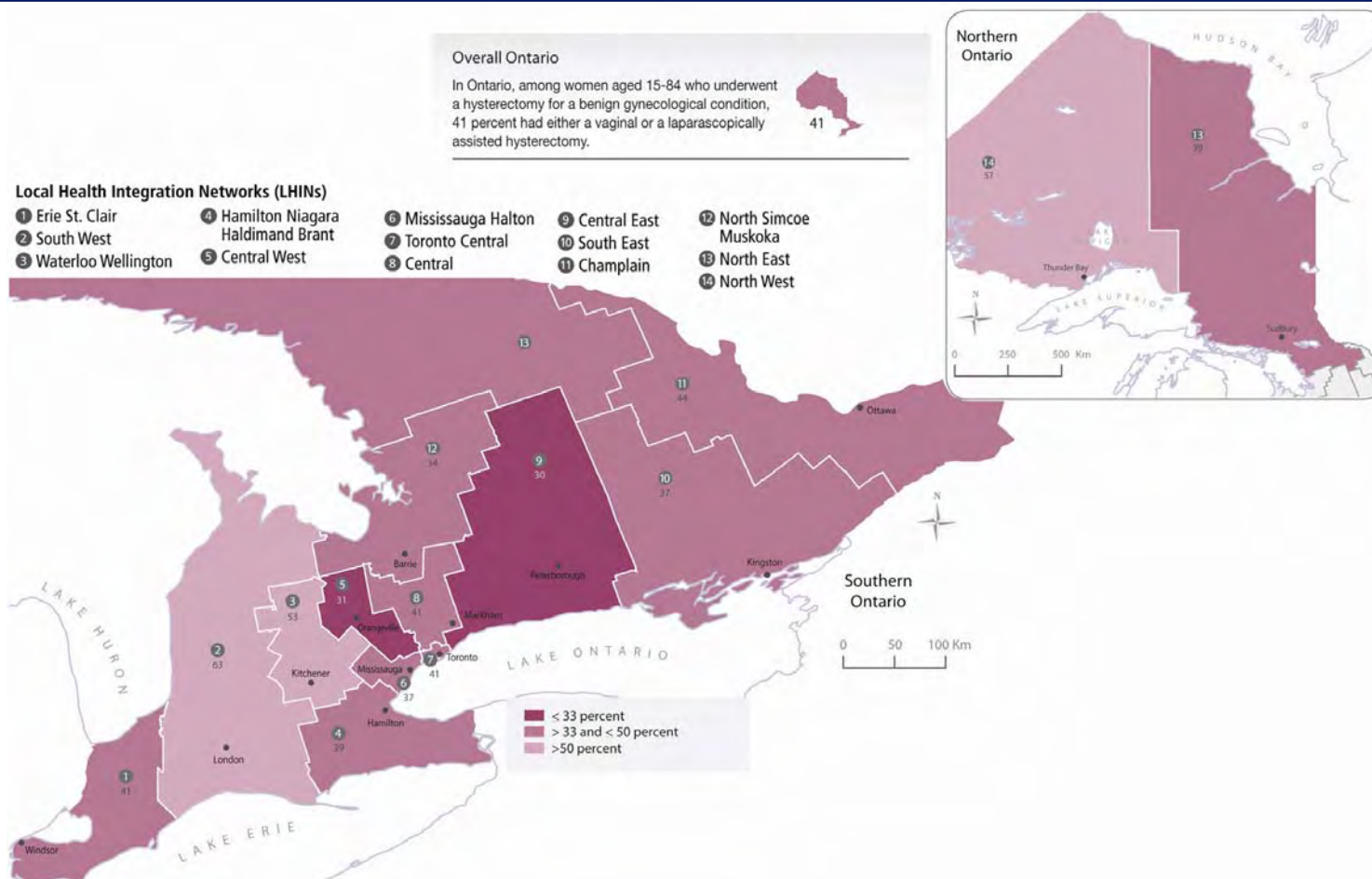
# Age-standardized hysterectomy rate for benign conditions<sup>^</sup> per 100,000 women aged 15-84, by Local Health Integration Network (LHIN), in Ontario, 2007



**Data sources:** Canadian Institute for health Information Discharge Abstract Database (CIHI-DAD); Registered Persons Database (RPDB)

<sup>^</sup> Benign conditions include fibroids, excessive, frequent and irregular menstruation, abnormal uterine and vaginal bleeding, endometriosis, female genital prolapse and inflammatory diseases of female pelvic organs.

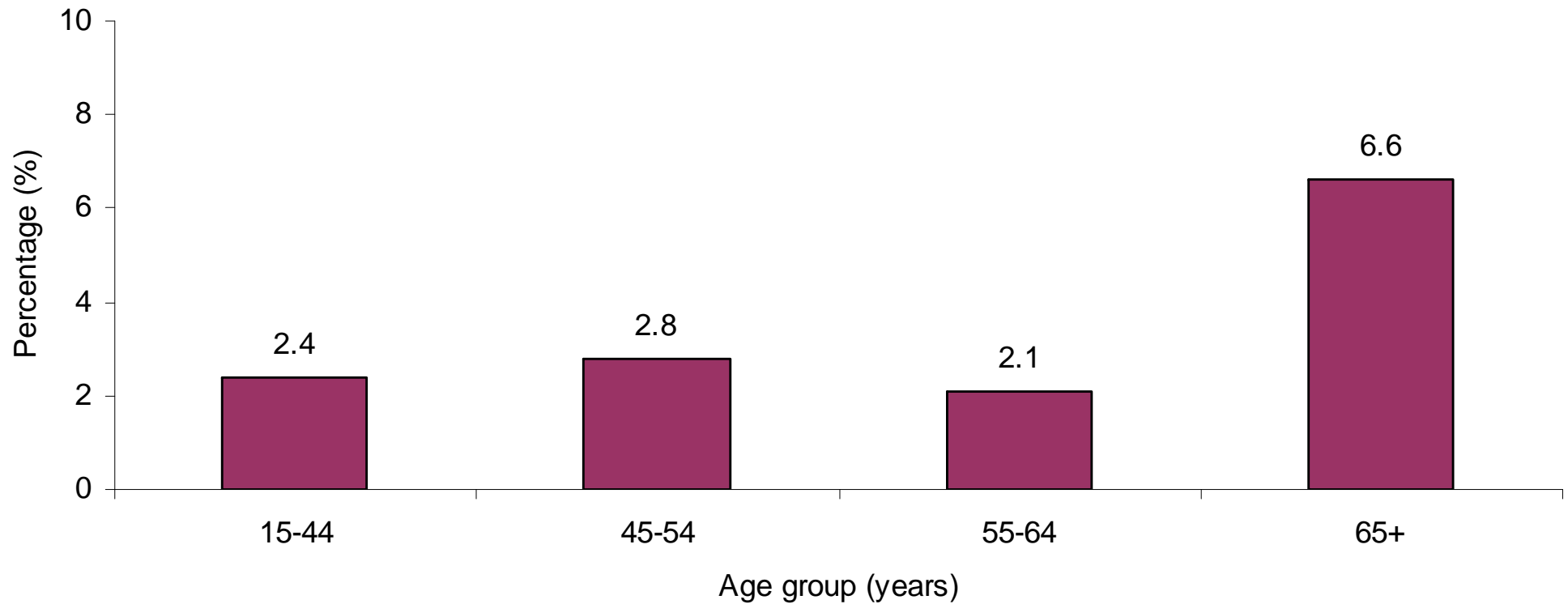
# Age-standardized percentage of women aged 15-84 who had a hysterectomy for a benign condition<sup>^</sup> who had a vaginal or laparoscopic hysterectomy, by Local Health Integration Network (LHIN), in Ontario, 2007



**Data source:** Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD)

<sup>^</sup> Benign conditions include fibroids, excessive, frequent and irregular menstruation, abnormal uterine and vaginal bleeding, endometriosis, female genital prolapse and inflammatory diseases of female pelvic organs

# Percentage of women who experienced complications<sup>^</sup> while in hospital after a hysterectomy for a benign gynaecological condition (fibroids, abnormal uterine bleeding), by age group, in Ontario, 2007



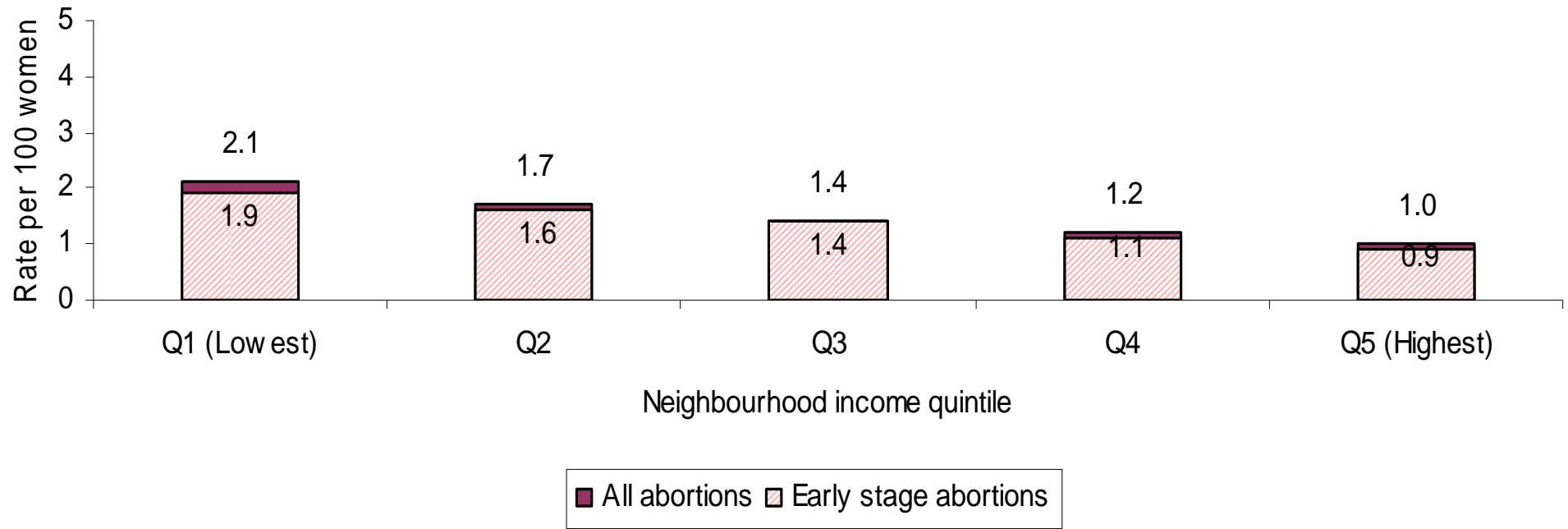
Data source: Canadian Institute for health Information Discharge Abstract Database (CIHI-DAD)

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# Abortion

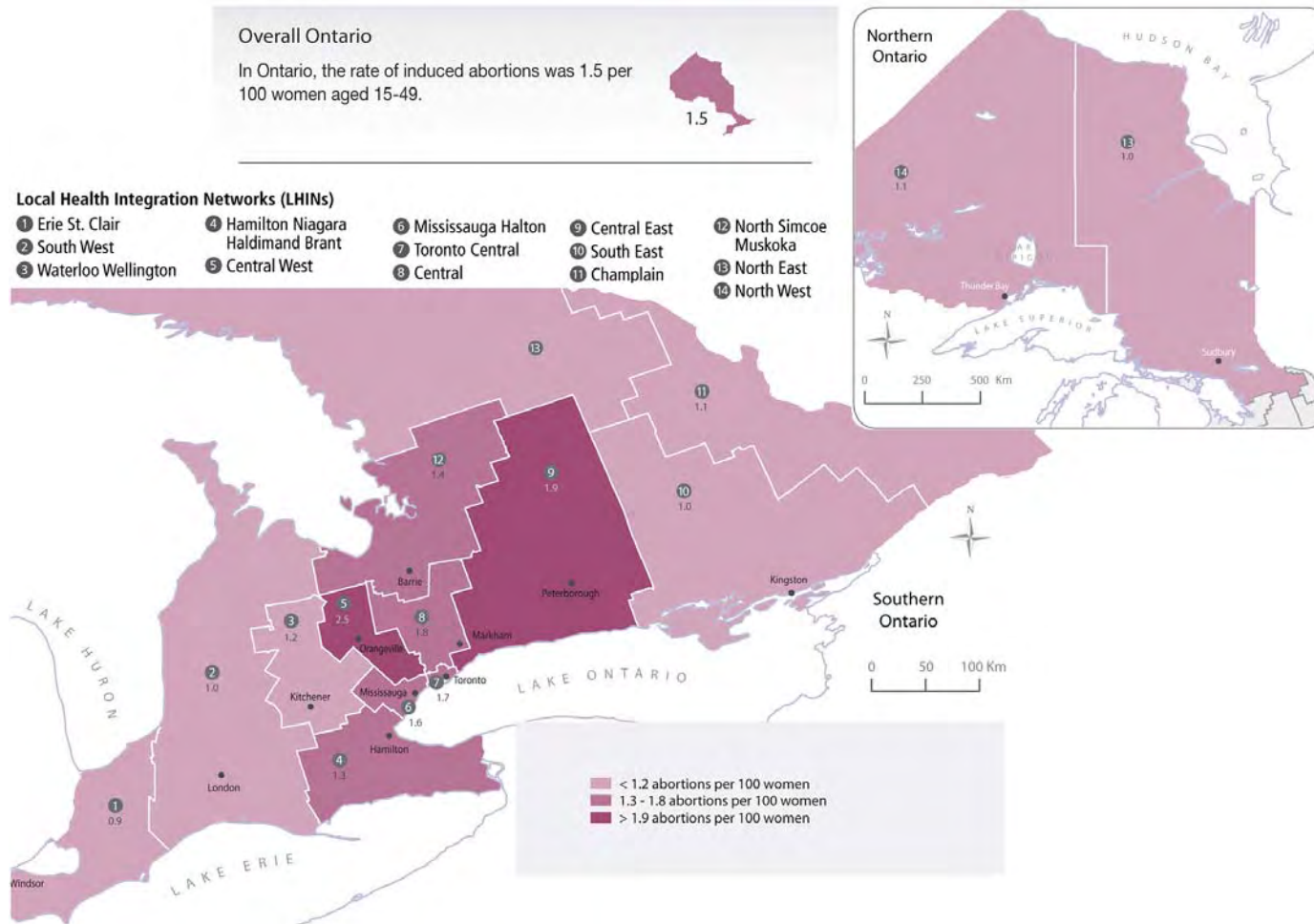


# Age-standardized overall and early stage (less than 16 weeks gestation) induced abortion rate (per 100 women aged 15-49), by neighbourhood income quintile, in Ontario, 2007



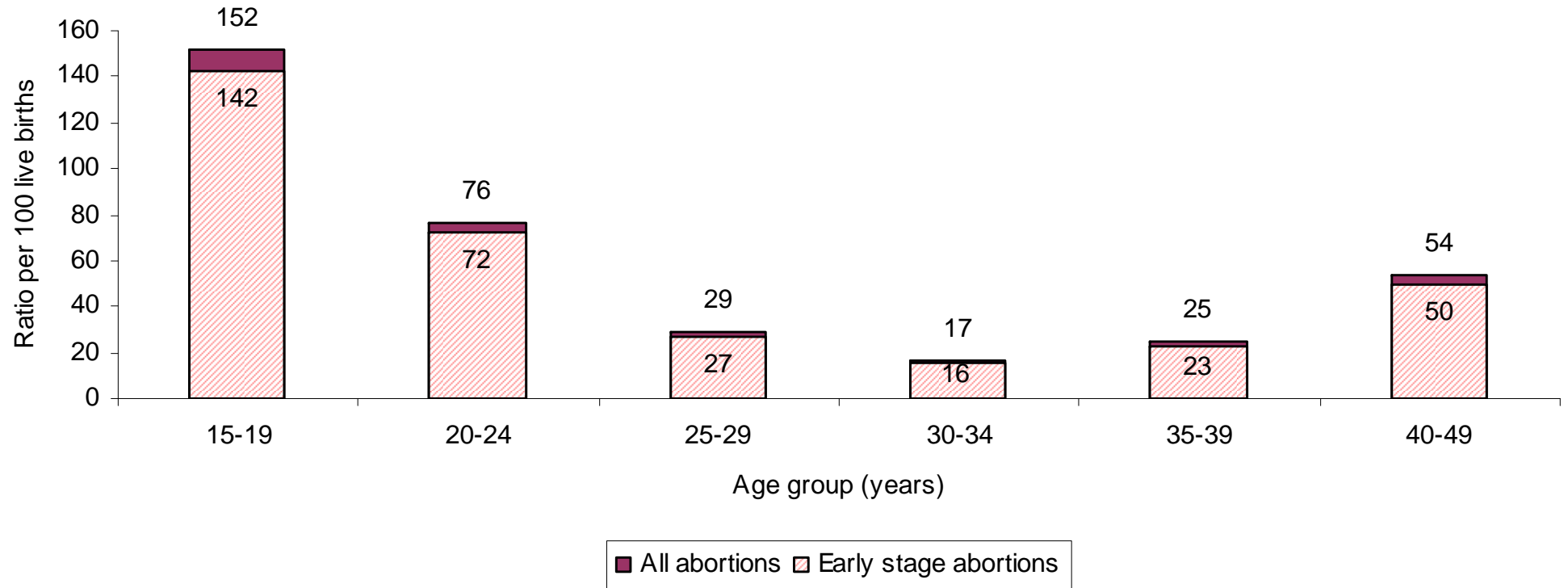
**Data sources:** Ontario Health Insurance Plan (OHIP); Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD); National Ambulatory Care Reporting System (NACRS); Registered Persons Database (RPDB); Statistics Canada 2006 Census

# Age-standardized induced abortion rate (per 100 women aged 15-49), by Local Health Integration Network (LHIN), in Ontario, 2007



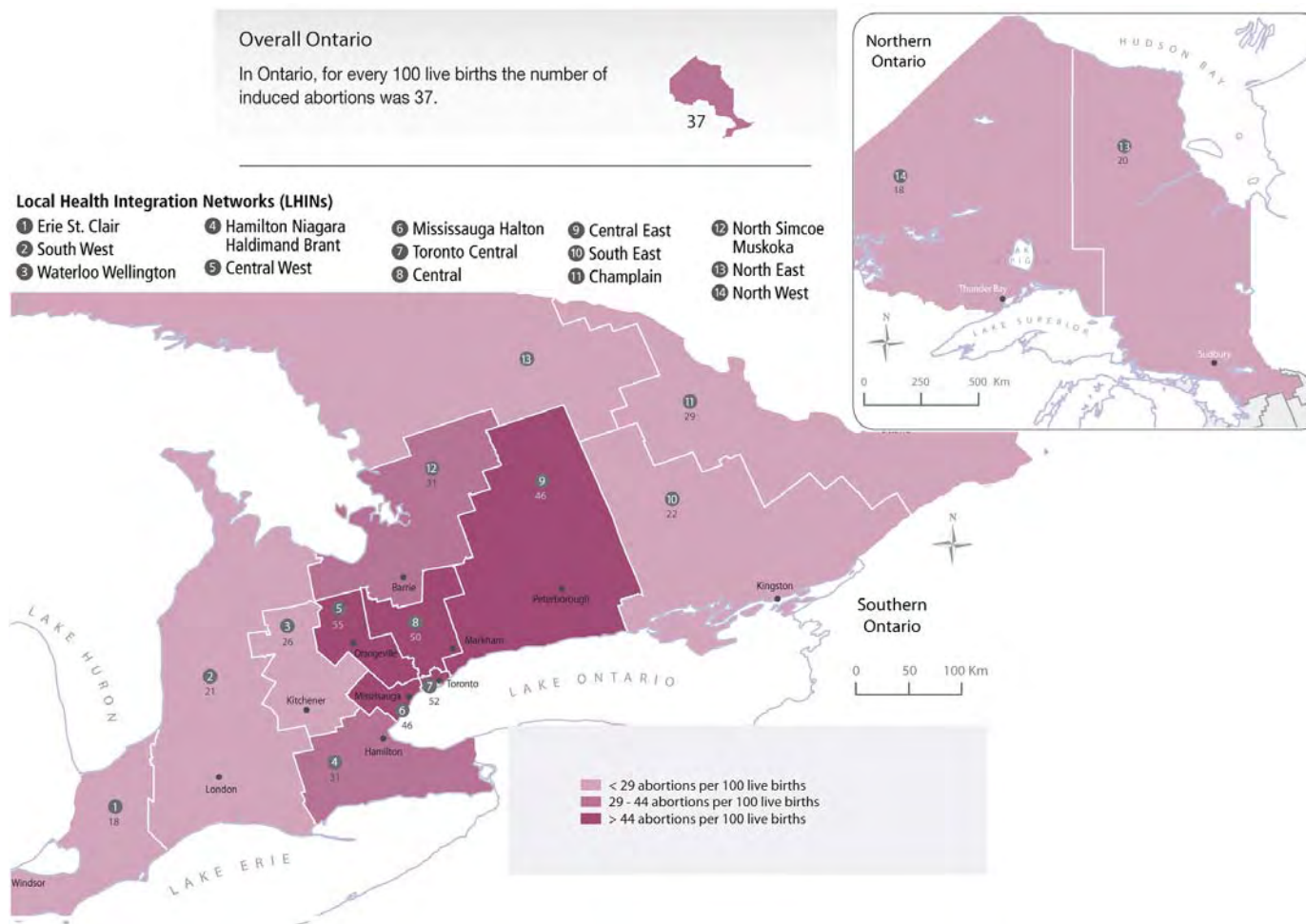
**Data sources:** Ontario Health Insurance Plan (OHIP); Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD); National Ambulatory Care Reporting System (NACRS); Registered Persons Database (RPDB)

# Overall and early stage (less than 16 than weeks gestation) induced abortion ratio (per 100 live births among women aged 15-49), by age group, in Ontario, 2007



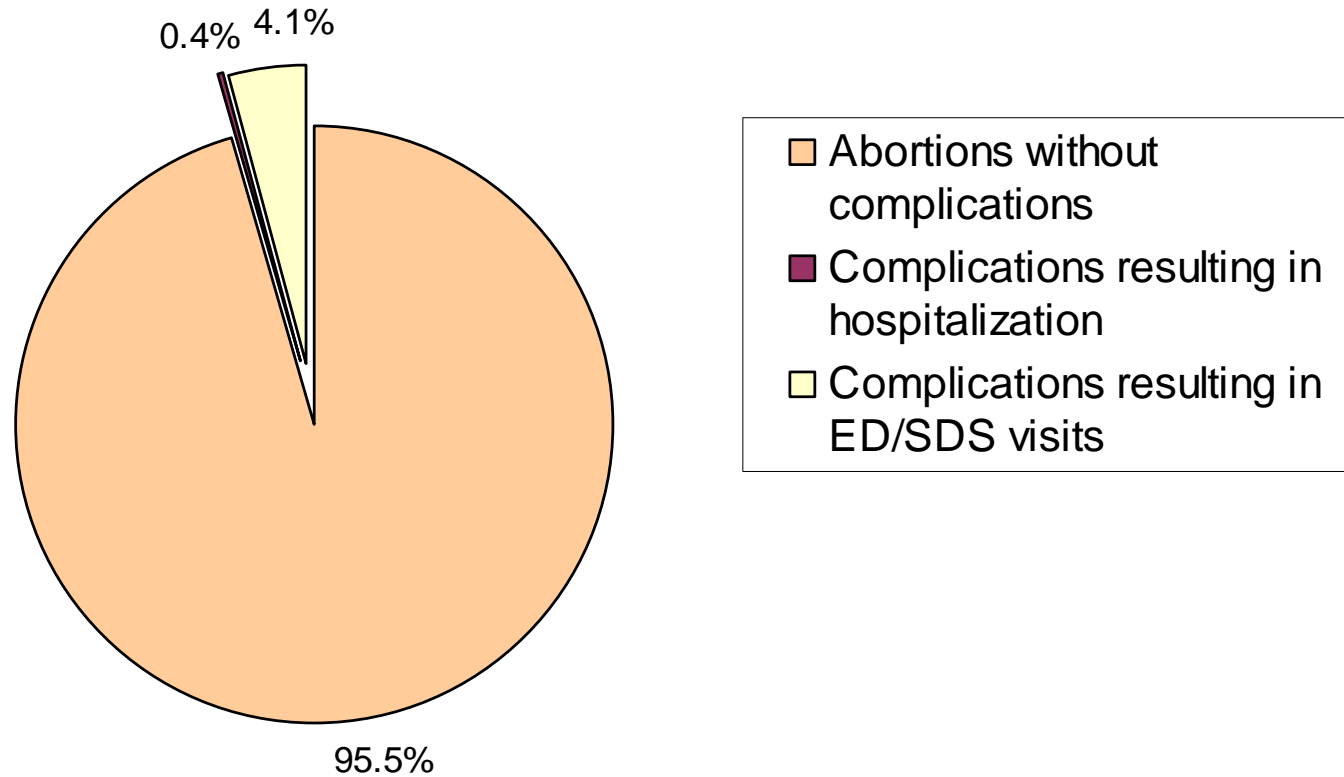
**Data sources:** Ontario Health Insurance Plan (OHIP); Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD); National Ambulatory Care Reporting System (NACRS); Registered Persons Database (RPDB)

# Age-standardized induced abortion ratio per 100 live births, by Local Health Integration Network (LHIN), in Ontario, 2007



**Data sources:** Ontario Health Insurance Plan (OHIP); Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD); National Ambulatory Care Reporting System (NACRS); Registered Persons Database (RPDB)

# Rates of short-term abortion complications (percentage of abortions) resulting in hospitalization and/or emergency department/same day surgery (ED/SDS) visits, in Ontario, 2007



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# Sexually Transmitted Infections

# Incidence (per 100,000 population) of new cases of sexually transmitted infections, by sex and year, in Ontario, by 2006-2008

	Reported cases per 100,000 population					
	2006		2007		2008	
	Women	Men	Women	Men	Women	Men
Chlamydia	266	161	272	165	309	175
Gonorrhoea	26	48	30	45	30	43
Syphilis	0.5	6.7	0.4	7.5	0.6	7.9
Hepatitis B virus	1.3	2.2	1.2	2.0	0.7	1.9

**Data sources:** Integrated Public Health Information System (iPHIS), Ontario Ministry of Health and Long-Term Care

**Note:** Population is restricted to those aged 15 and older

# Study Limitations

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- We have data on the services received but not the services that were offered to women or about women's roles in decision making.
- Data from the Niday Perinatal Database of BORN Ontario are more comprehensive than administrative data, however the data are limited to information collected at the time of birth and to women who delivered in hospital.
- While we were able to include clinical data for childbirth, we did not have the same level of clinical detail on hysterectomies or abortions.
- We did not have data on other important characteristics of women, such as ethnicity, immigration and language, which may help us to understand and assess the care provided to them.
- Data on sexually transmitted infections are prone to screening and reporting biases.



# Key messages

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- Shared decision making is essential to optimizing reproductive and gynaecological care.
- There is opportunity to reduce substantial geographic variation in the clinical management, services provided, and outcomes of reproductive health and gynaecological care.
- There is a need to better understand the reasons for regional variation in caesarean section rates and the overall increase in these rates over the last decade and there is an opportunity to reduce the observed regional variation.

# Key messages

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- There is opportunity to reduce substantial geographic variation in the use of hysterectomy for benign conditions as well as to increase the proportion of hysterectomies done by the less invasive vaginal or laparoscopic routes.
- There is opportunity to reduce rates of teen pregnancy and abortion among low-income women.
- There is a need to improve quality, availability and timeliness of data to assess reproductive health and gynaecological care in the province.

# For more information, please contact us:

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*The POWER Study is funded by Echo: Improving Women's Health in Ontario, an agency of the Ministry of Health and Long-Term Care. This presentation does not necessarily reflect the views of Echo or the Ministry.*



**Ontario**

Echo: Improving Women's  
Health in Ontario

**ICES** Institute for Clinical  
Evaluative Sciences