Cardiovascular Disease

AUTHORS
Arlene S. Bierman
Beth L. Abramson (IHD lead)
R. Liisa Jaakimainen (HF lead)
Moira K. Kapral (Stroke lead)
Nahid Azad
Ruth Hall
Patty Lindsay
Gladys Honein
Naushaba Degani

power

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

A Tool for Monitoring and Improvement

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

Uses for POWER Study

- Priority Setting

- Building the Evidence Base

- Informing Practice and Policy

- Tool for Improvement

- Integrating Equity into Planning and Quality Improvement

power

www.powerstudy.ca

Stakeholder Consultations

- Power Study Roundtables
- Consumers: representatives of community based groups and associations
- Providers: clinicians, government, health data agencies, LHINs, CHCs, CCACs
- Range of areas and interests
  - Especially cancer, cardiovascular, and depression
  - Some representation from outside GTA

power

Ontario Women's Health Equity Report

Volume 1

- Burden of Illness
- Cancer
- Depression
- Cardiovascular disease
- Access to Health Care
- Conclusions and Policy Implications

Volume 2

- Diabetes
- HIV Infection
- Musculoskeletal Disorders (arthritis, osteoporosis)
- Reproductive and Gynecological Health
- Special Populations (low income, immigrant and older women)
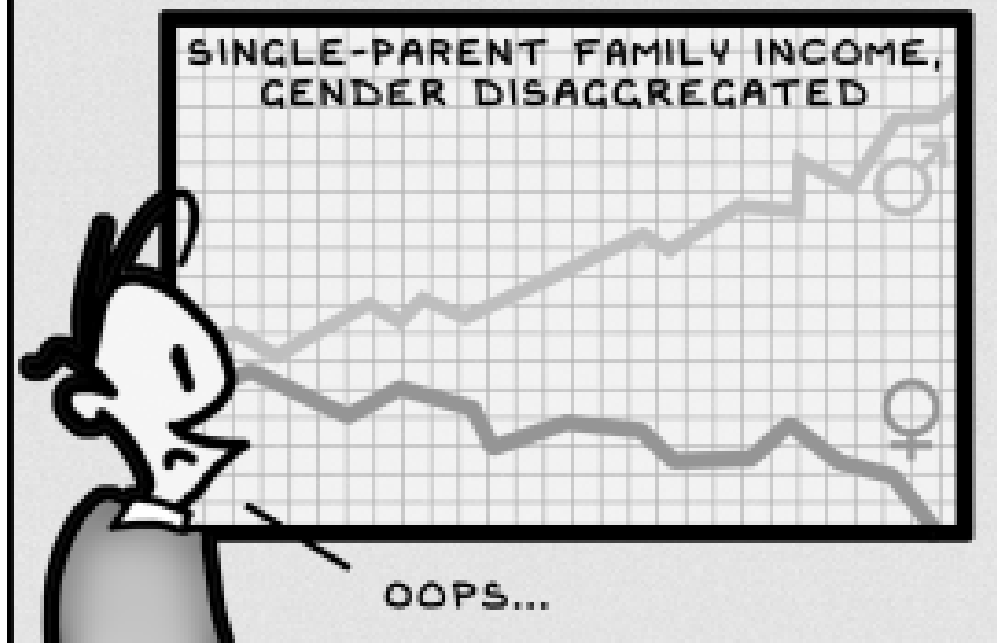- Social Determinants of Health
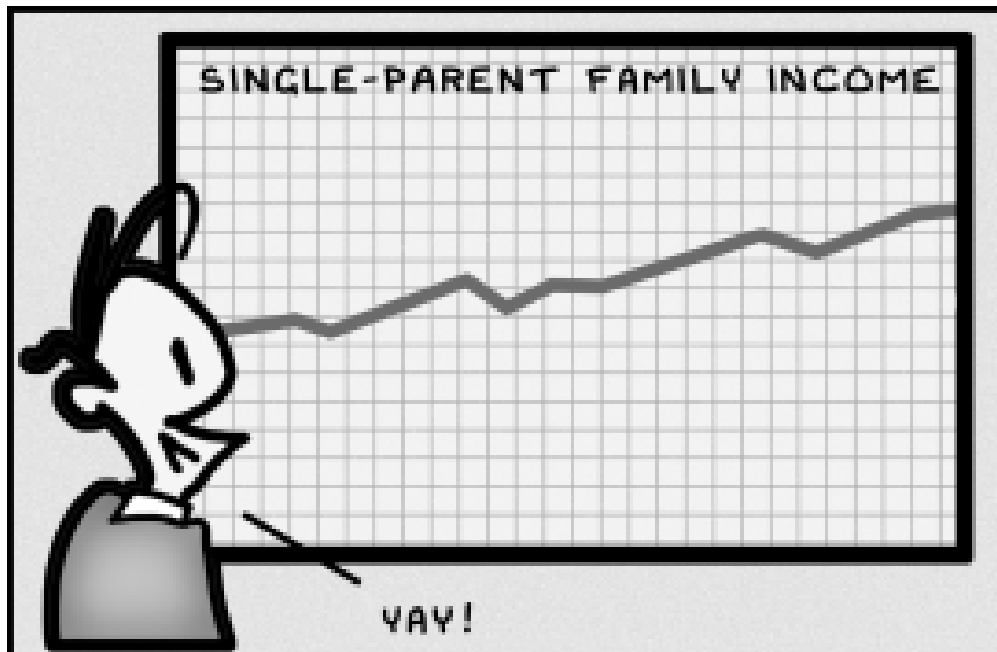
Interactive data cube

power

www.powerstudy.ca

Measuring and Monitoring Gender Differences in CVD Indicators

Women and men have very different:

- Patterns of illness and morbidity

- Social contexts

- Experiences with health care

Health inequities among women associated with:

- Socioeconomic position

- Age

- Geography

Women's Health Reporting: Developing a New Model

The Ontario Women's Health Equity Report can serve as a model for

- – incorporating gender and equity as an integral component of improvement efforts;

- – focusing on the need to integrate efforts to improve population health and health care services;

- – building upon evidence-based analyses to provide new information on factors and pathways contributing to gender and socioeconomic differences in health outcomes.

power

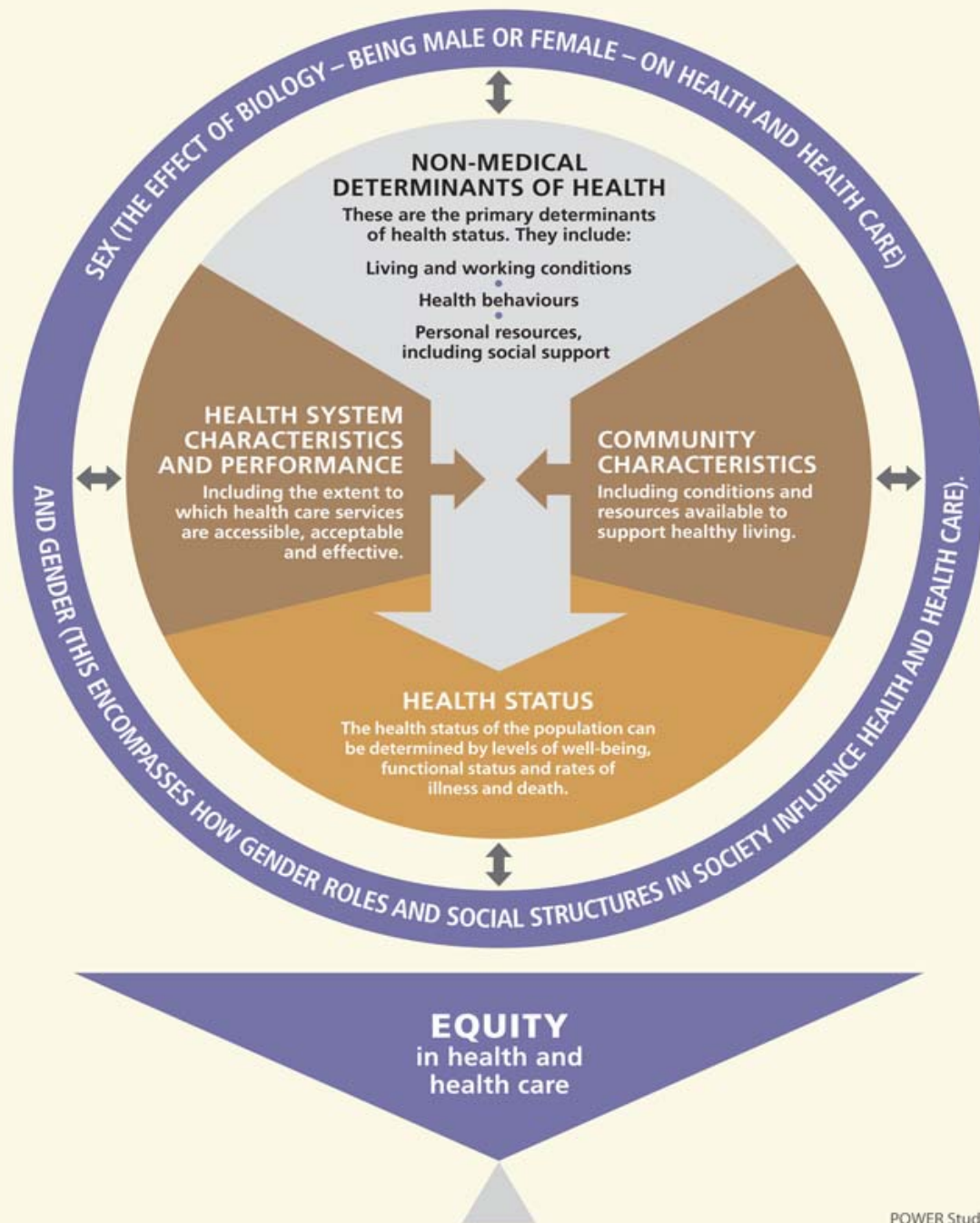www.powerstudy.ca

Assessing Equity
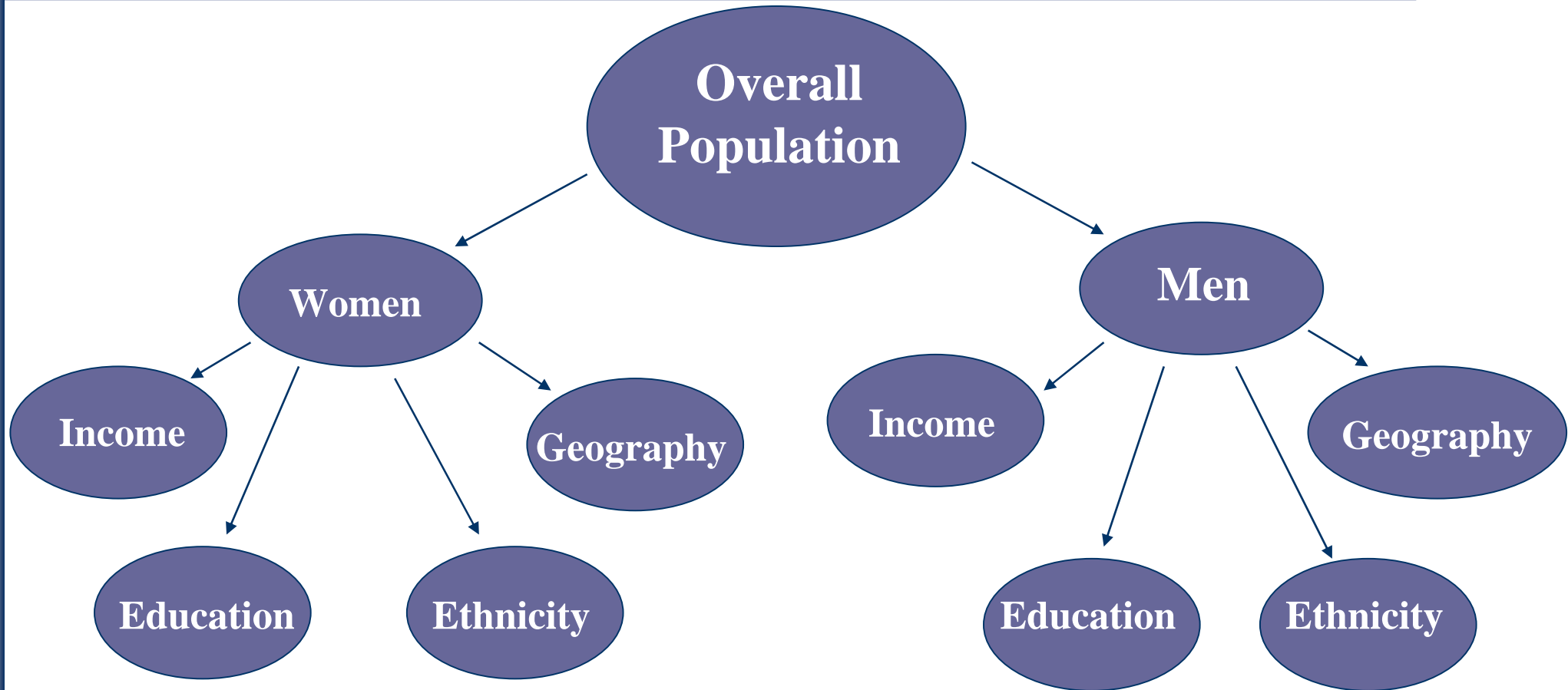
Health Indicator Measurement and Reporting: A Tool to Drive Change

Health indicator measurement and reporting provide essential tools for informing and monitoring efforts to:

- Improve population health
- Improve access to quality and outcomes of health care services
- Reduce inequities in health and health care

power
www.powerstudy.ca

Effecting Change . . .

- Reporting by itself does not result in improvement.

- For performance measurement and reporting to result in change it needs to be evidence-based, strategy driven, linked to a commitment for change by health system leaders and providers, and mechanisms for accountability.

POWER Study Gender and Equity Health Indicator Framework

NON-MEDICAL DETERMINANTS OF HEALTH
These are the primary determinants of health status. They include:

Living and working conditions

Health behaviours

Personal resources, including social support

HEALTH SYSTEM CHARACTERISTICS AND PERFORMANCE
Including the extent to which health care services are accessible, acceptable and effective.

COMMUNITY CHARACTERISTICS
Including conditions and resources available to support healthy living.

HEALTH STATUS
The health status of the population can be determined by levels of well-being, functional status and rates of illness and death.

SEX (THE EFFECT OF BIOLOGY – BEING MALE OR FEMALE – ON HEALTH AND HEALTH CARE)

AND GENDER (THIS ENCOMPASSES HOW GENDER ROLES AND SOCIAL STRUCTURES IN SOCIETY INFLUENCE HEALTH AND HEALTH CARE).

EQUITY
in health and health care

POWER Study

power

www.powerstudy.ca

CVD Chapter Framework

- Developed by members of the CVD Working Group
- Includes:
  - Health and functional status of people with CVD
  - Heart failure (HF)
  - Ischemic heart disease (IHD)
  - Stroke and transient ischemic attack (TIA)

- Includes measures of quality of life, quality of care including physician care, medication management, diagnostic testing and outcomes of care.

Process for Indicator Selection

Framework developed by working group

Literature review to identify candidate indicators

No. of indicators identified from literature:
200+

Short-listing of candidate indicators by working group members with respect to importance and feasibility of measurement using admin data

No. of indicators presented to TEP:
60

Technical expert panel (TEP)

No. of indicators selected by panel:
57

Analysis with stratification by sex, income, age and LHIN where feasible

power

www.powerstudy.ca

CVD Chapter

- Health and functional status of people with CVD
- Heart failure
- Ischemic heart disease
- Stroke

Data Sources

Most recently available data (2000-2005) from:

– Canadian Community Health Survey (CCHS), Cycles 1.1. & 3.1
– Canadian Institutes for Health Information Discharge Abstracts Database (CIHI-DAD)
– Ontario Health Insurance Plan (OHIP), physician claims
– National Ambulatory Care Reporting System (NACRS)
– Ontario Drug Benefit (ODB) database
– CIHI National Rehabilitation Reporting System (NRS)
– Cardiac Care Network (CCN) wait lists database
– Ontario Congestive Heart Failure Database (OCHFD)
– ICES Coronary Artery Bypass Graft Surgery (CABG) database
– Registered Persons Database (RPDB)
– ICES Physician Database (IPDB)
– The Registry of the Canadian Stroke Network-Ontario Stroke Audit (RCSN-OSA)
– Enhanced Feedback for Effective Cardiac Treatment (EFFECT) study, phase I

All analyses stratified by sex, age, income and region sample size permitting

CVD Chapter - LHIN-level data shared

Health and Functional Status	LHIN	By income	By age
No LHIN level data reported			
Heart Failure			
In-hospital physician care for HF patients	GP/FP sole care		
Medication management within 90 days and one year of discharge: - Beta blockers - ACE inhibitors and/or ARBs - Warfarin (for patients with atrial fibrillation)	90-day	90-day beta blockers only	90-day beta blockers only
Left ventricular function evaluation within the period six months before admission to one month post discharge	√	√	
Cardiac testing: stress testing; echocardiography; angiography within the period six months before admission to one month post discharge			

power

CVD Chapter - LHIN-level data shared

Heart Failure	LHIN	By income	By age
Age-adjusted, emergency department visits post - discharge within: (30 days and one year)	all-cause	all-cause	all-cause
Risk-adjusted, non-elective readmission post-discharge within: (30 days and one year)	all-cause	all-cause	
Risk-adjusted mortality within one year of HF admission	√	√	
Weight measurement on 50 percent of inpatient hospital days			
Discharge instructions	**Data are not available at LHIN level**		
Cardiology care for newly identified HF patients	**Data are not available at LHIN level**		

CVD Chapter - LHIN-level data shared

Ischemic heart disease indicators	LHIN	By income	By age
In-hospital physician care for AMI patients:	Cardiology care and GP/FP sole care		
Medication management within 90 days and one year of discharge for an AMI: - Statins - Beta blockers - ACE inhibitors and/or ARBs	90 days		
Age-standardized angiography rates for AMI patients: within 3 months post discharge (includes referred within three months)	√	√	
Risk-adjusted, non-elective readmission post- discharge after an AMI admission: (30 days and one year)	All-cause		
Risk-adjusted mortality within 30 days and one year of AMI admission	One-year	One-year	
Aspirin therapy in hospital	**Data are not available at LHIN level**		
Median door-to-needle time for thrombolytic therapy in STEMI patients treated with thrombolytics within four hours of being seen in hospital	**Data are not available at LHIN level**		

power

CVD Chapter - LHIN-level data shared

Coronary artery bypass surgery (CABG)	LHIN	By income	By age
Use of internal mammary artery to bypass left anterior descending artery for CABG patients without contraindications			
Pre- and post-operative length of stay for CABG patients			
Medication management within 90 days and one year of discharge: - Lipid-lowering therapy - Beta blockers - ACE inhibitors			
One year, age-adjusted CVD-related readmission for CABG patients			
One-year, revascularization rate in CABG patients			
Mortality after CABG (In hospital, 30 days, one year)			

Median and 90th percentile wait times for cardiac procedures
    Angiography
    Angioplasty
    Coronary artery bypass surgery			

CVD Chapter - LHIN-level data shared

Stroke	LHIN	By income	By age
Thrombolytic therapy with rtPA for ischemic stroke within 2.5 hours of stroke onset			
Antiplatelet therapy for ischemic stroke or TIA within 48 hours of admission			
Antithrombotic therapy at discharge for secondary prevention			
Warfarin therapy at discharge, 90 days and one year			
Measurement of lipids during hospitalization	√		
Lipid-lowering therapy at discharge, 90 days and one year	at discharge and 90 days	At discharge	
Antihypertensive therapy at discharge, 90 days and one year	90 days		
Neuroimaging for stroke (CT and MR imaging)	√		
Carotid imaging for stroke	√		

CVD Chapter - LHIN-level data shared

Stroke	LHIN	By income	By age
In-hospital rehabilitation and nutrition assessment: Physiotherapy, occupational therapy, speech and language therapy, nutritional assessment	√		
Referral to stroke prevention clinics for patients discharged directly from an ED	√		
Median wait time for in-patient rehabilitation	√	√	√
Mean change in Functional Independence Measurement			
Risk-adjusted, non-elective readmission post-discharge within: (within seven days, 30 days and one year)	All-cause, 30-day		
Risk-adjusted mortality within seven days, 30 days and one year of AMI admission	One year		

power

■ Health and Functional Status

Age-standardized percentage of adults age ≥ 25 with heart disease or who have had a stroke (CVD) who rated their health as fair or poor, by sex and annual household income, in Ontario 2005
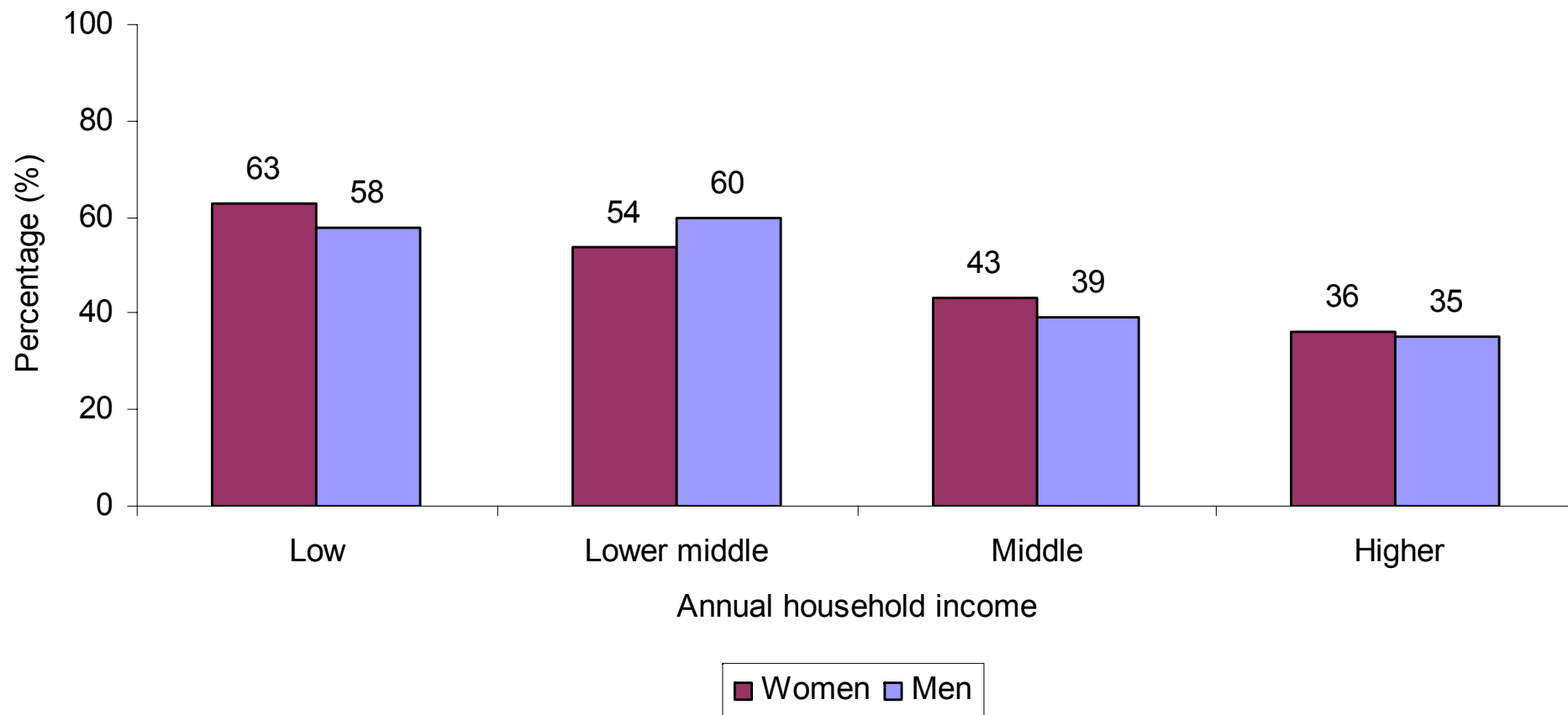
Data source: Canadian Community Health Survey (CCHS), Cycle 3.1

Age-standardized percentage of adults age ≥ 25 with CVD who reported that their current health was somewhat or much worse than their health one year prior, by sex and annual household income, in Ontario 2005

power

www.powerstudy.ca

Age-standardized percentage of adults age ≥ 25 with CVD who reported having limitations in Instrumental Activities of Daily Living (IADL) and/or Activities of Daily Living (ADL), by sex and annual household income, in Ontario 2005

Percentage (%)

Legend:
- ADL +/- IADL
- IADL only

Lower income
- Women: 64 (17 ADL +/- IADL, 46 IADL only)
- Men: 52 (16 ADL +/- IADL, 36 IADL only)

Higher income
- Women: 58 (14 ADL +/- IADL, 43 IADL only)
- Men: 35 (8* ADL +/- IADL, 27 IADL only)

Sex and Annual household income
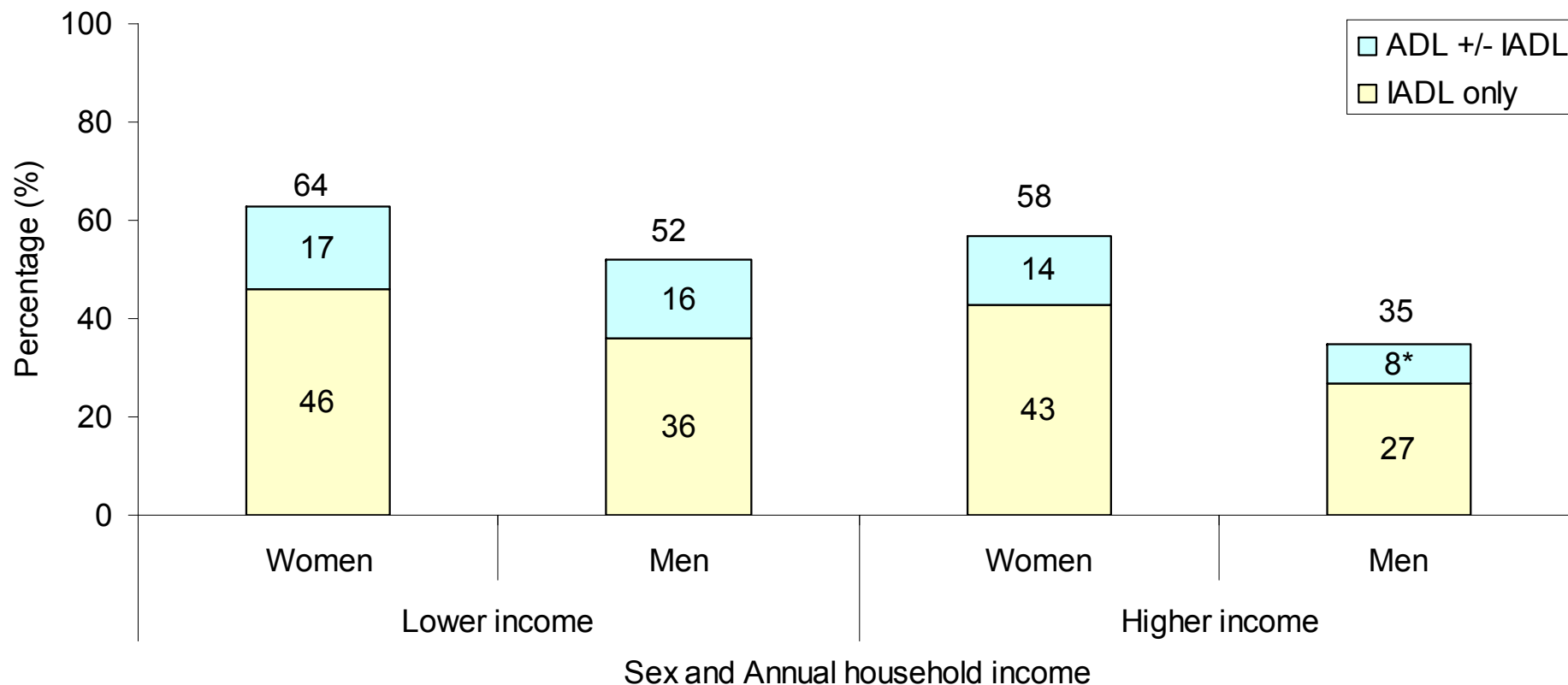
Data source: CCHS, Cycle 3.1
* Interpret with caution due to high sampling variability (coefficient of variation 16.6–33.3)

power
www.powerstudy.ca

Age-standardized percentage of adults age ≥ 25 with CVD who reported that their activities were prevented due to pain or discomfort or problems with mobility^, by sex and education level, in Ontario 2005
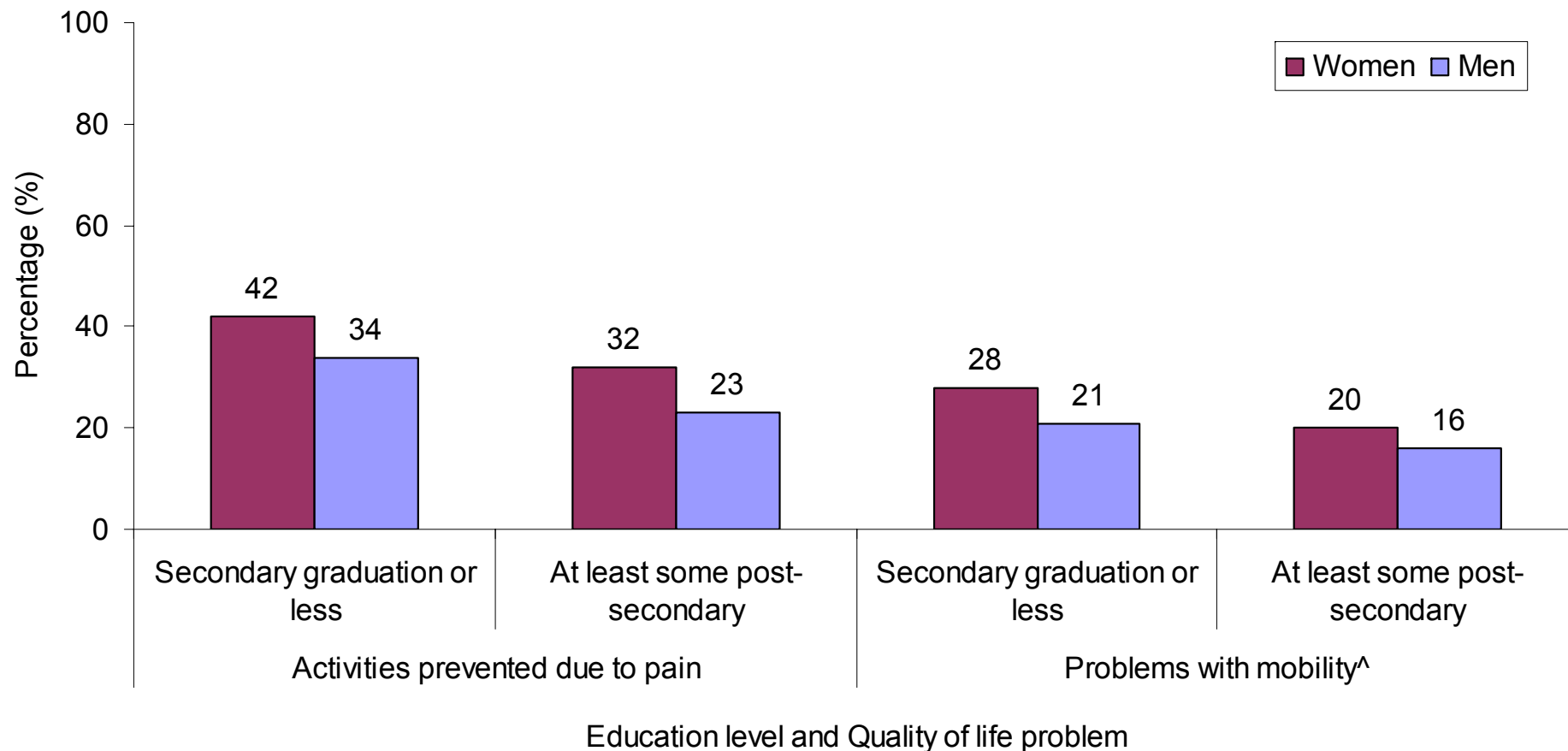
Data source: CCHS, Cycle 1.1
^Including an inability to walk around the neighbourhood or an ability to walk with difficulty, requiring help of other or mechanical supports such as braces, a cane, crutches or a wheelchair

www.powerstudy.ca

Age-standardized percentage of adults age ≥ 25 with heart disease or who have had a stroke who reported lower income or less education, by sex, in Ontario, 2005
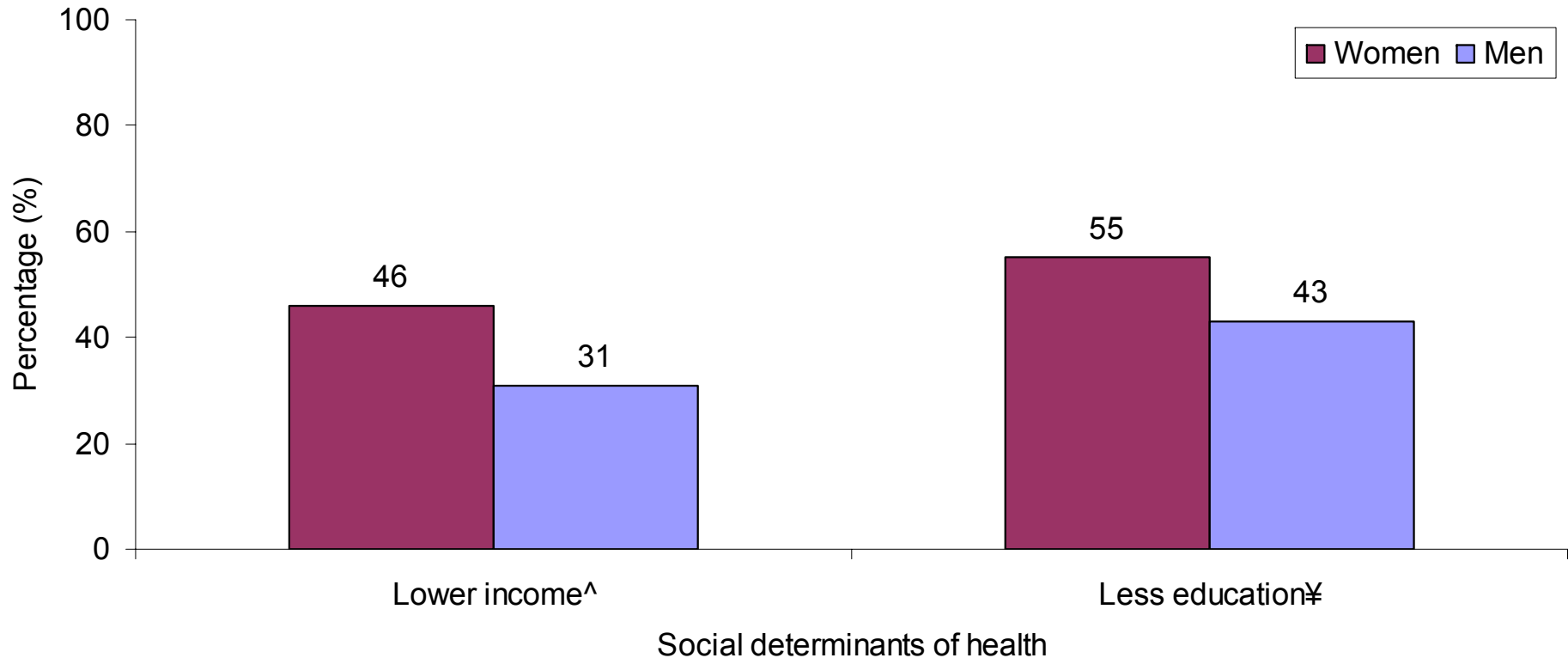
Data source: CCHS, Cycle 3.1
^Lower income includes the two lowest annual household income categories
¥Less education includes secondary school education or less

power
www.powerstudy.ca

Age-standardized percentage of adults age ≥ 25 with CVD who reported having diabetes and/or hypertension, by sex and annual household income, in Ontario, 2005

Diabetes

Hypertension

Annual household income

■ Women ■ Men

power

www.powerstudy.ca
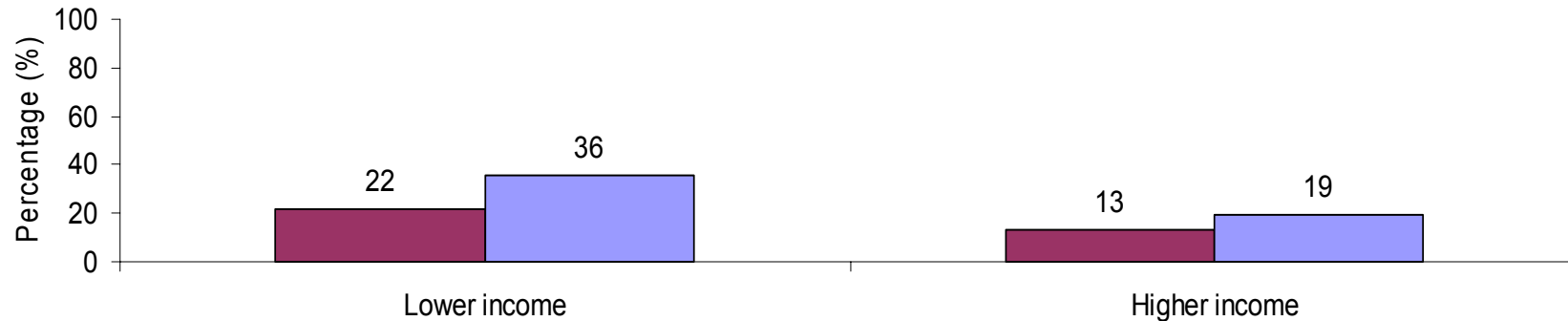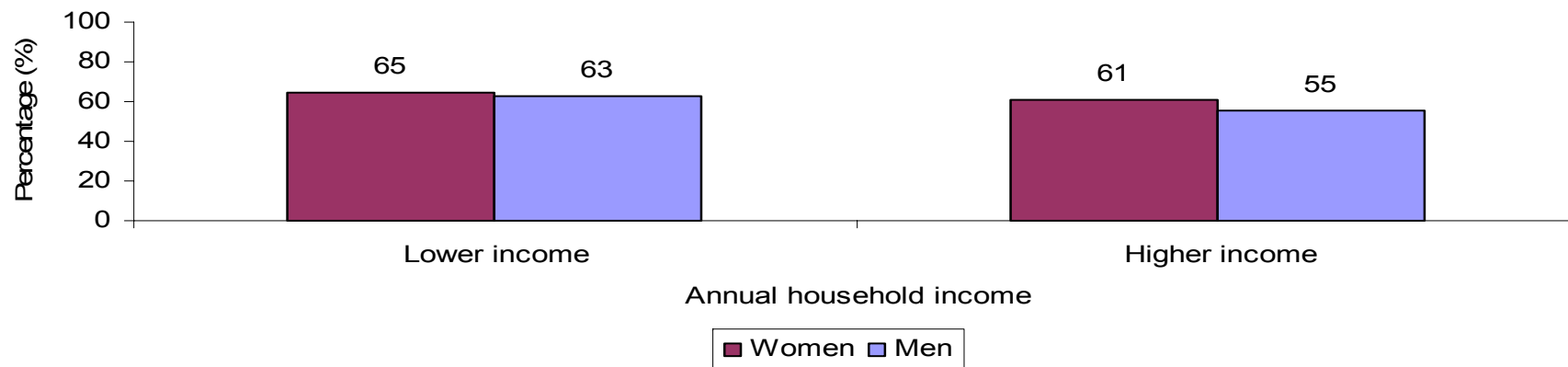
Age-standardized percentage of adults age ≥ 25 with CVD who reported health behaviours that increase risk for chronic diseases, by sex and risk behaviour, in Ontario, 2005
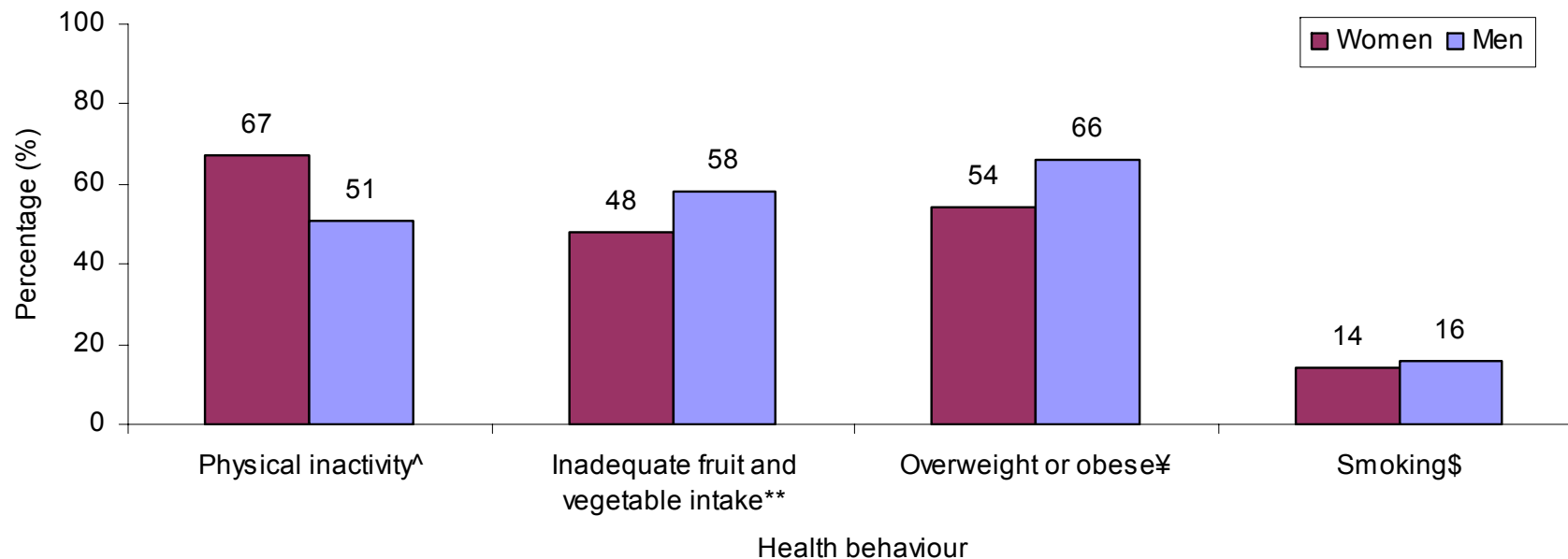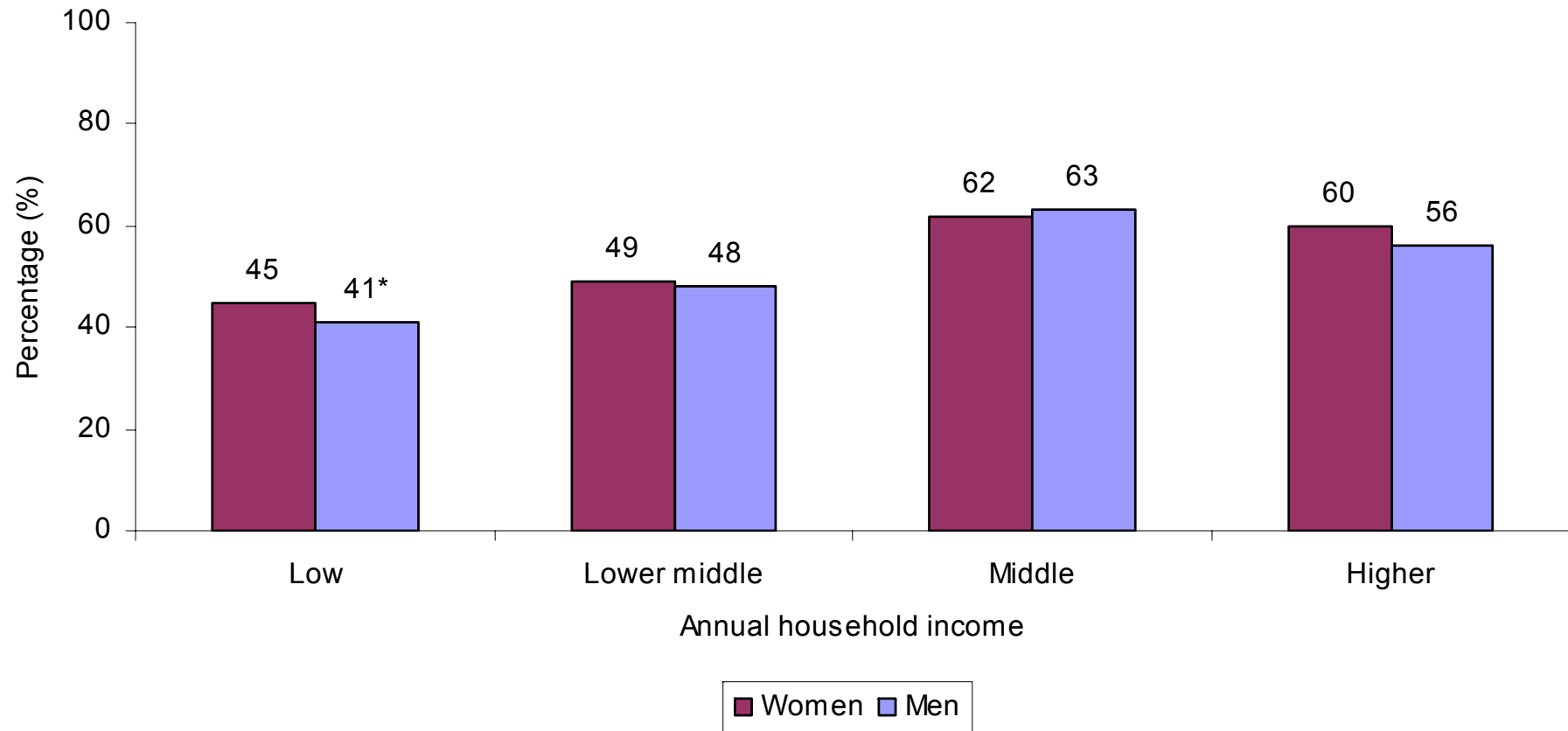

Data source: CCHS, Cycle 3.1
^ Physical Activity Index of < 1.5 kcal/kg/day
** Daily consumption of less than five servings of fruits and vegetables
¥ Body Mass Index (BMI) ≥25, calculated from self-reported height and weight
$ Current smokers (daily or occasional)

power
www.powerstudy.ca

Age-standardized percentage of adults age ≥ 25 with CVD who did something to improve their health in the previous year, by sex and annual household income, in Ontario, 2005
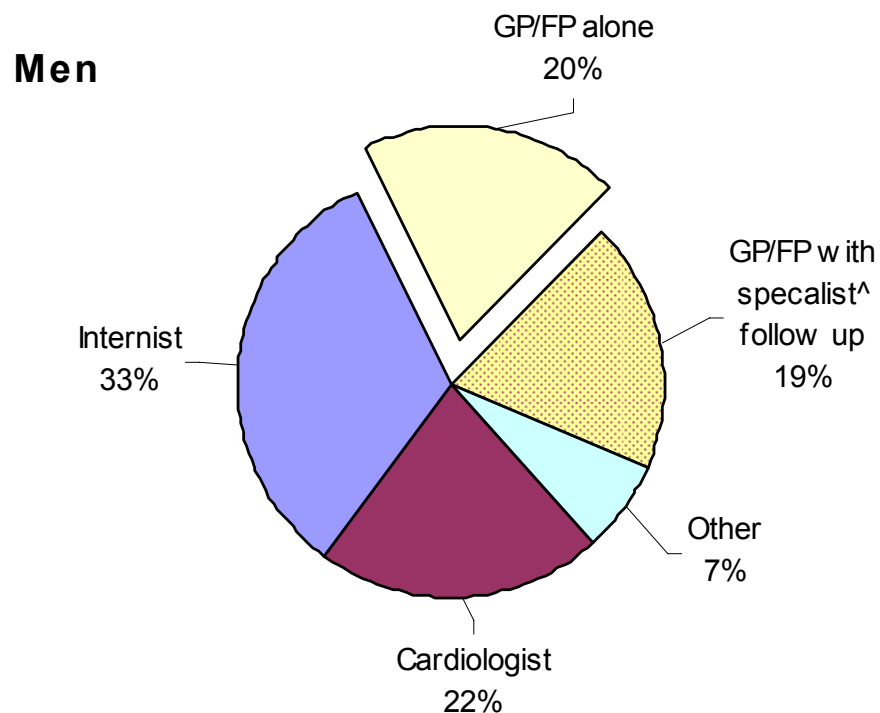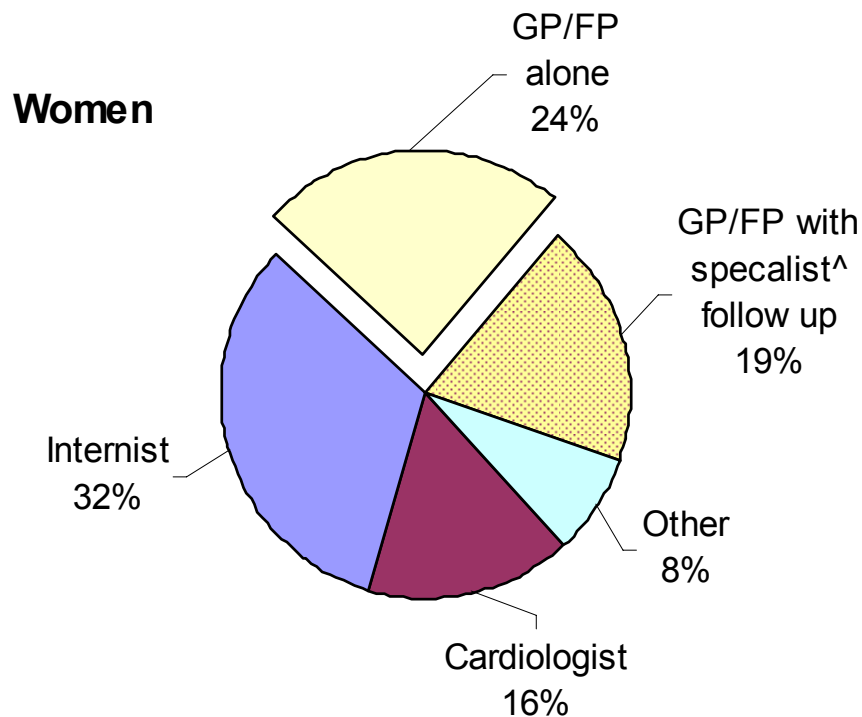
power

www.powerstudy.ca

■ Heart Failure

Type of physician providing in hospital care to adults age ≥ 45 hospitalized for heart failure (HF), by sex, in Ontario, 2005/06
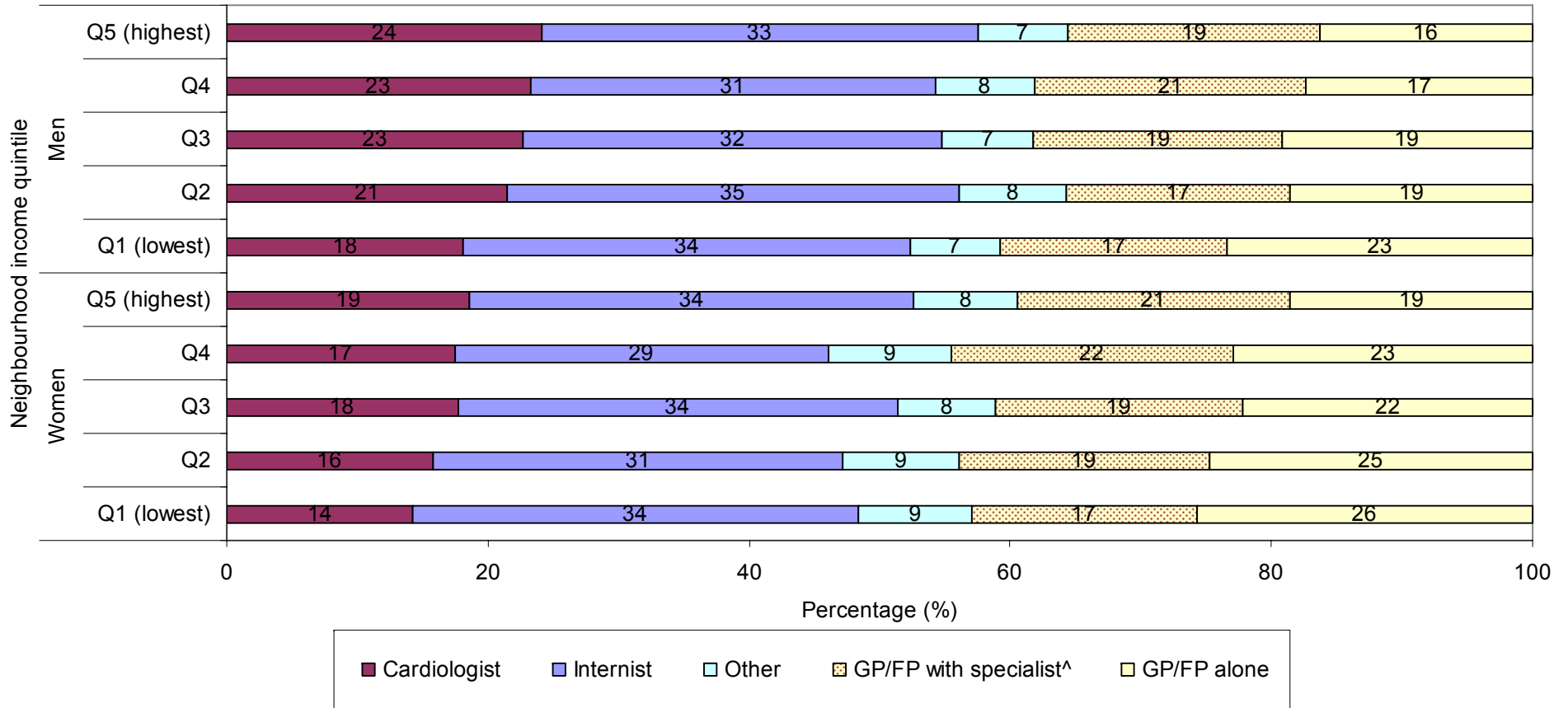
Women

GP/FP alone 24%

GP/FP with specalist^ follow up 19%

Other 8%

Cardiologist 16%

Internist 32%

Men

GP/FP alone 20%

GP/FP w ith specalist^ follow up 19%

Other 7%

Cardiologist 22%

Internist 33%

power

www.powerstudy.ca

Type of physician providing in hospital care to adults age ≥ 45 hospitalized for HF, by sex and neighbourhood income quintile, in Ontario, 2005/06


Neighbourhood income quintile

Men

Quintile	Cardiologist	Internist	Other	GP/FP with specialist^	GP/FP alone
Q5 (highest)	24	33	7	19	16
Q4	23	31	8	21	17
Q3	23	32	7	19	19
Q2	21	35	8	17	19
Q1 (lowest)	18	34	7	17	23

Women

Quintile	Cardiologist	Internist	Other	GP/FP with specialist^	GP/FP alone
Q5 (highest)	19	34	8	21	19
Q4	17	29	9	22	23
Q3	18	34	8	19	22
Q2	16	31	9	19	25
Q1 (lowest)	14	34	9	17	26

Percentage (%)

Legend: ■ Cardiologist ■ Internist □ Other ▨ GP/FP with specialist^ □ GP/FP alone

Data sources: CIHI-DAD; Statistics Canada, 2001 Census
GP/FP= General practitioner / family physician
^specialist includes cardiologists and internists

power

www.powerstudy.ca

Percentage of adults age ≥ 45 who were under the sole care of a general practitioner/family physician (GP/FP) while hospitalized for HF, by sex, and LHIN, in Ontario, 2005/06
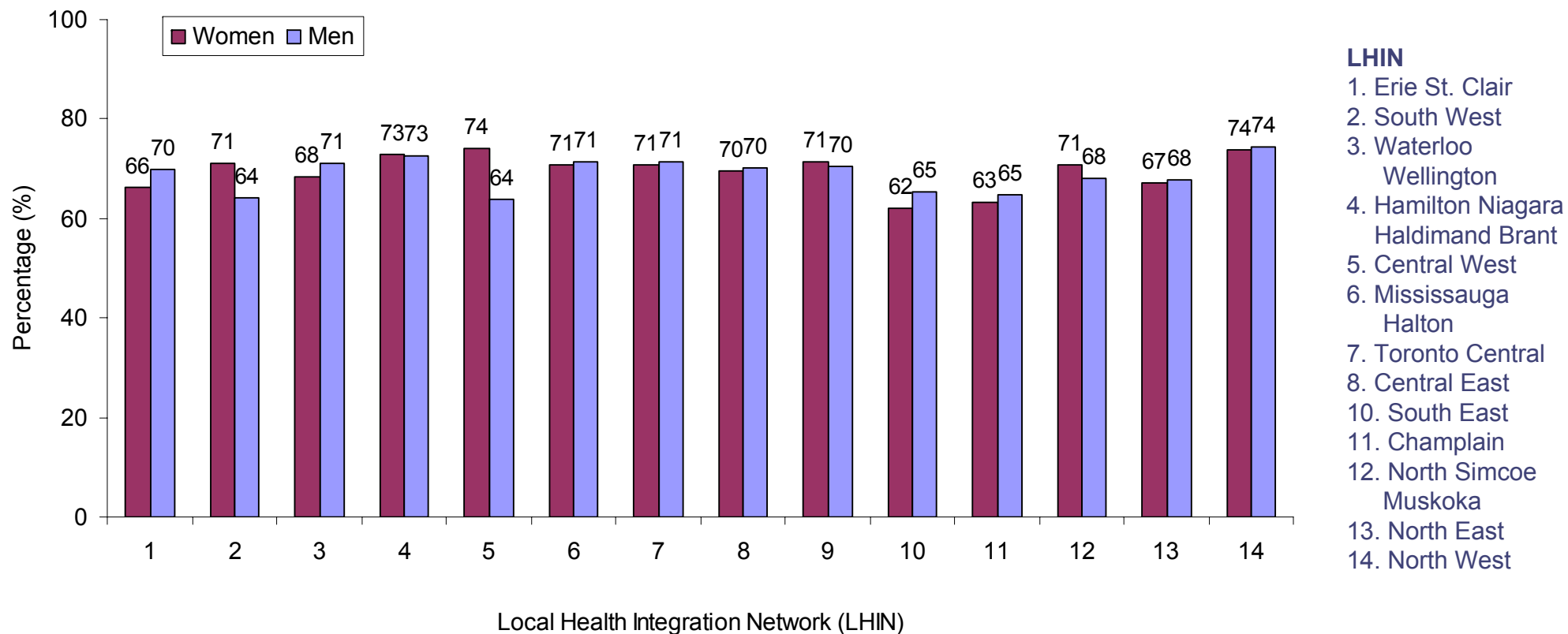

LHIN
1. Erie St. Clair
2. South West
3. Waterloo
   Wellington
4. Hamilton Niagara
   Haldimand Brant
5. Central West
6. Mississauga
   Halton
7. Toronto Central
8. Central East
10. South East
11. Champlain
12. North Simcoe
    Muskoka
13. North East
14. North West

power

www.powerstudy.ca
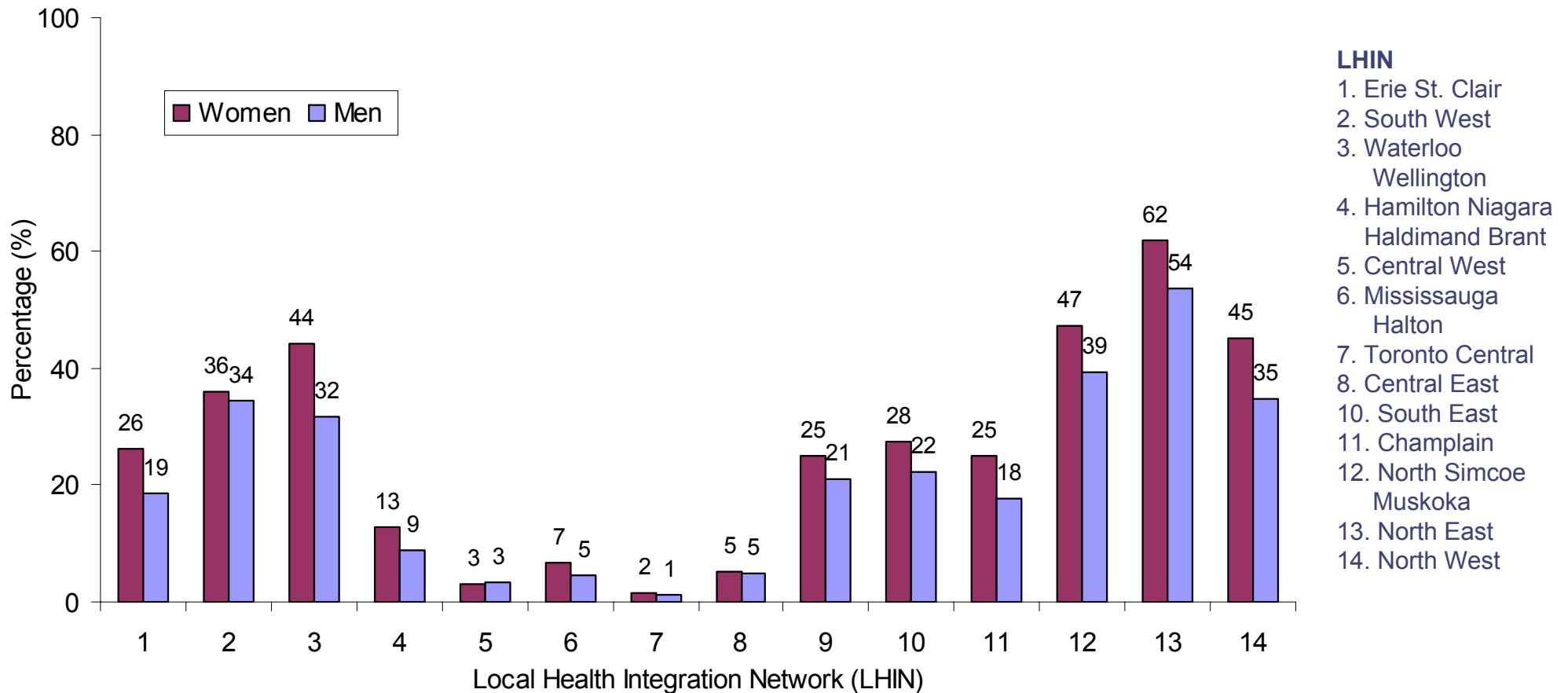
Percentage of adults age ≥ 45 who were seen by a physician within four weeks of discharge from hospital for HF, by sex and neighbourhood income quintile, in Ontario, 2005/06
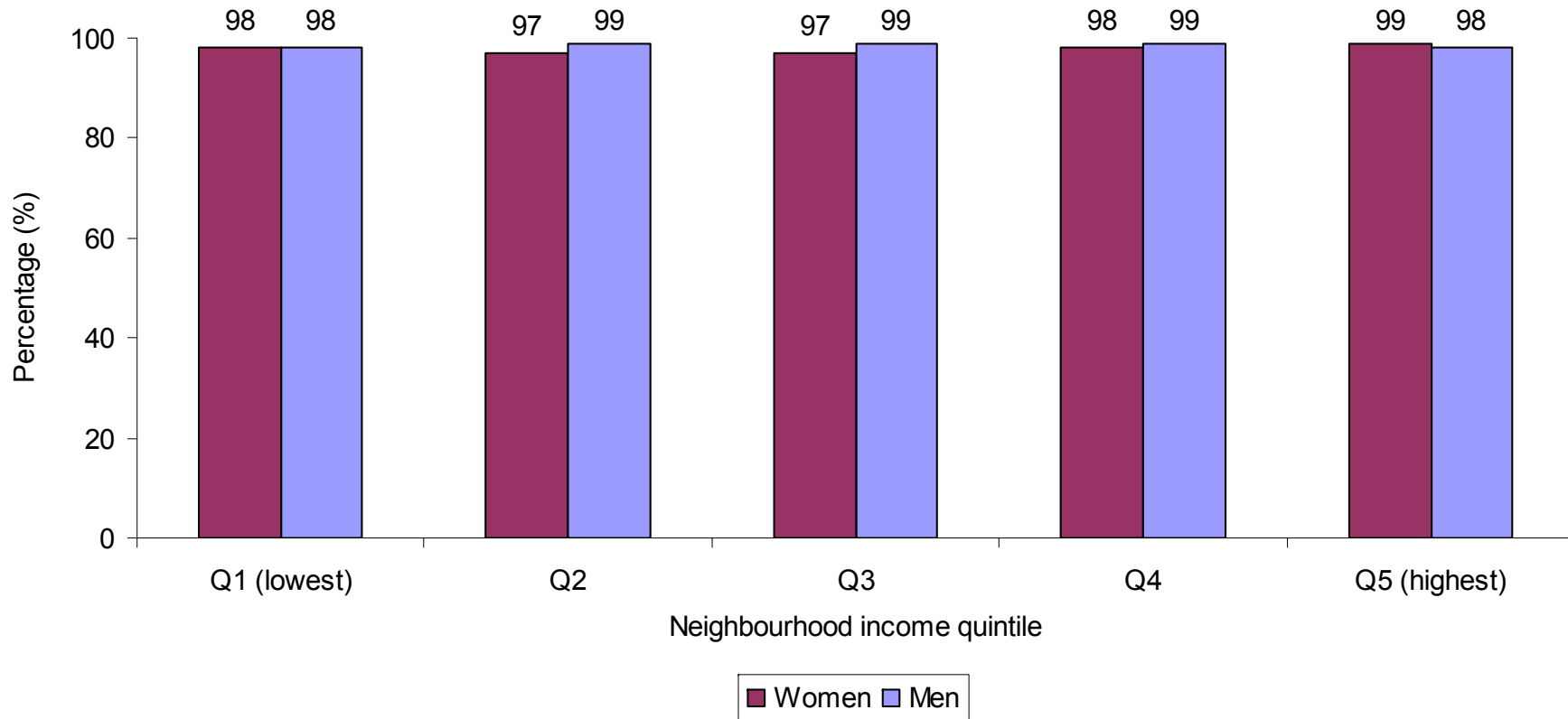
power
www.powerstudy.ca

Percentage of HF patients age ≥ 65 who filled a prescription for ACE inhibitor and/or ARB one year post discharge from hospital, by sex, and LHIN, in Ontario, 2005/06

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 East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
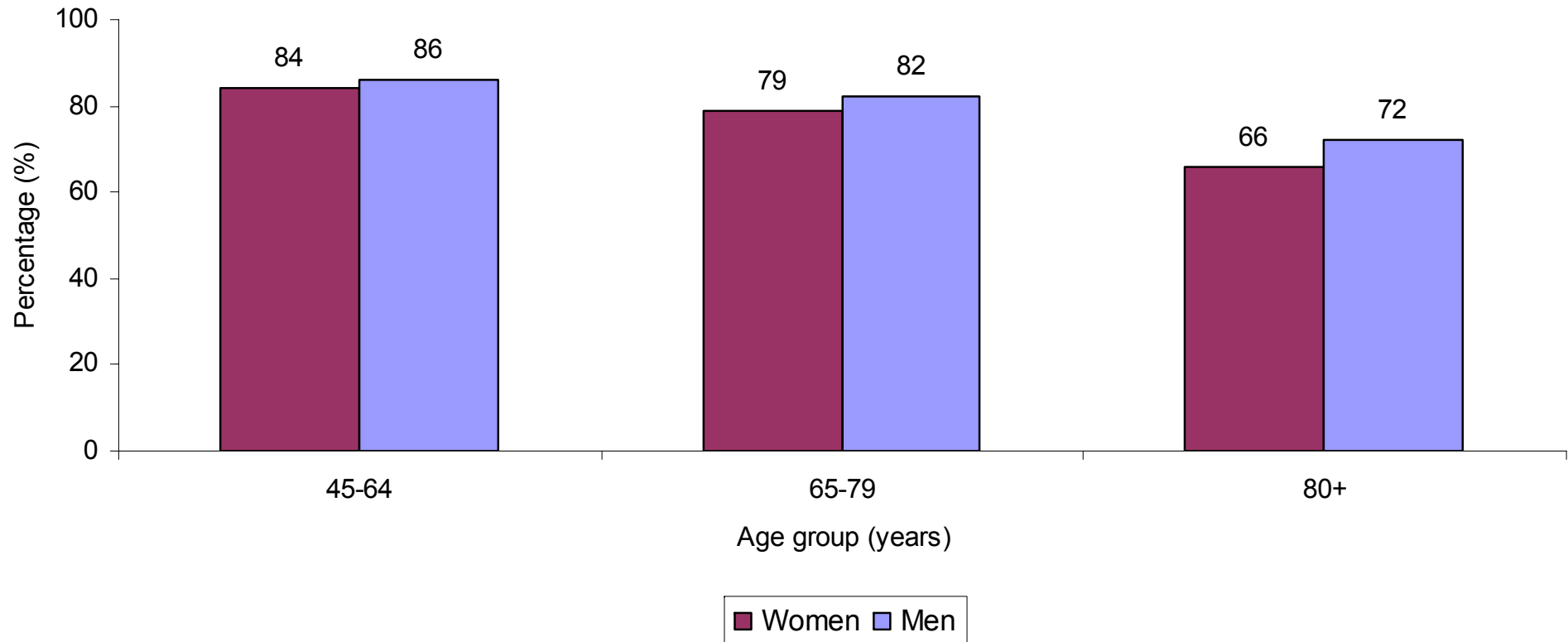14. North West

power
www.powerstudy.ca

Percentage of HF patients age ≥ 65 who filled a prescription for beta blocker post discharge from hospital, by sex and age group, in Ontario, 2005/06
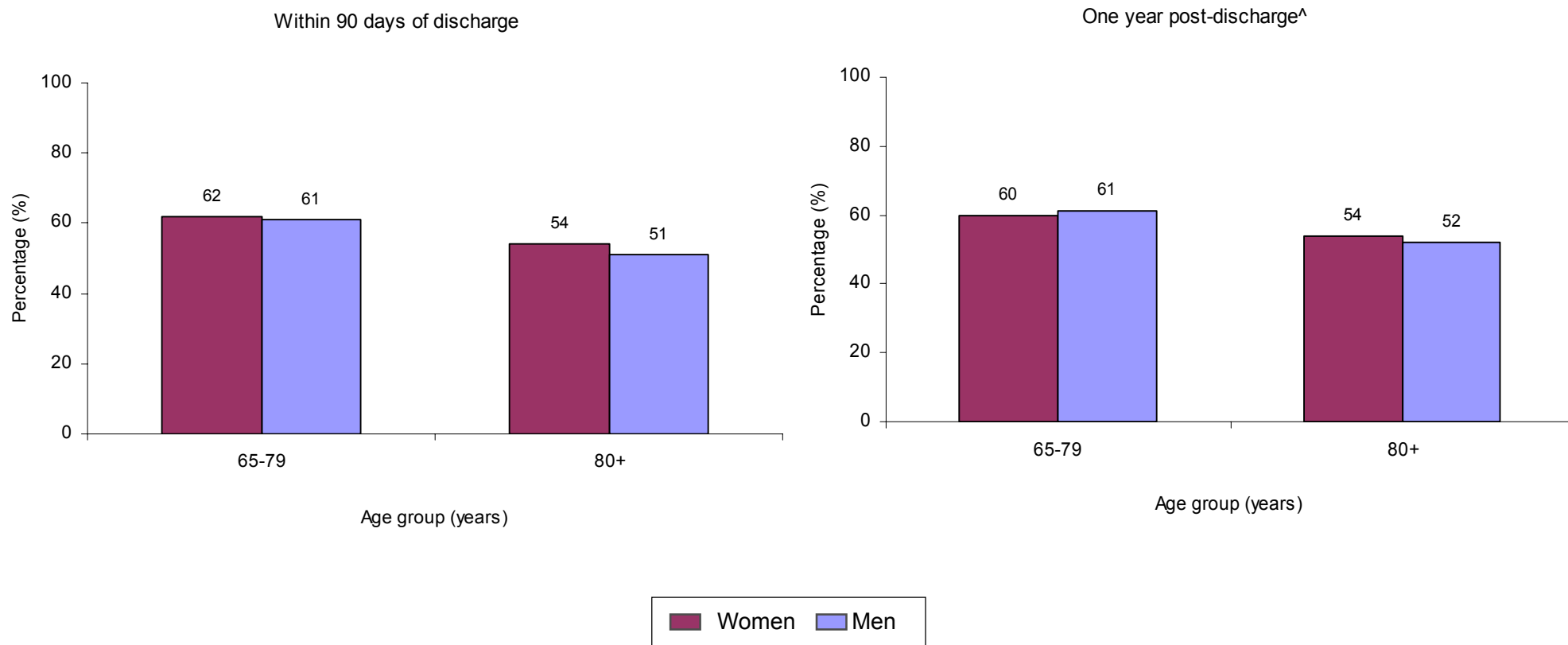
Within 90 days of discharge

One year post-discharge^

power

www.powerstudy.ca

Percentage of hospitalized HF patients age ≥ 45 who underwent left ventricular function evaluation^, by sex and age group, in Ontario, 2005/06
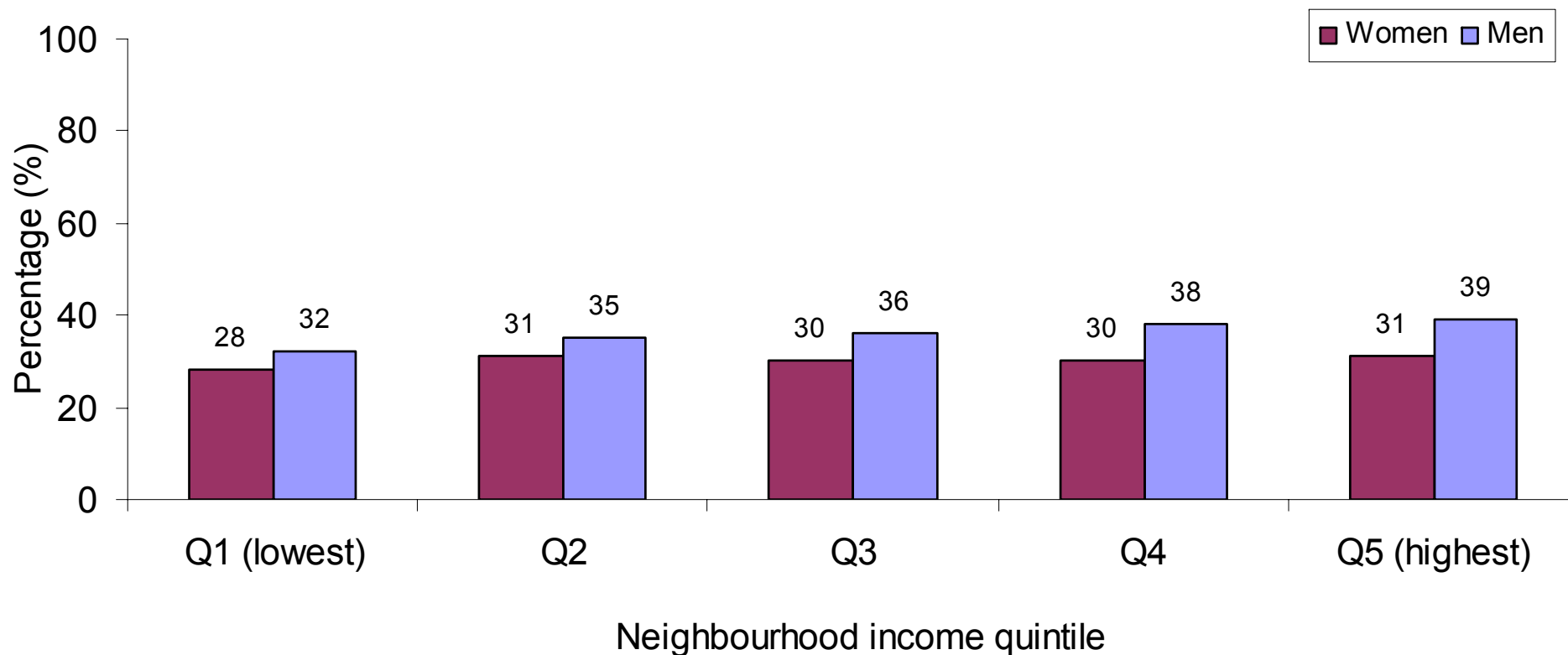
power
www.powerstudy.ca

Percentage of hospitalized HF patients age ≥ 45 who underwent echocardiography^, by sex and neighbourhood income quintile, in Ontario, 2005/06

Data sources: CIHI-DAD; OHIP; Statistics Canada 2001 Census
^ Measured during the period six months before hospital admission for heart failure (HF) to one month post hospital discharge

power
www.powerstudy.ca

Percentage of hospitalized HF patients age ≥ 45 who underwent angiography^, by sex and LHIN, in Ontario, 2005/06
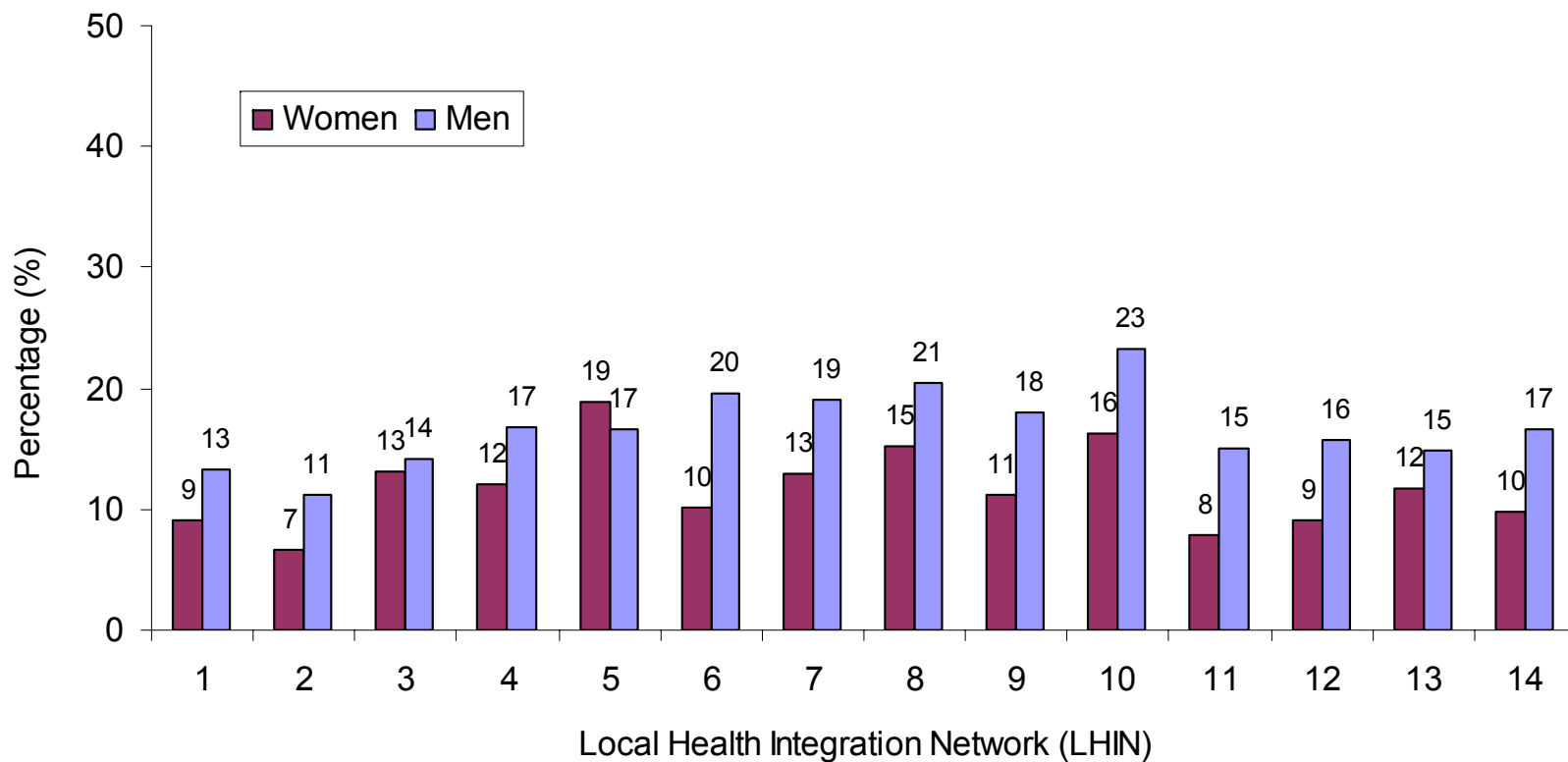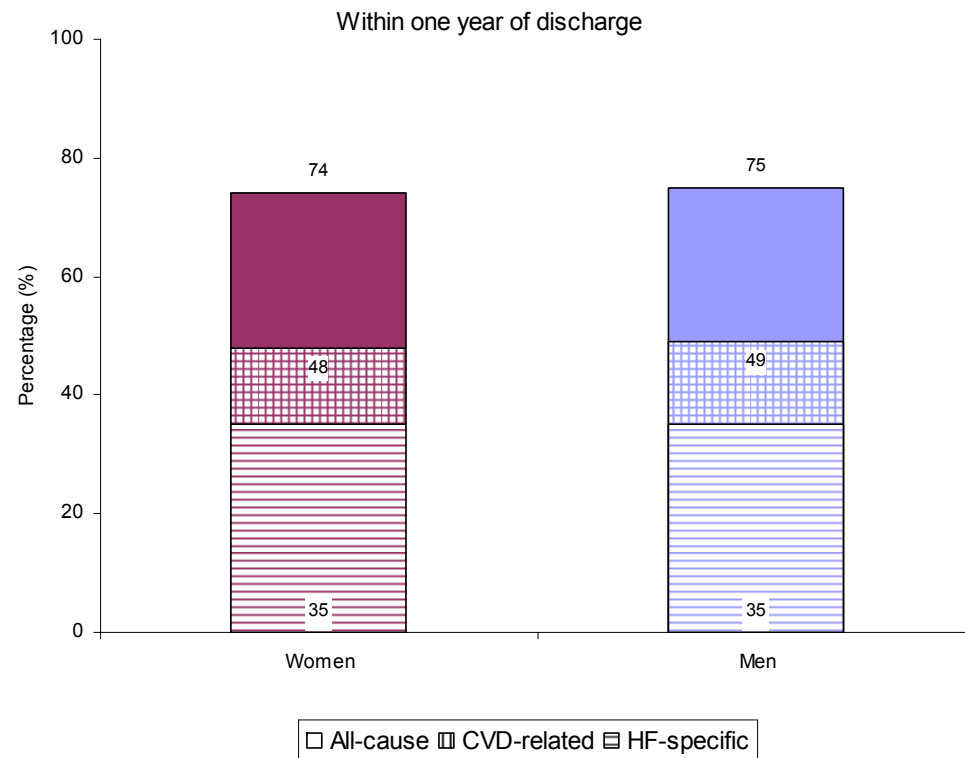

LHIN
1. Erie St. Clair
2. South West
3. Waterloo Wellington
4. Hamilton Niagara Haldimand Brant
5. Central West
6. Mississauga Halton
7. Toronto Central
8. Central East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West
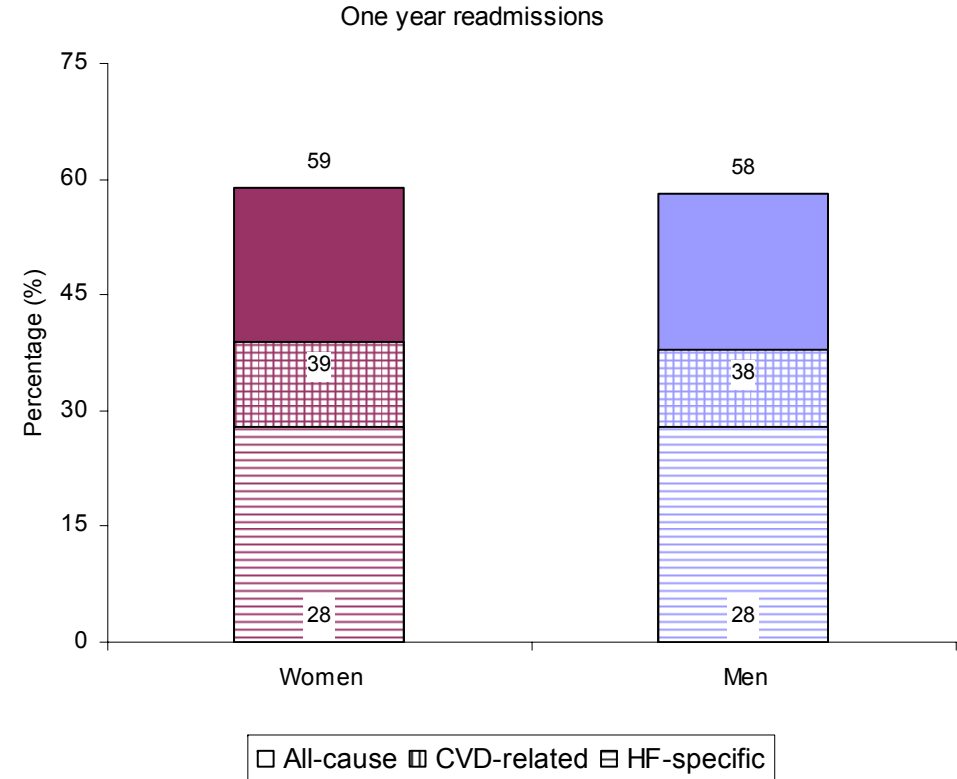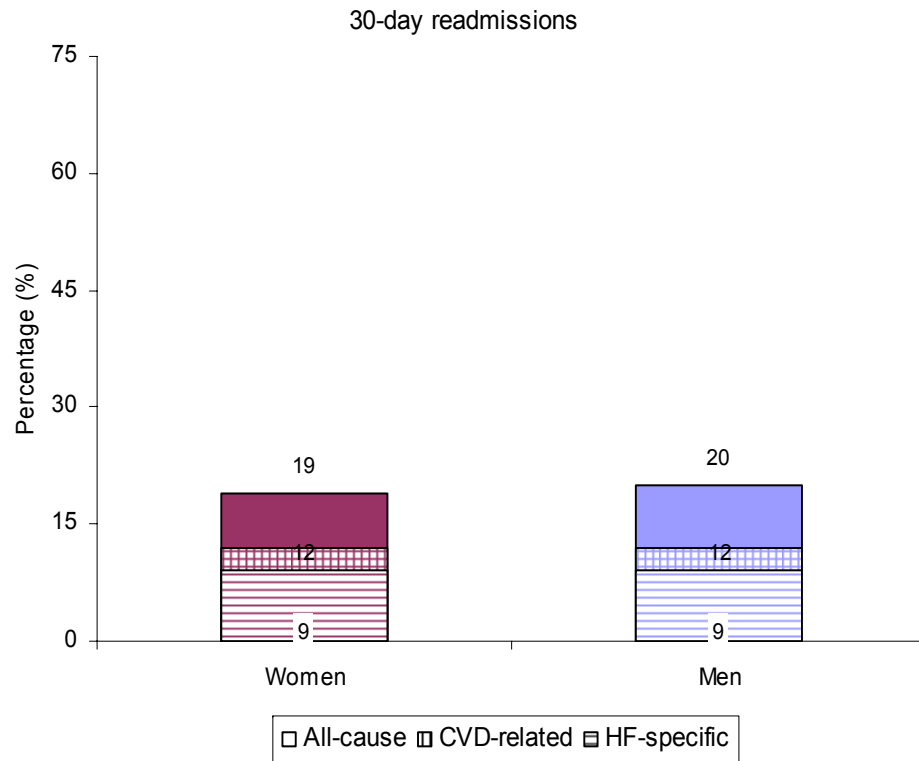
Data sources: CIHI-DAD; OHIP
^ Measured during the period six months before hospital admission for heart failure (HF) to one month post hospital discharge

power
www.powerstudy.ca

Age-standardized percentage of hospitalized patients age ≥ 45 who were seen in the emergency department post discharge, by sex and reason for visit, in Ontario, 2005/06

Within 30 days of discharge

Percentage (%)

- Women: 29 (HF-specific 11, CVD-related 16)
- Men: 31 (HF-specific 12, CVD-related 18)

□ All-cause ⊞ CVD-related ⊟ HF-specific

Within one year of discharge

Percentage (%)

- Women: 74 (HF-specific 35, CVD-related 48)
- Men: 75 (HF-specific 35, CVD-related 49)

□ All-cause ⊞ CVD-related ⊟ HF-specific
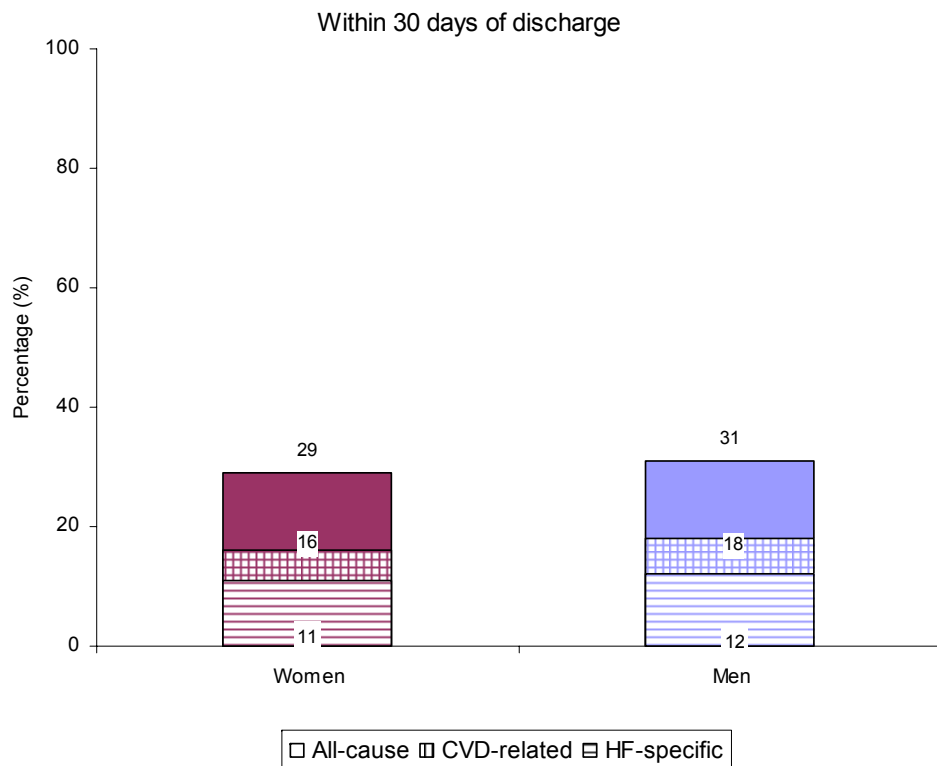
Data sources: CIHI-DAD; National Ambulatory Care Reporting System (NACRS)
CVD = cardiovascular disease; HF = heart failure

power

www.powerstudy.ca

Risk-adjusted percentage of HF patients age ≥ 45 who were non-electively readmitted to hospital, by sex and reason of admission, in Ontario, 2005/06

30-day readmissions

One year readmissions

□ All-cause ⊞ CVD-related ⊟ HF-specific

□ All-cause ⊞ CVD-related ⊟ HF-specific

power

www.powerstudy.ca

Type of physician providing care to adults age ≥ 45 with newly diagnosed HF within one year of initial diagnosis, by sex, neighbourhood income quintile and type of physician, in Ontario, 2005/06
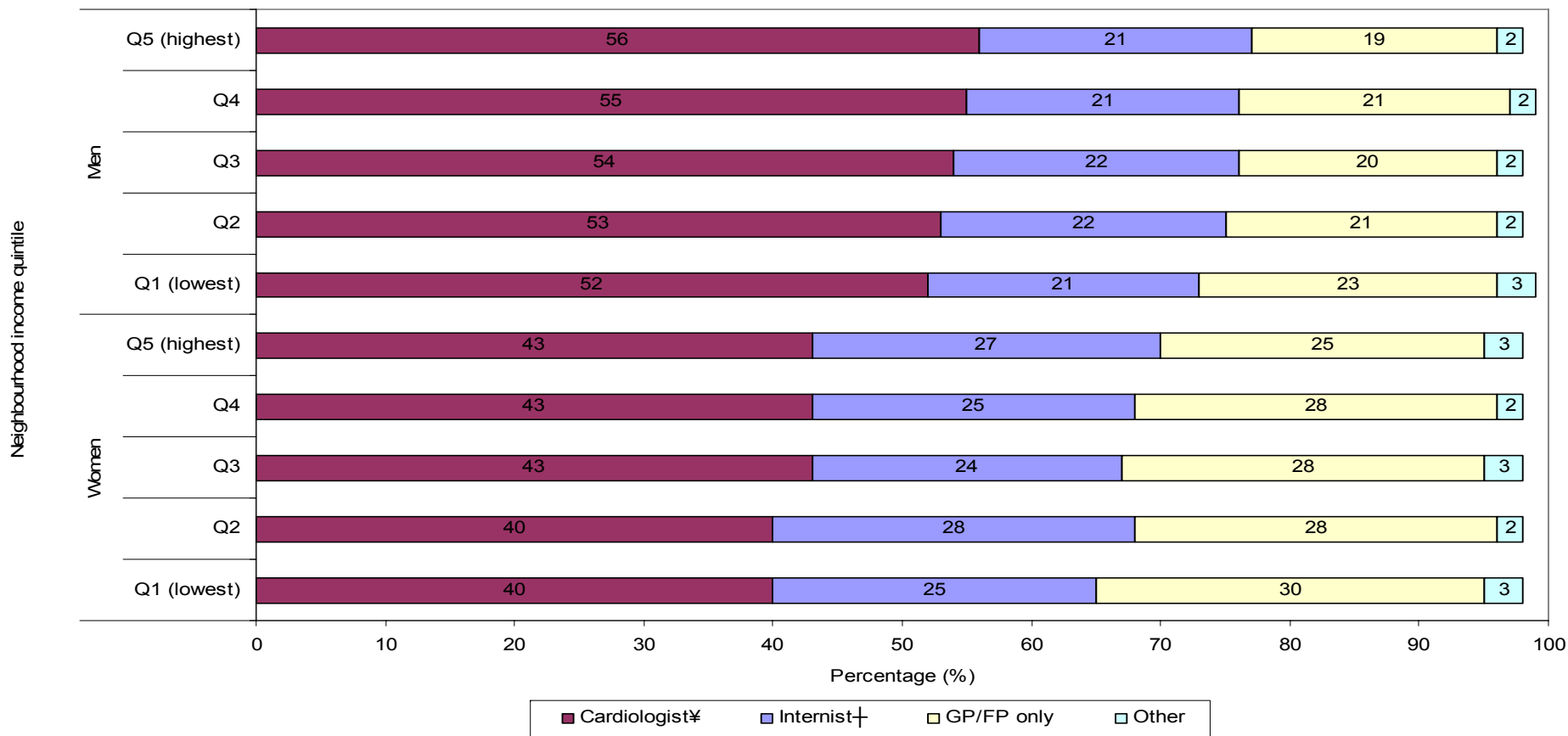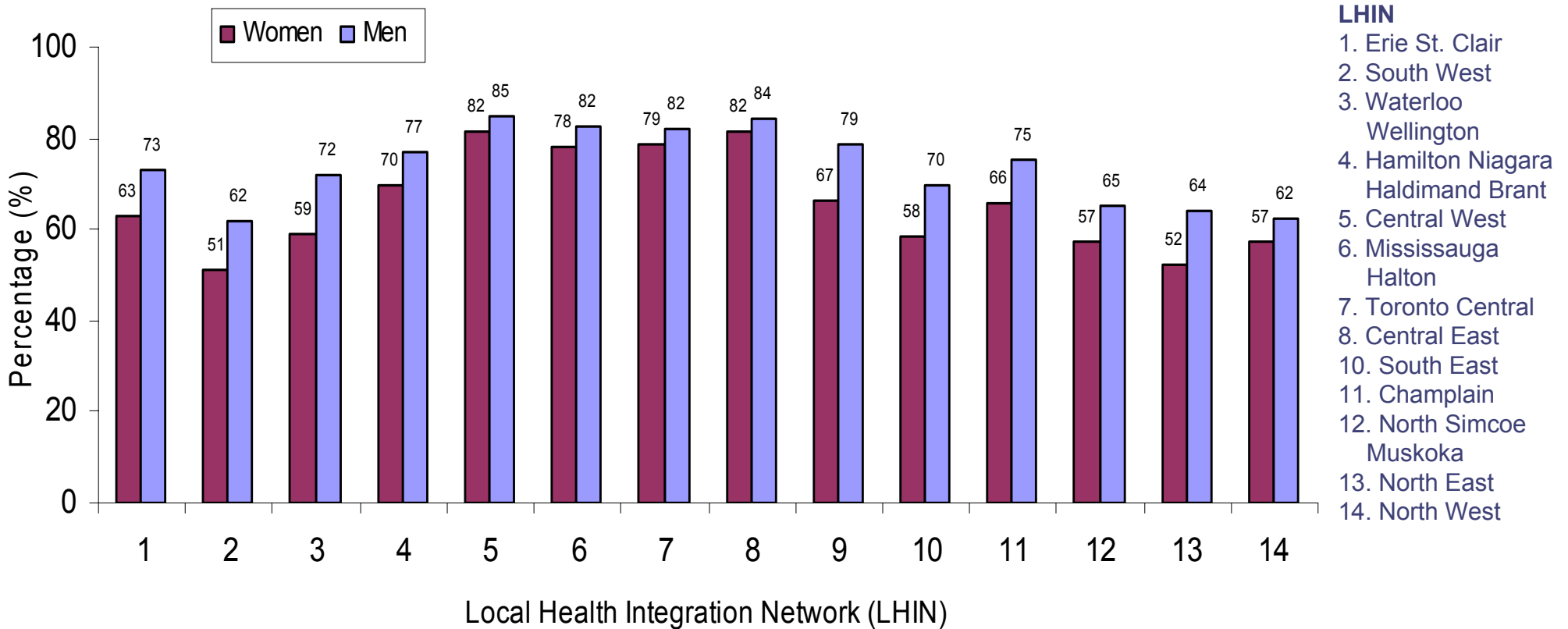

Data sources: Ontario Congestive Heart Failure Database (OCHFDB); ICES Physician Database (IPDB)
GP/FP refers to general practitioner or family physician
¥ Cardiologist includes care by cardiologists with or without other physicians
┼Internist includes care by an internist/geriatrician with or without other physicians with the exception of cardiologists

power
www.powerstudy.ca

Percentage of adults age ≥ 45 with newly diagnosed HF who were seen by a specialist^ within one year of initial diagnosis, by sex and LHIN, in Ontario, 2005/06

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 East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

Data sources: OCHFDB; IPDB
^ Specialist includes cardiologists, internists and/or geriatricians
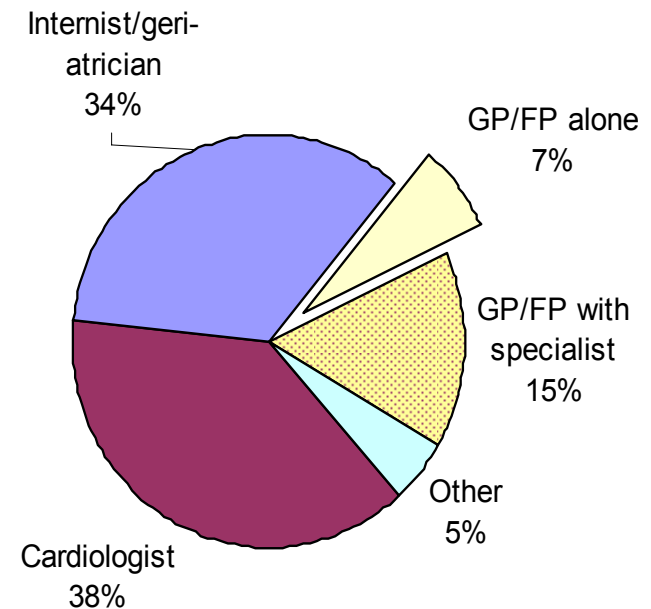
power
www.powerstudy.ca

■ Ischemic Heart Disease

Type of physician providing in hospital care to adults age ≥ 45 hospitalized with an acute myocardial infarction (AMI), by sex, in Ontario, 2005/06

Women

Internist/geriatri-
cian
34%

GP/FP alone
10%

GP/FP with
specialist
18%

Other
5%

Cardiologist
33%

Men

Internist/geri-
atrician
34%

GP/FP alone
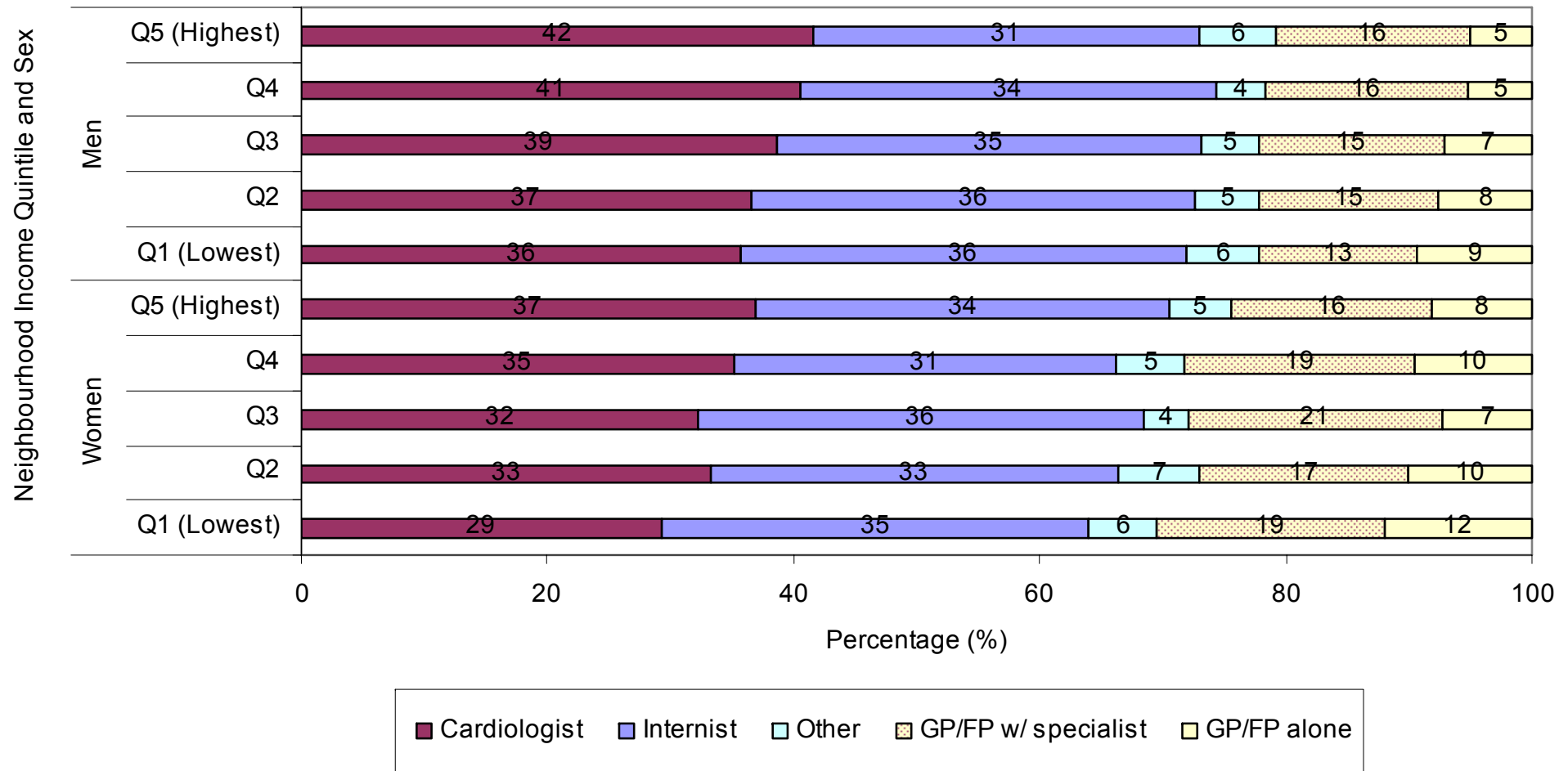7%

GP/FP with
specialist
15%

Other
5%
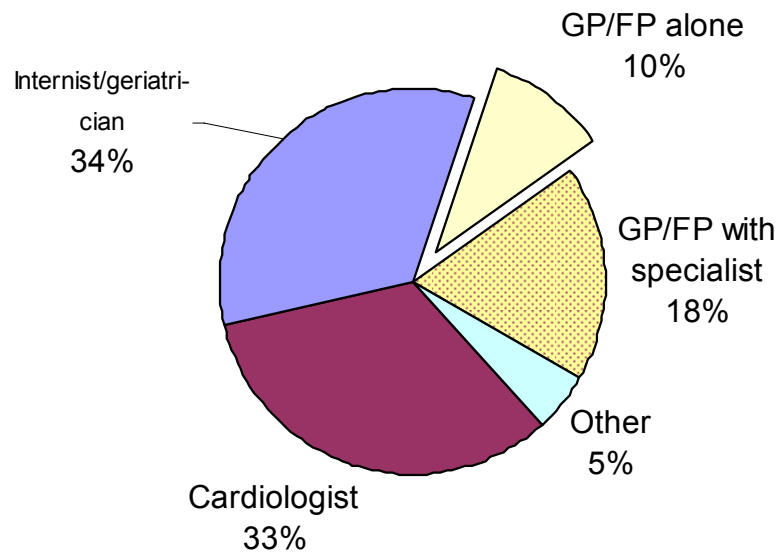
Cardiologist
38%

Data source: CIHI-DAD
^ Specialist consultation includes consultation by a cardiologist or an internist/geriatrician
GP/FP refers to general practitioner or family physician

power
www.powerstudy.ca

Type of physician providing in hospital care to adults age ≥ 45 hospitalized with an AMI, by sex and neighbourhood income quintile, in Ontario, 2005/06
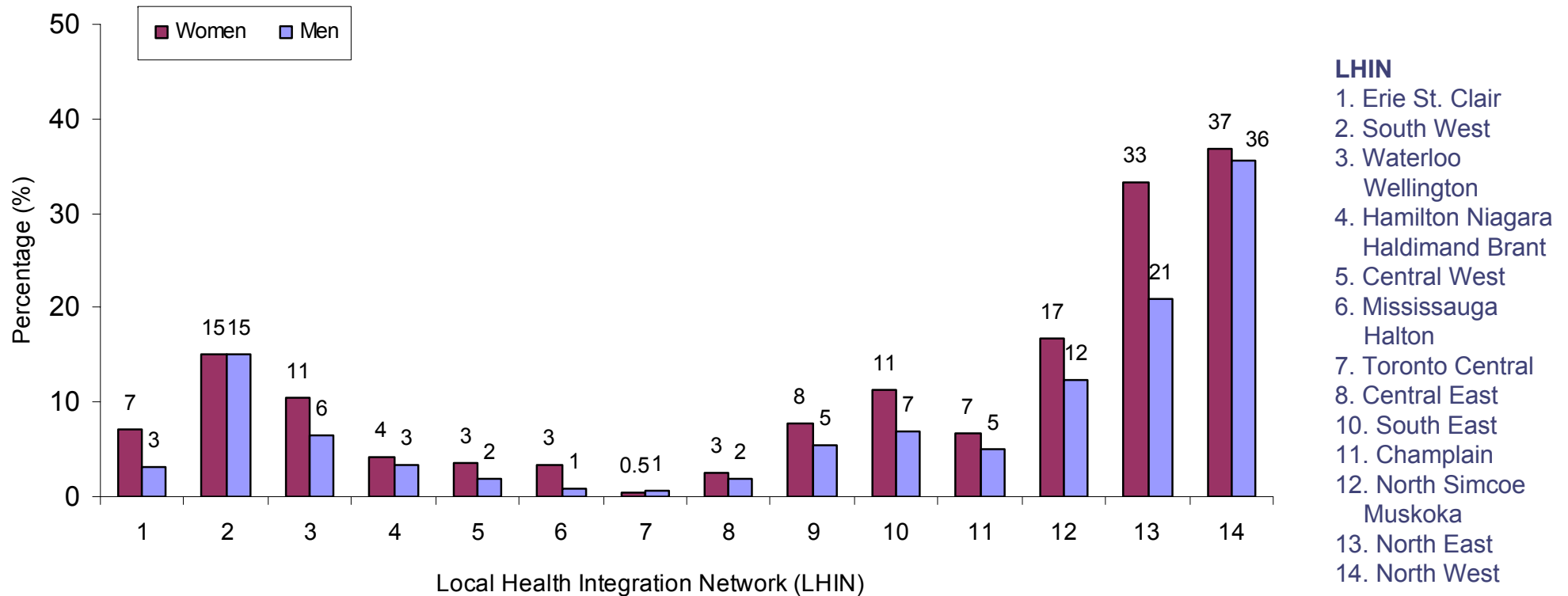

Neighbourhood Income Quintile and Sex

Men

Quintile	Cardiologist	Internist	Other	GP/FP w/ specialist	GP/FP alone
Q5 (Highest)	42	31	6	16	5
Q4	41	34	4	16	5
Q3	39	35	5	15	7
Q2	37	36	5	15	8
Q1 (Lowest)	36	36	6	13	9

Women

Quintile	Cardiologist	Internist	Other	GP/FP w/ specialist	GP/FP alone
Q5 (Highest)	37	34	5	16	8
Q4	35	31	5	19	10
Q3	32	36	4	21	7
Q2	33	33	7	17	10
Q1 (Lowest)	29	35	6	19	12

Percentage (%)

Legend: ■ Cardiologist ■ Internist □ Other ▦ GP/FP w/ specialist □ GP/FP alone
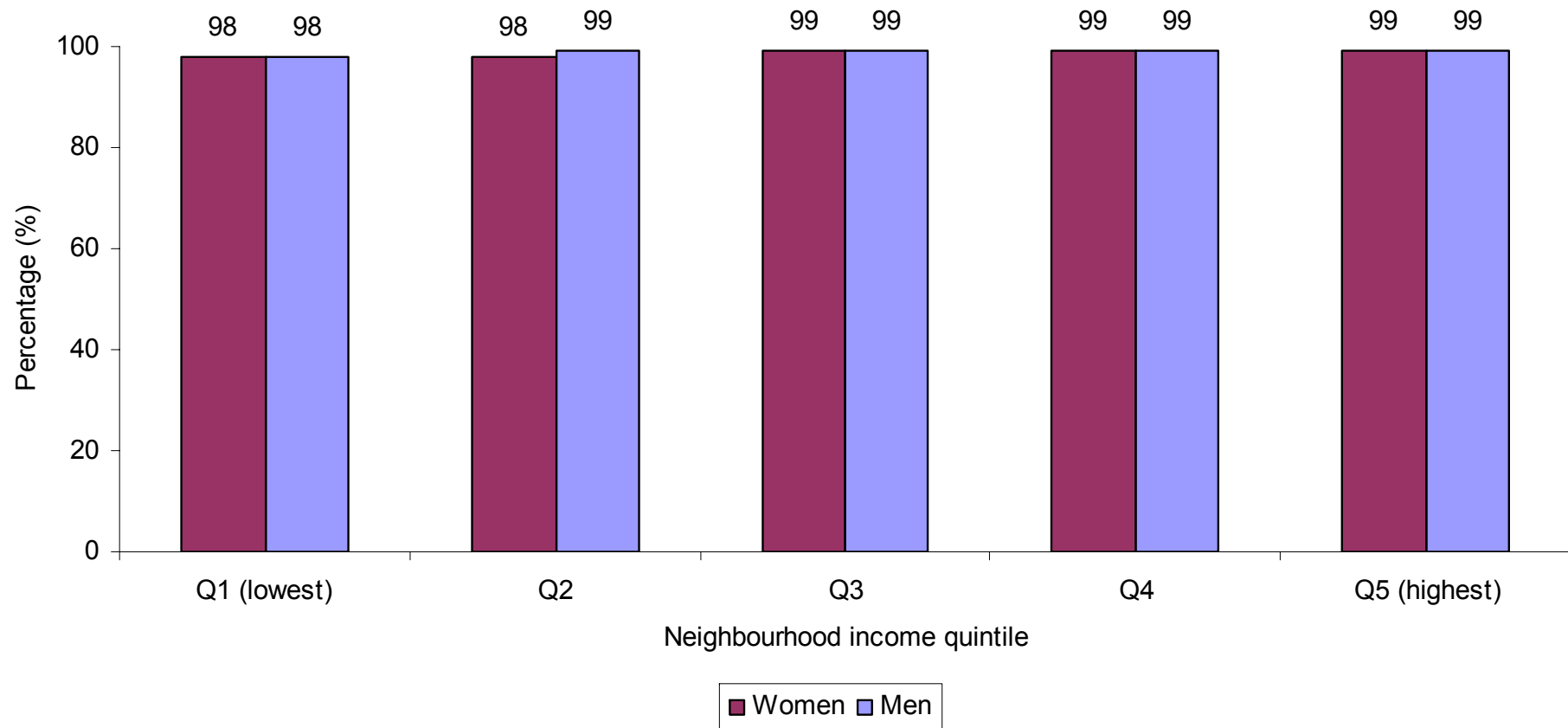
power
www.powerstudy.ca

Percentage of adults age ≥ 45 hospitalized for an AMI, who were under the sole care of a GP/FP while in hospital, by sex and LHIN, in Ontario, 2005/06

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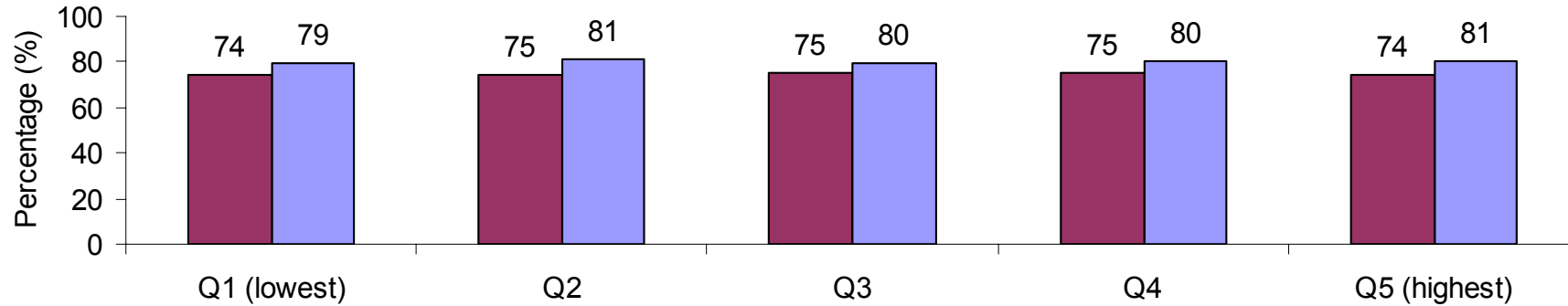3. Waterloo Wellington
4. Hamilton Niagara Haldimand Brant
5. Central West
6. Mississauga Halton
7. Toronto Central
8. Central East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

power
www.powerstudy.ca

Percentage of adults age ≥ 45 hospitalized for an AMI, who were seen by a physician within four weeks of discharge, by sex and neighbourhood income quintile, in Ontario, 2005/06
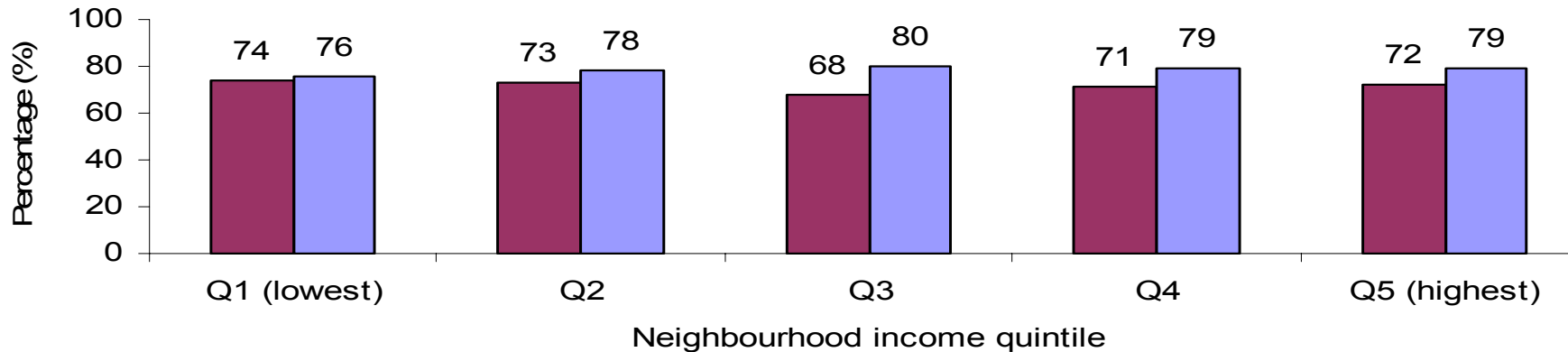
power

www.powerstudy.ca

Percentage of AMI patients age ≥ 65 who filled a statin prescription post discharge from hospital, by sex and neighbourhood income quintile, in Ontario, 2005/06

Within 90 days of discharge

Percentage (%)

	Q1 (lowest)	Q2	Q3	Q4	Q5 (highest)
Women	74	75	75	75	74
Men	79	81	80	80	81

One year post-discharge^

Percentage (%)

	Q1 (lowest)	Q2	Q3	Q4	Q5 (highest)
Women	74	73	68	71	72
Men	76	78	80	79	79

Neighbourhood income quintile

■ Women ■ Men

power
www.powerstudy.ca

Percentage of AMI patients age ≥ 65 who filled a statin prescription one year post discharge^ from hospital, by sex and LHIN, in Ontario, 2005/06

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 East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

Percentage of AMI patients age ≥ 65 who filled a beta blocker prescription post discharge from hospital, by sex and neighbourhood income quintile, in Ontario, 2005/06
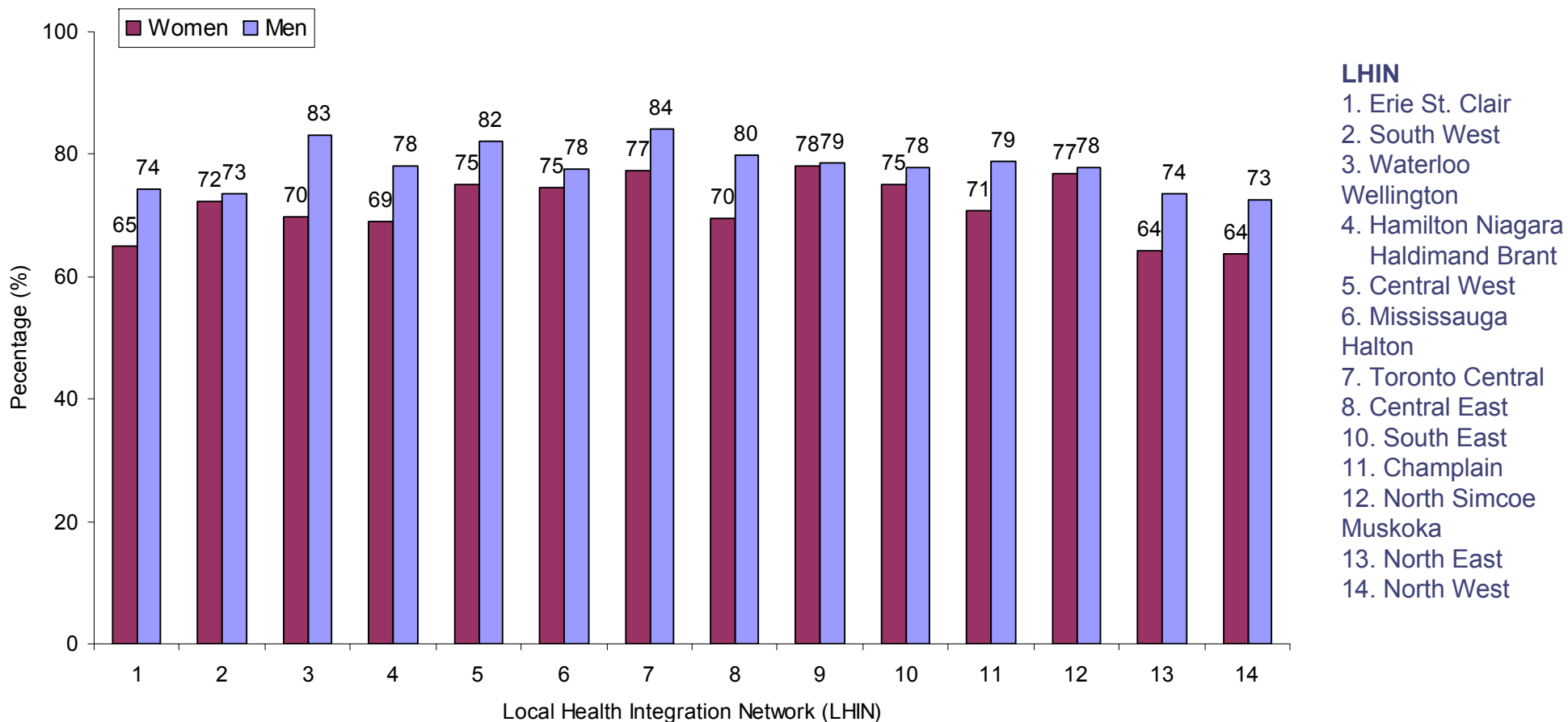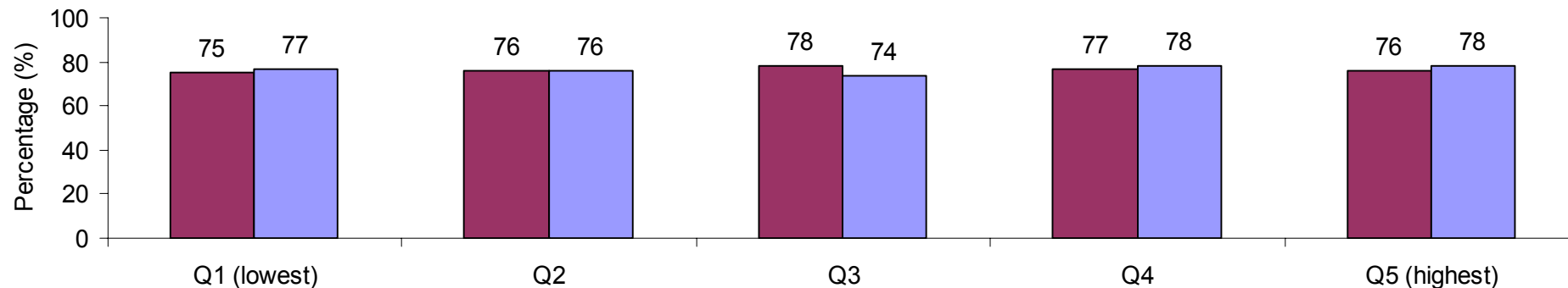
Within 90 days of discharge

Percentage (%)

	Q1 (lowest)	Q2	Q3	Q4	Q5 (highest)
Women	75	76	78	77	76
Men	77	76	74	78	78

One year post-discharge^

Percentage (%)

	Q1 (lowest)	Q2	Q3	Q4	Q5 (highest)
Women	69	68	70	70	68
Men	70	67	69	68	68

Neighbourhood income quintile

■ Women ■ Men

power
www.powerstudy.ca
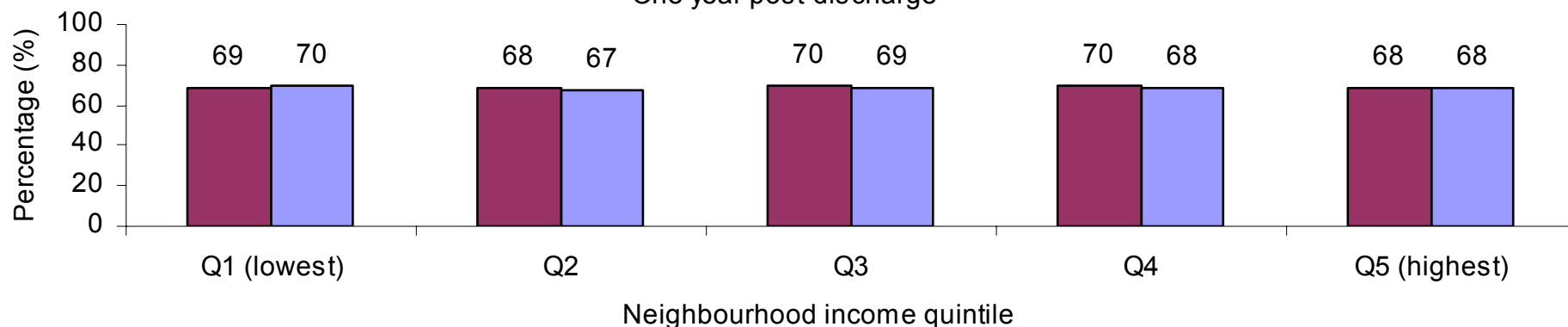
Age-standardized percentage of adults age ≥ 45 admitted to hospital with an AMI who underwent an angiography^ within three months of discharge, by sex and neighbourhood income quintile, in Ontario, 2005/06
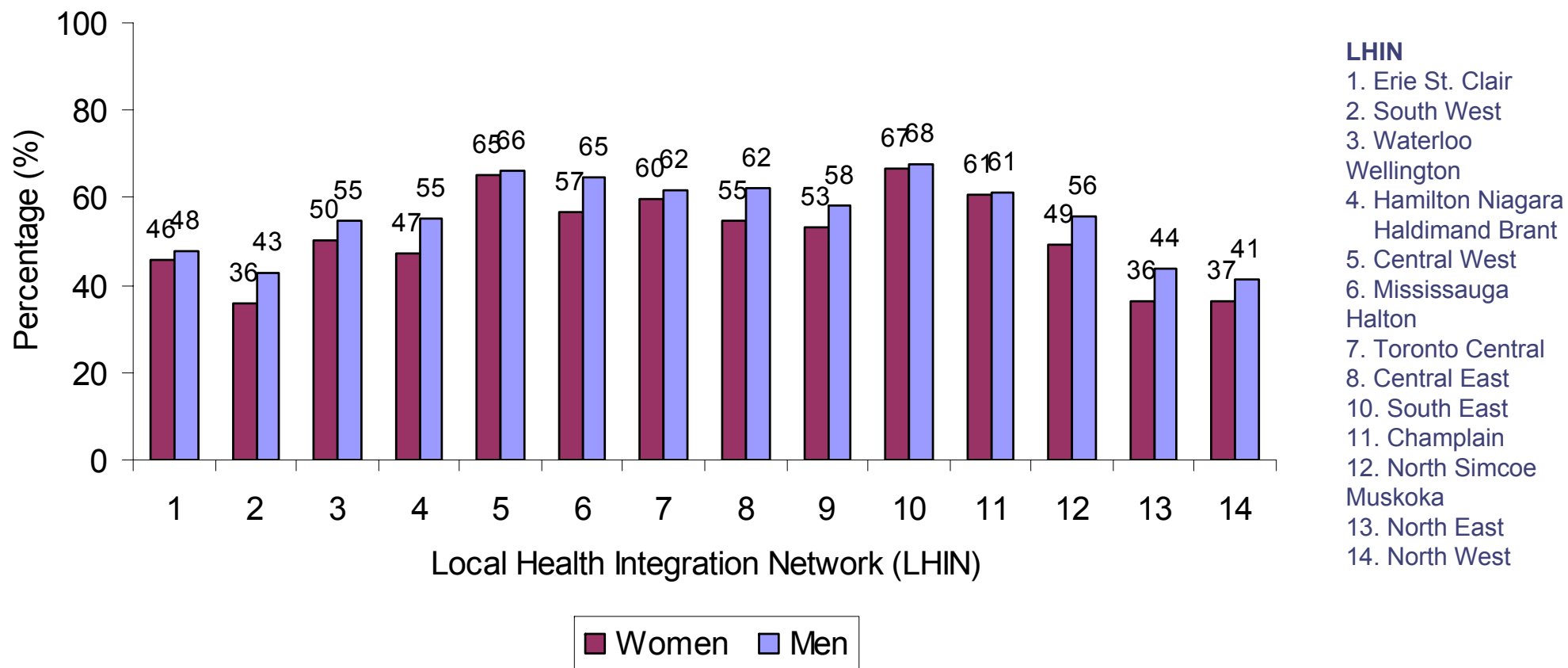
power
www.powerstudy.ca

Age-standardized percentage of adults age ≥ 45 admitted to hospital with an AMI who underwent or were referred to an angiography^ within three months of discharge, by sex and LHIN, in Ontario, 2005/06

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 East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West
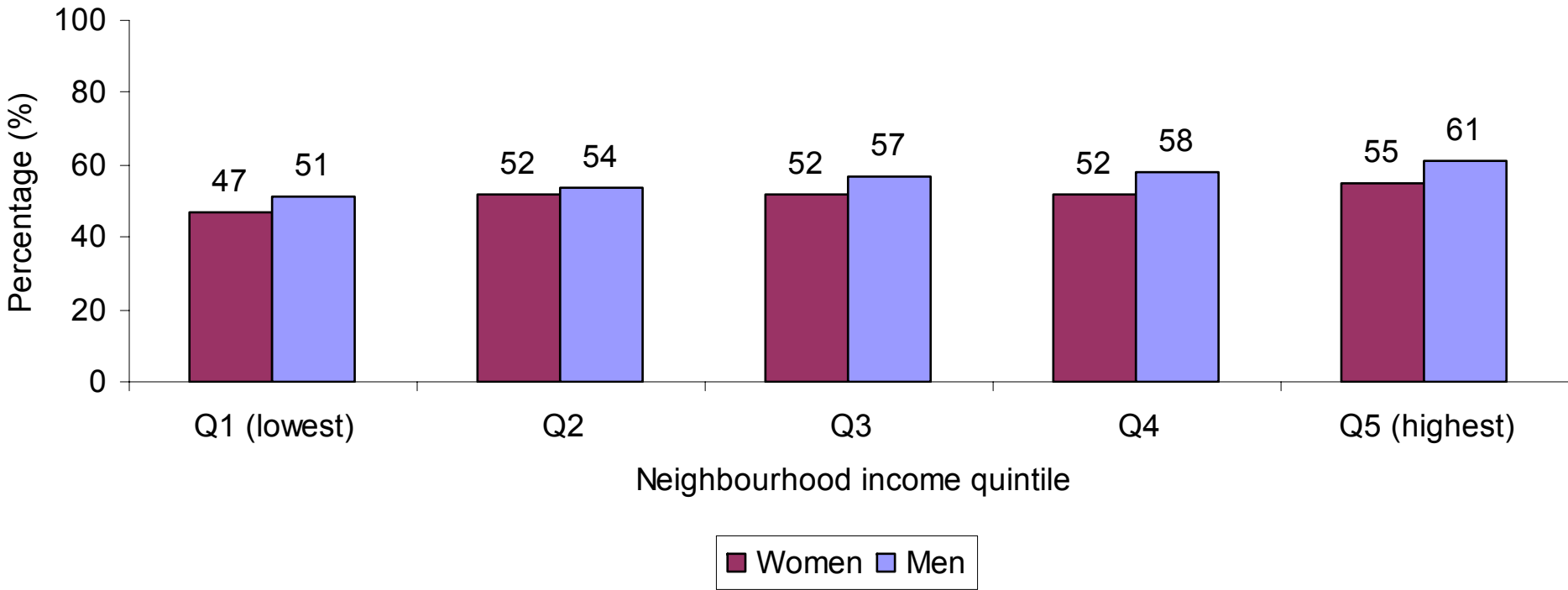
Data sources: CIHI-DAD; Canadian Cardiac Network (CCN)
^ Angiography was measured as in-hospital procedures performed prior to hospital discharge or referral within three months of discharge
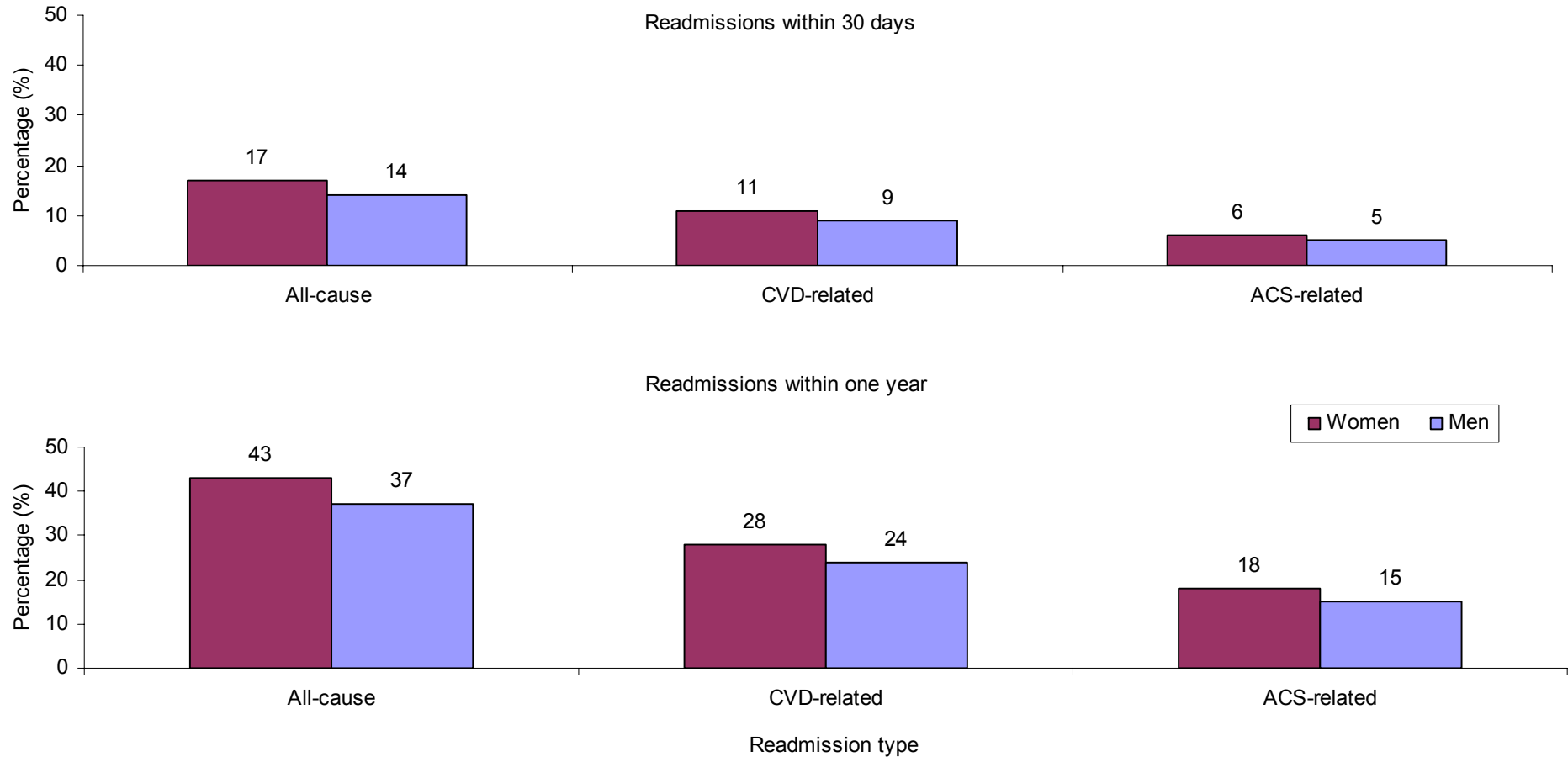
power
www.powerstudy.ca

Risk-adjusted, non-elective readmission rates (percentage) in AMI patients age ≥ 45 who were admitted to hospital, by sex, type of readmission and period, in Ontario, 2005/06

Readmissions within 30 days

	All-cause	CVD-related	ACS-related
Women	17	11	6
Men	14	9	5

Readmissions within one year

	All-cause	CVD-related	ACS-related
Women	43	28	18
Men	37	24	15

Readmission type

power

www.powerstudy.ca

Risk-adjusted mortality (percentage) among adults age ≥ 45 who were admitted to hospital for AMI, by sex and neighbourhood income quintile, in Ontario, 2005/06

power
www.powerstudy.ca
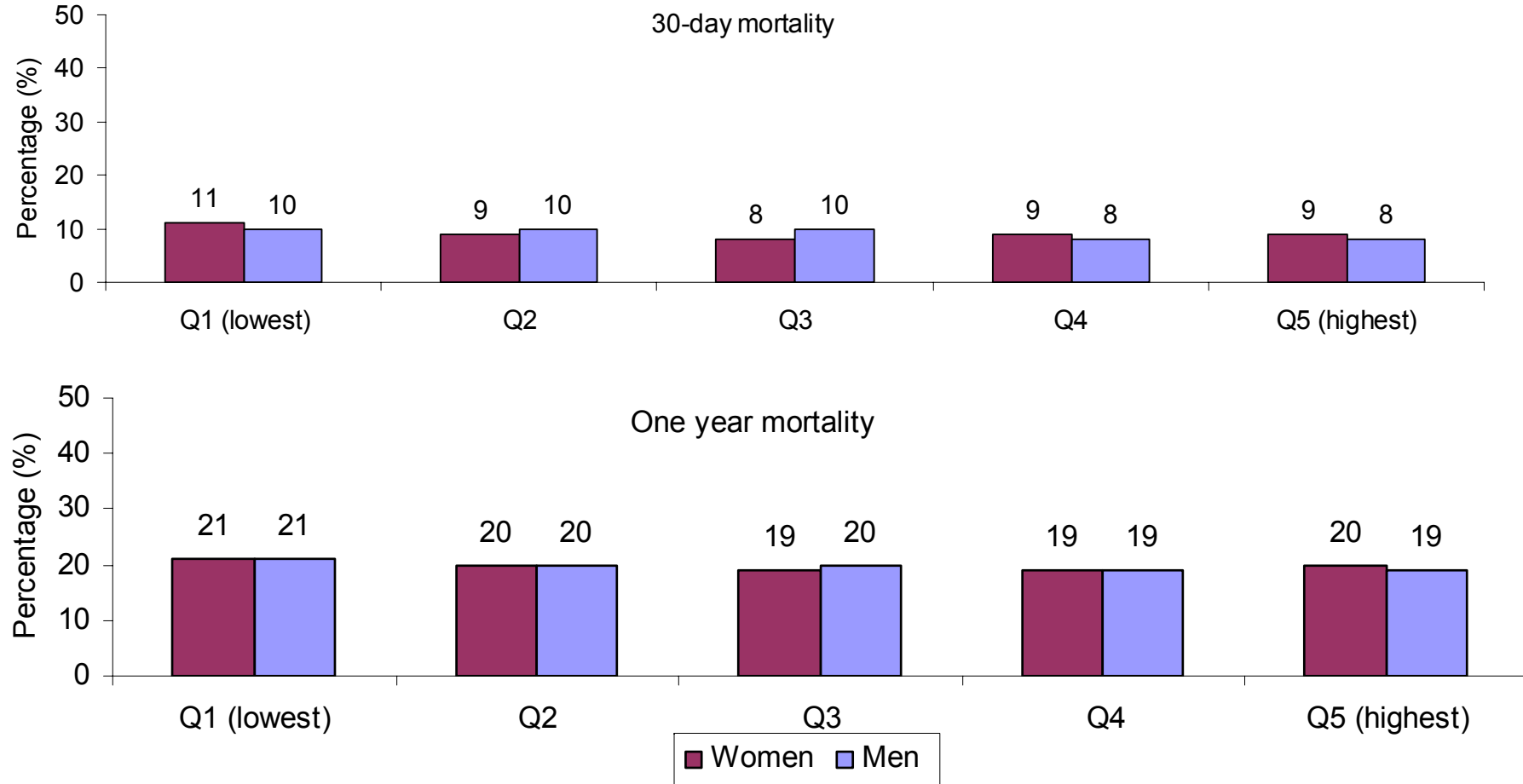
One year risk-adjusted mortality (percentage) among adults age ≥ 45 who were admitted to hospital for AMI, by sex and LHIN, in Ontario, 2005/06

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 East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

power
www.powerstudy.ca
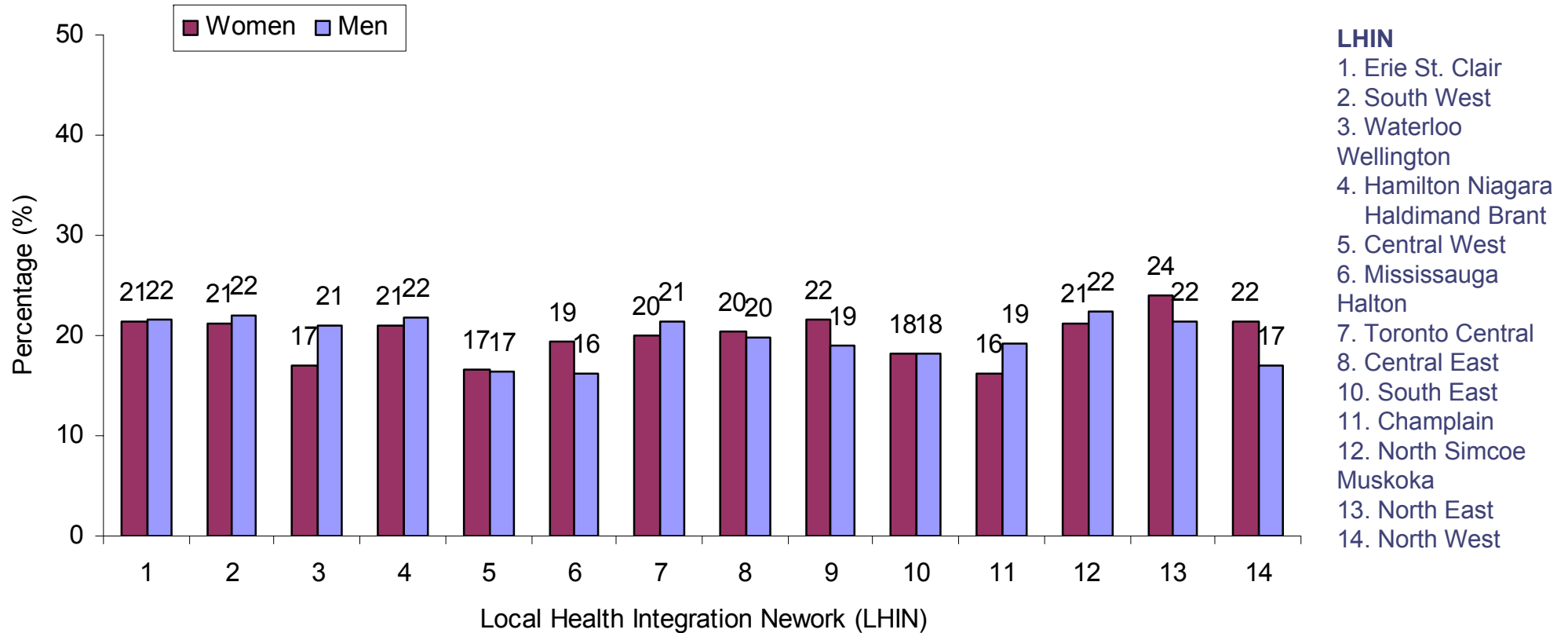
- **Stroke**

Percentage of adults age ≥ 45 admitted to hospital for ischemic stroke or transient ischemic attack (TIA) who received antiplatelet therapy within 48 hours of arrival to hospital, by sex and age group, in Ontario, 2004/05
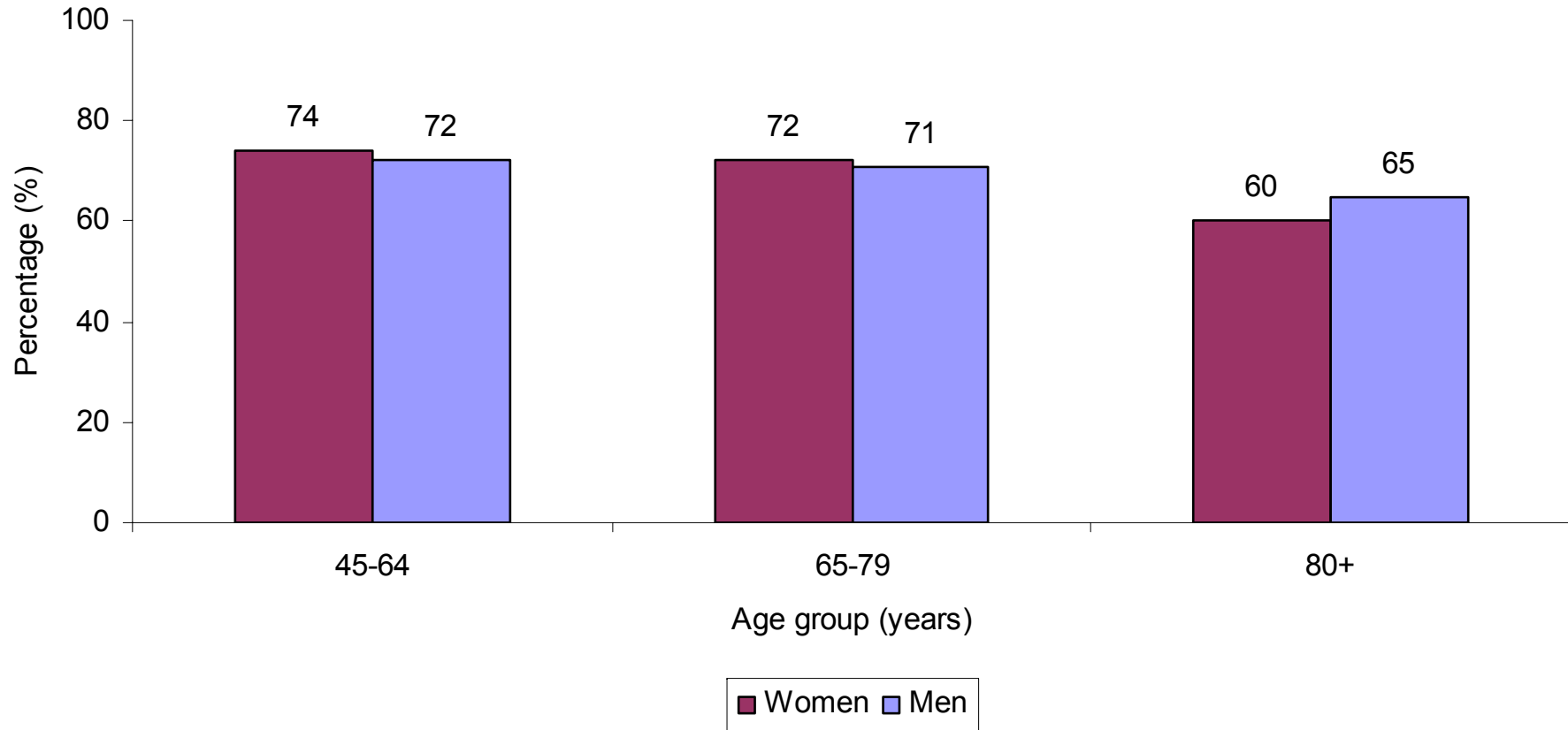
Percentage (%)

Age group (years)

	Women	Men
45-64	74	72
65-79	72	71
80+	60	65

■ Women ■ Men

Data source: RCSN-OSA

power

www.powerstudy.ca

Percentage of patients age ≥ 45 admitted to hospital for ischemic stroke or TIA who were prescribed antithrombotic therapy at hospital discharge, by sex and age group, in Ontario, 2004/05

power

www.powerstudy.ca
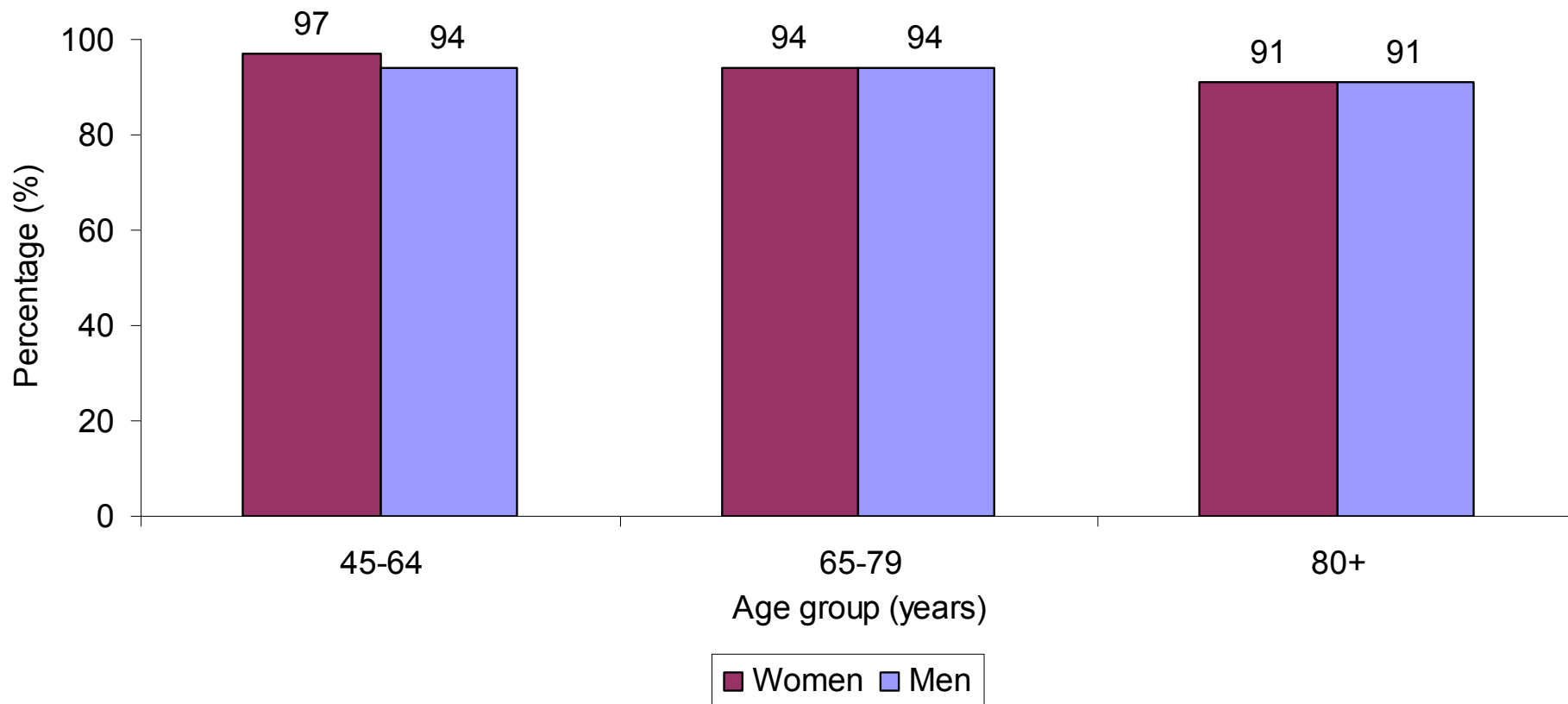
Percentage of patients admitted to hospital with ischemic stroke or TIA age ≥ 45 who had lipid levels measured while in hospital, by sex and age group, in Ontario, 2004/05

Data source: RCSN-OSA

power
www.powerstudy.ca
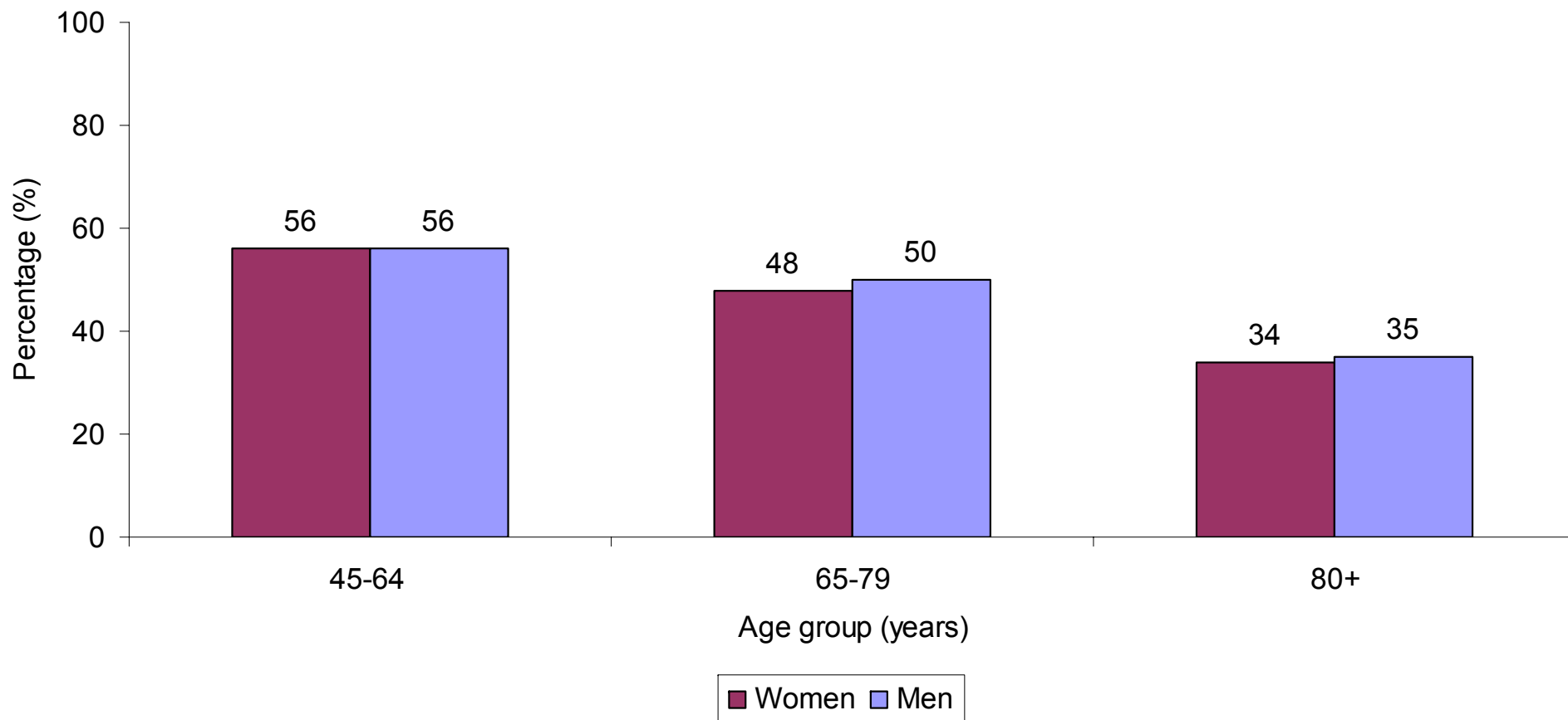
Percentage of patients age ≥ 45 admitted to hospital with ischemic stroke or TIA who had their lipid levels measured while in hospital, by sex and LHIN, in Ontario, 2004/05

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 East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

Data source: RCSN-OSA

www.powerstudy.ca
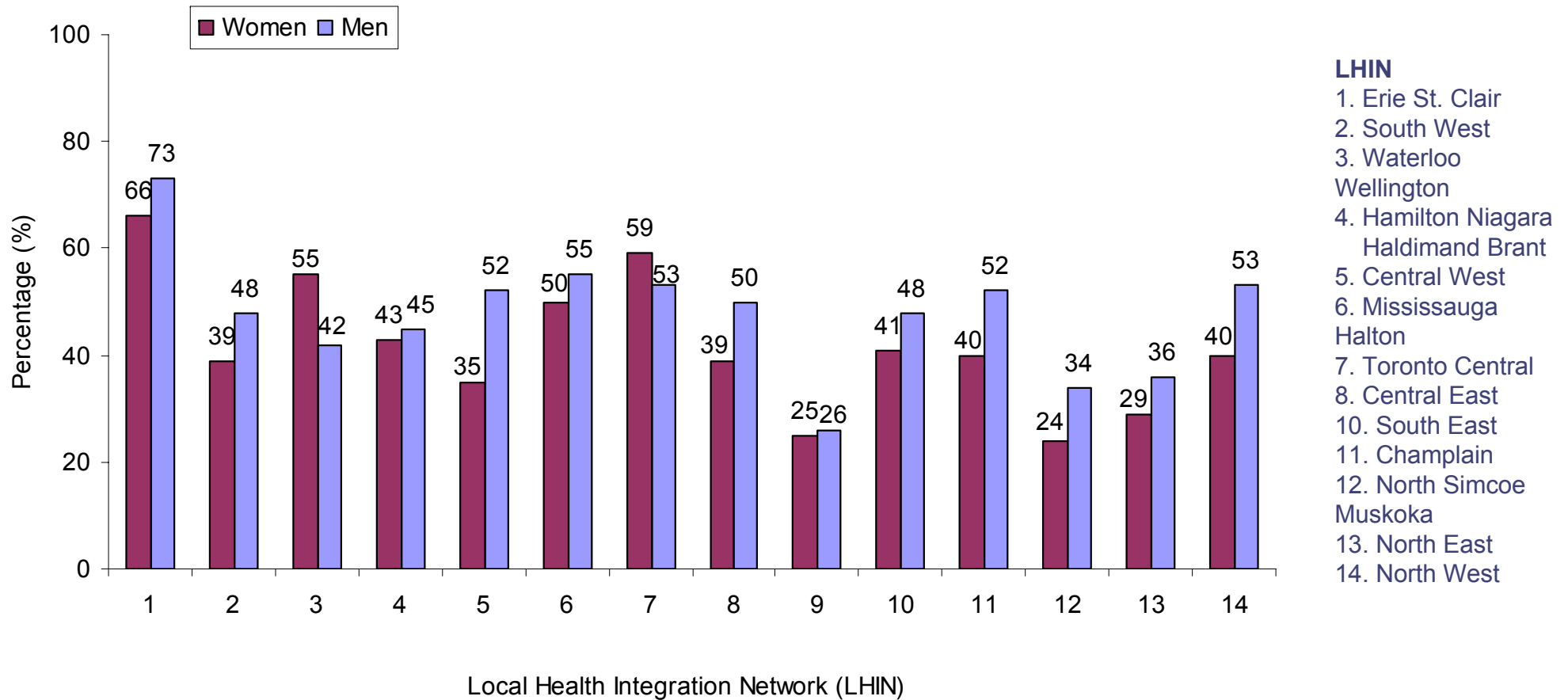
Percentage of patients age ≥ 65 admitted to hospital with ischemic stroke or TIA who were prescribed lipid lowering therapy post discharge from hospital, by sex and follow-up period, in Ontario, 2004/05
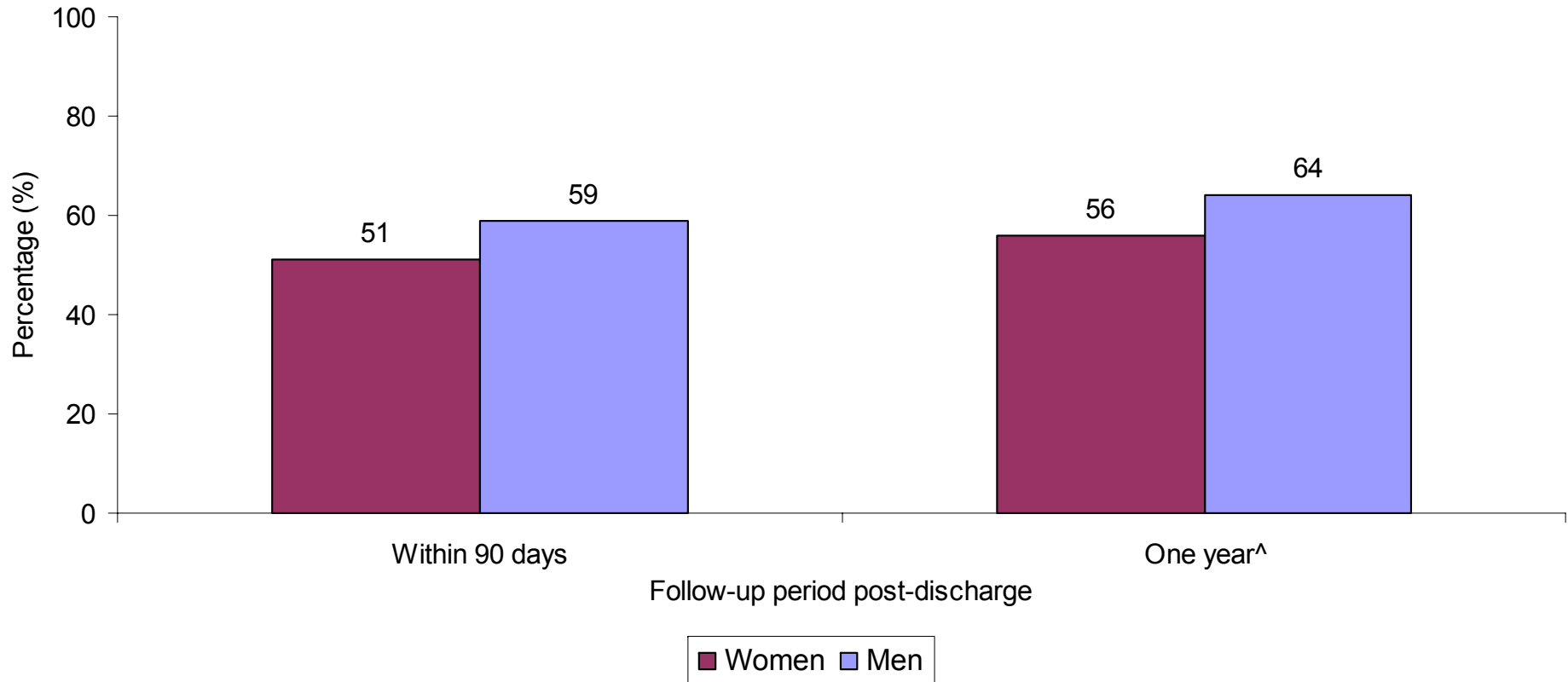
Percentage of adults age ≥ 45 who were seen in an emergency department or hospitalized with a stroke or TIA who underwent neuroimaging before discharge, by sex and LHIN, in Ontario, 2004/05
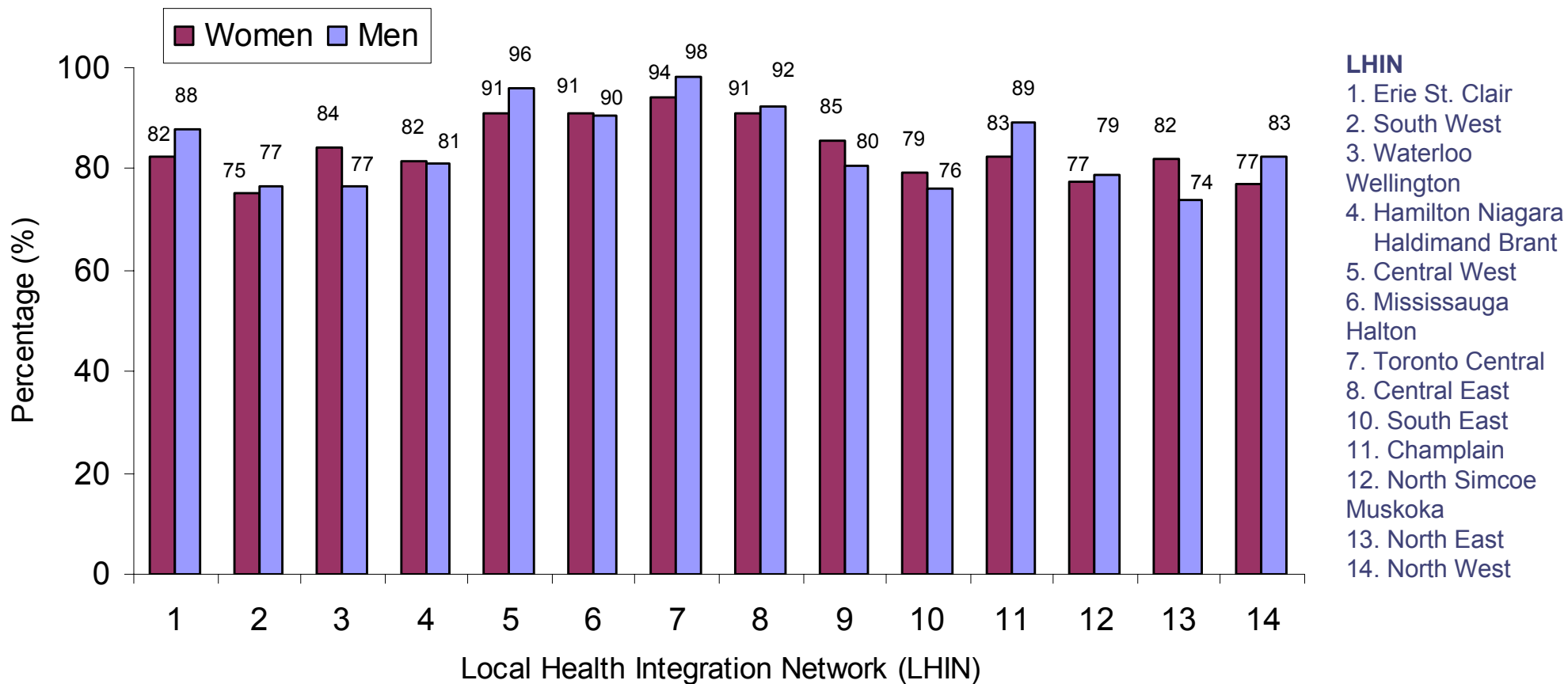
LHIN
1. Erie St. Clair
2. South West
3. Waterloo Wellington
4. Hamilton Niagara Haldimand Brant
5. Central West
6. Mississauga Halton
7. Toronto Central
8. Central East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

Local Health Integration Network (LHIN)

Percentage (%)

power
www.powerstudy.ca

Percentage of adults age ≥ 45 who were seen in an emergency department or hospitalized with an ischemic stroke or TIA who underwent or who were scheduled to undergo carotid imaging, by sex and LHIN, in Ontario, 2004/05
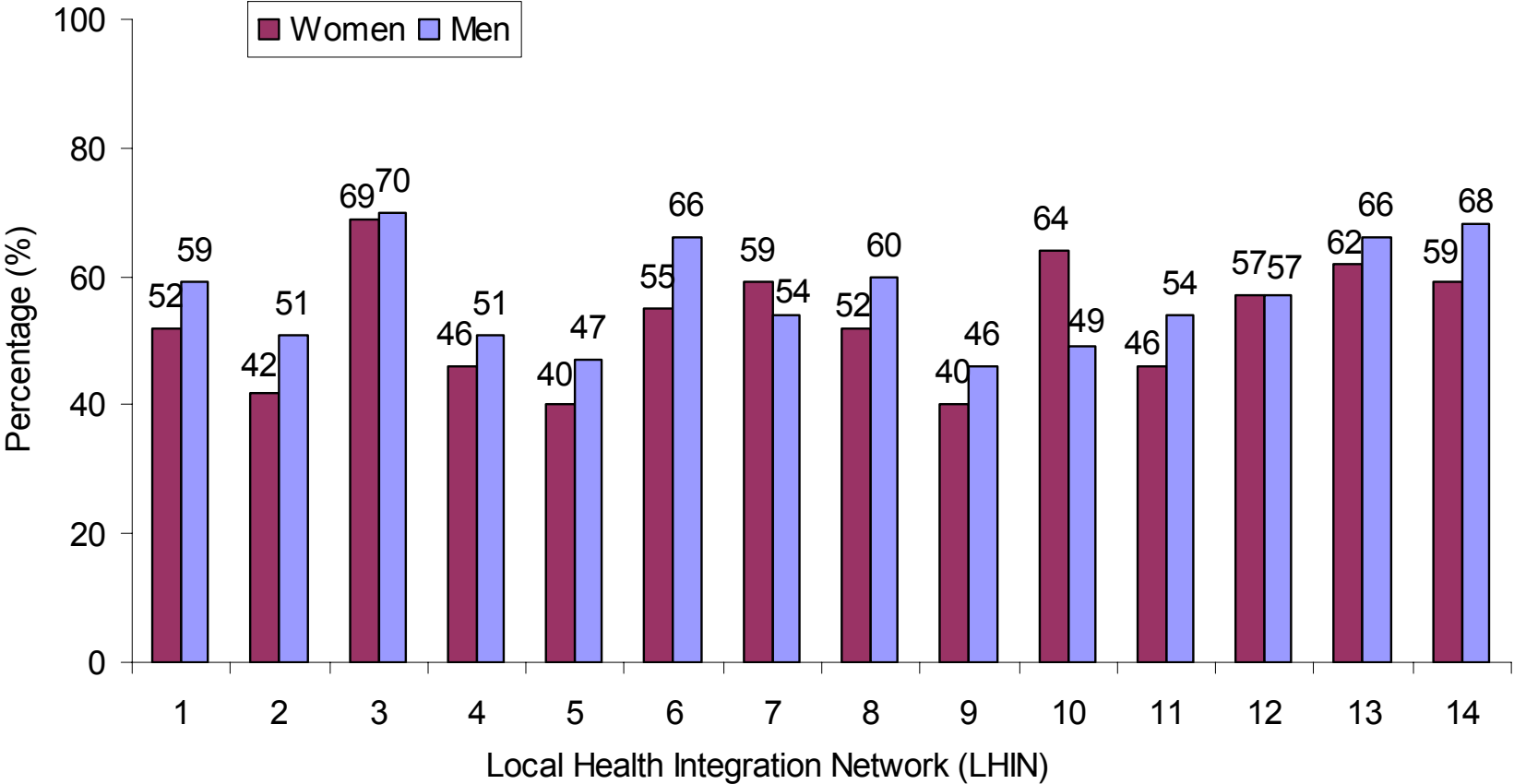
Women ■ Men

Percentage (%)

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 East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

Local Health Integration Network (LHIN)

Percentage of adults age ≥ 45 admitted to hospital for a stroke or TIA who were cared for in a dedicated stroke unit while in hospital, by sex and LHIN, in Ontario, 2004/05

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 East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

power
www.powerstudy.ca
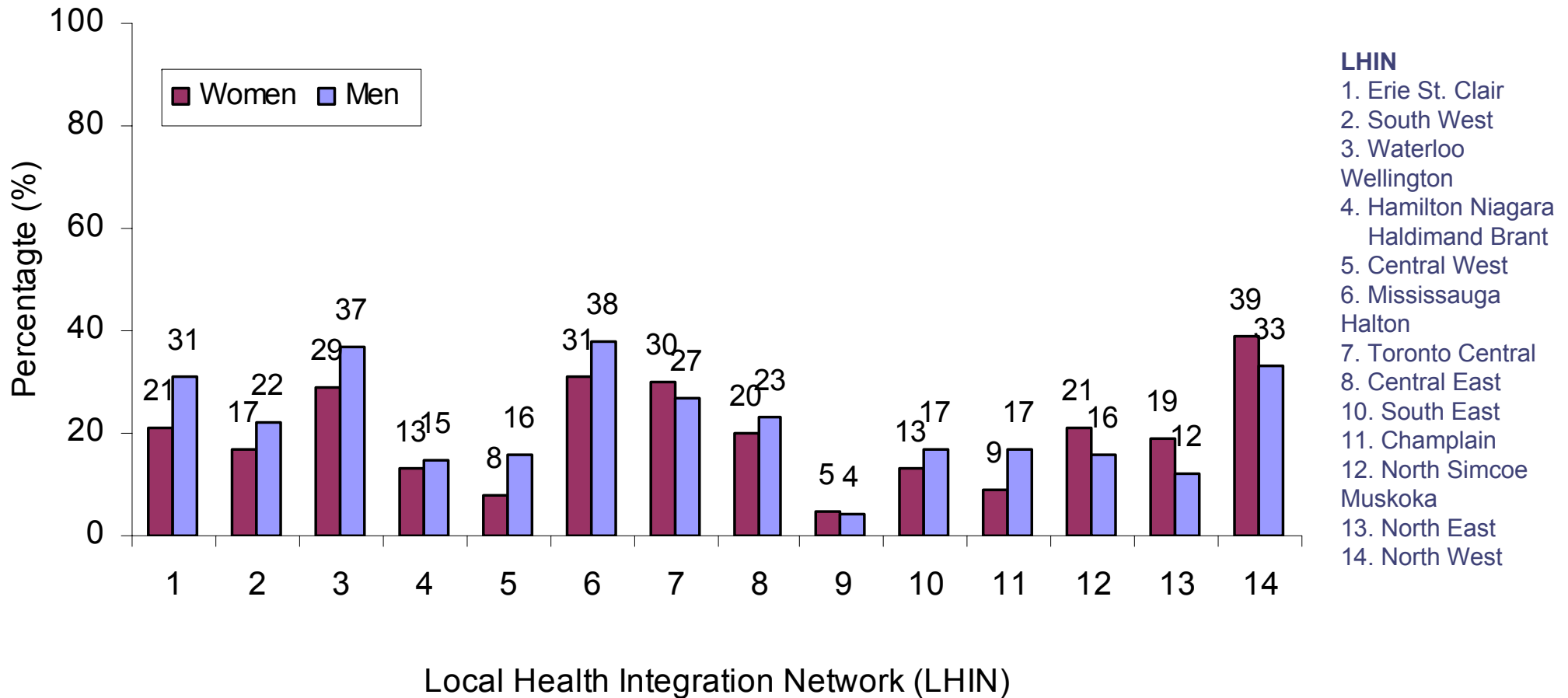
Percentage of stroke or TIA patients age ≥ 45 who were screened for dysphagia while in hospital, by sex and LHIN, in Ontario, 2004/05

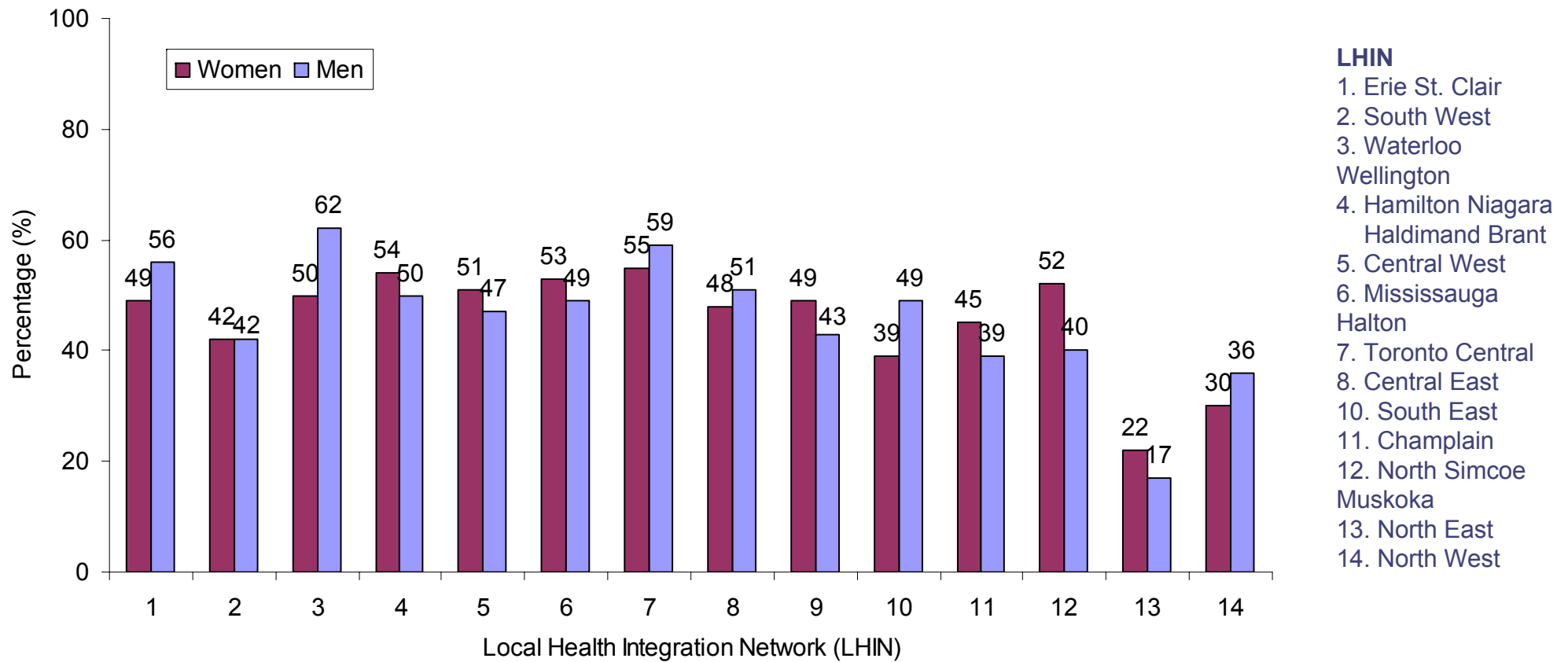**LHIN**
1. Erie St. Clair
2. South West
3. Waterloo Wellington
4. Hamilton Niagara Haldimand Brant
5. Central West
6. Mississauga Halton
7. Toronto Central
8. Central East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

power

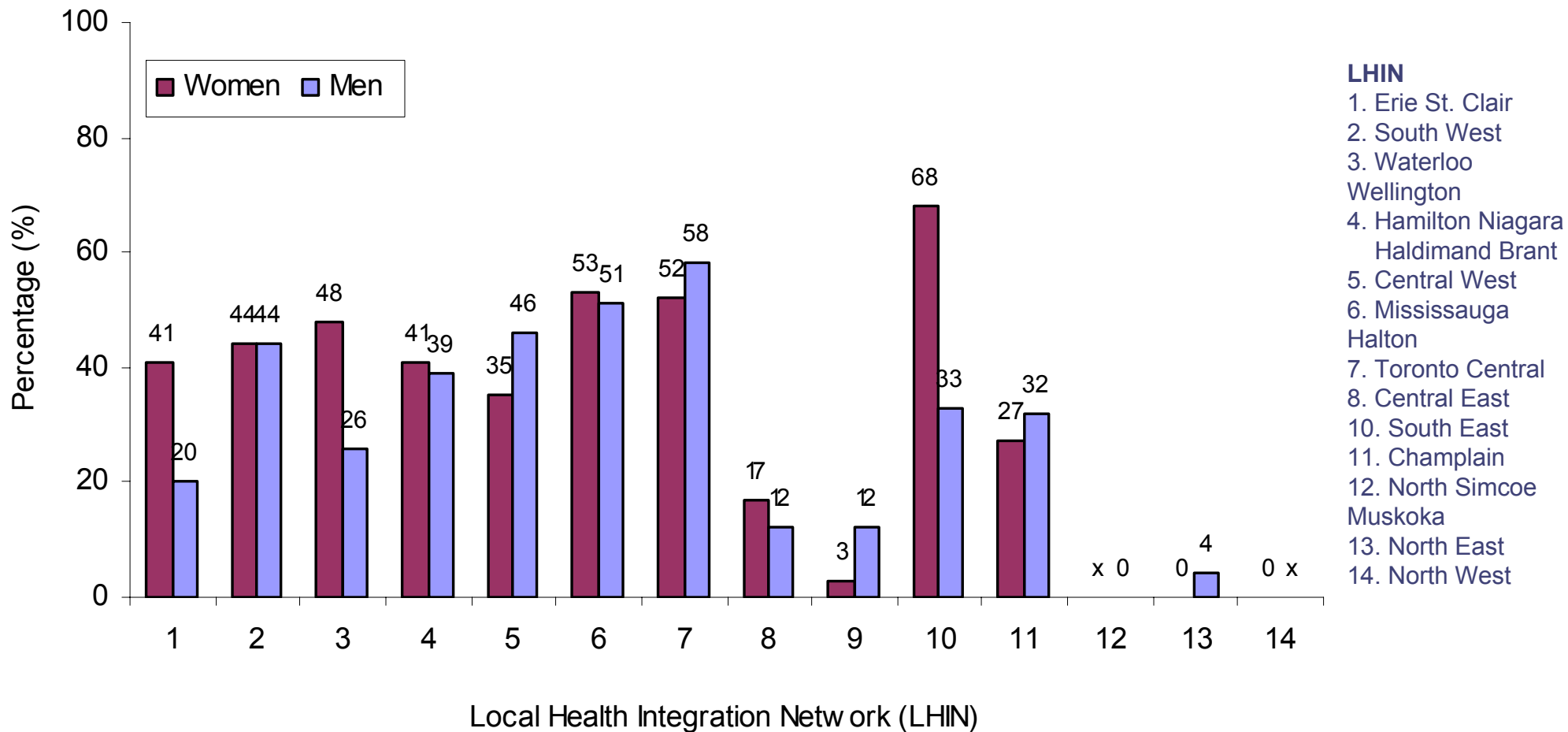www.powerstudy.ca

Percentage of adults age ≥ 45 who were seen in an emergency department or hospitalized for a stroke or TIA who received neurology or neurosurgical consultation, by sex and LHIN, in Ontario, 2004/05

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 East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

power

www.powerstudy.ca
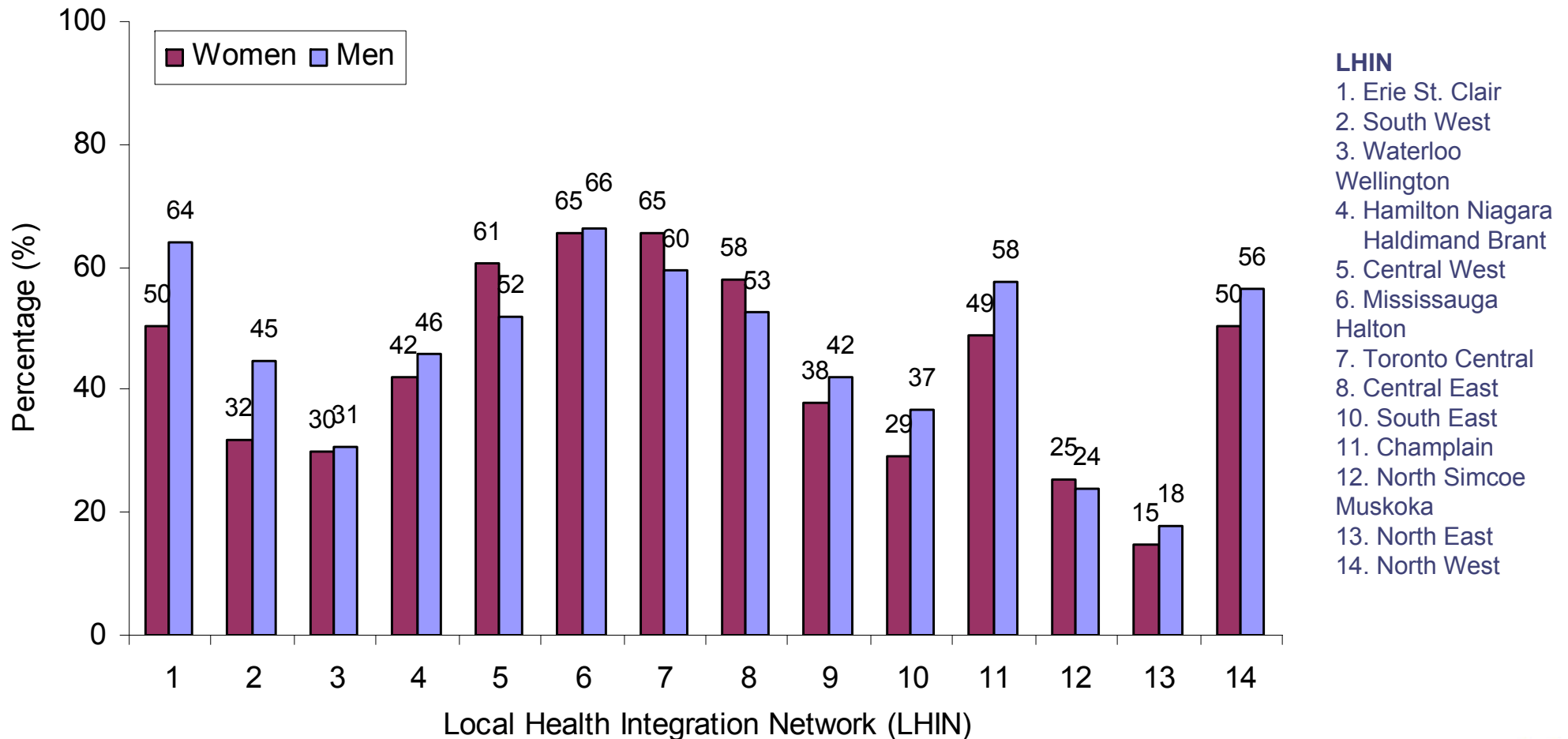
Percentage of adults age ≥ 45 discharged from an emergency department with a diagnosis of stroke or TIA who received a referral to a stroke prevention clinic, by sex and LHIN, in Ontario, 2004/05

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 East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

power
www.powerstudy.ca

Risk-adjusted readmission rates among adults age ≥ 45 discharged alive from hospital with a primary diagnosis of stroke or TIA, by sex, readmission type and follow up period, in Ontario 2005/06
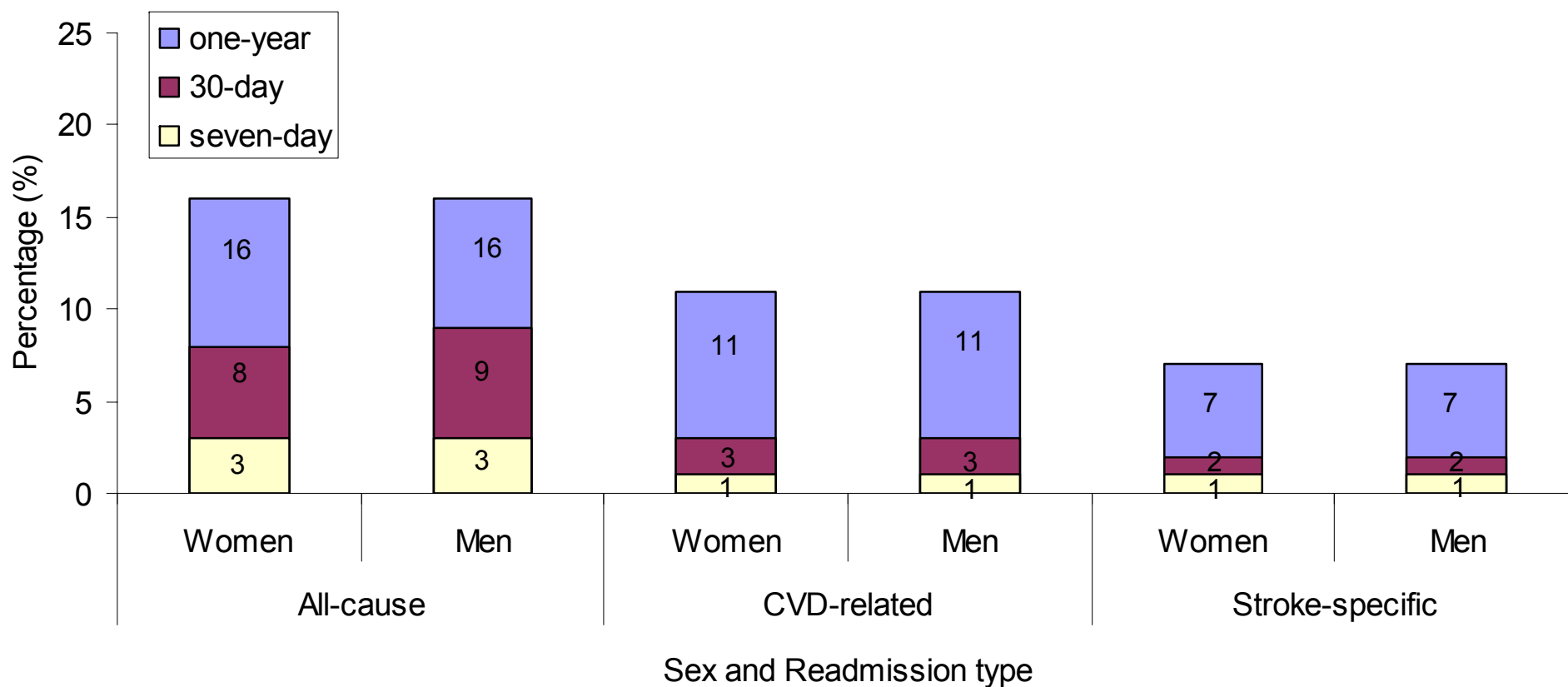
power

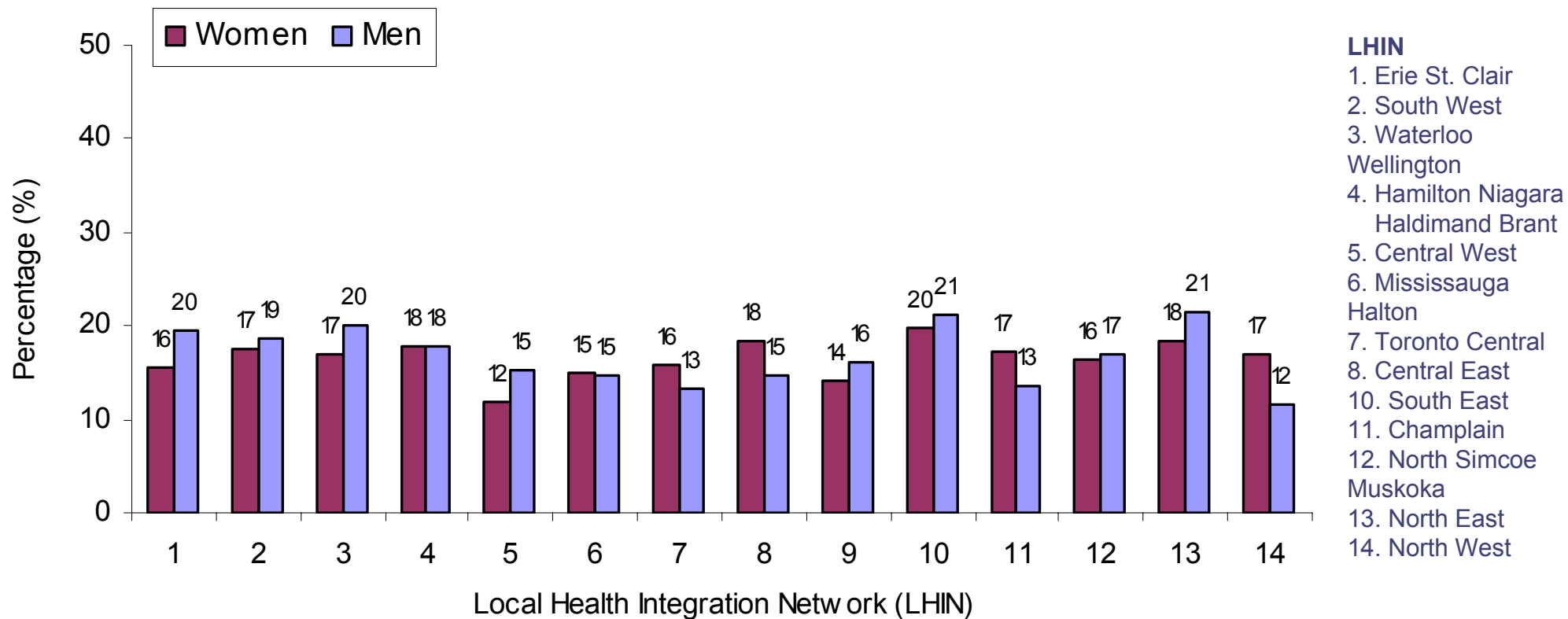www.powerstudy.ca

Risk-adjusted mortality among adults age ≥ 45 seen in an emergency department or admitted to hospital with a primary diagnosis of stroke or TIA by sex, age group and period of follow up, in Ontario, 2005/06

power
www.powerstudy.ca
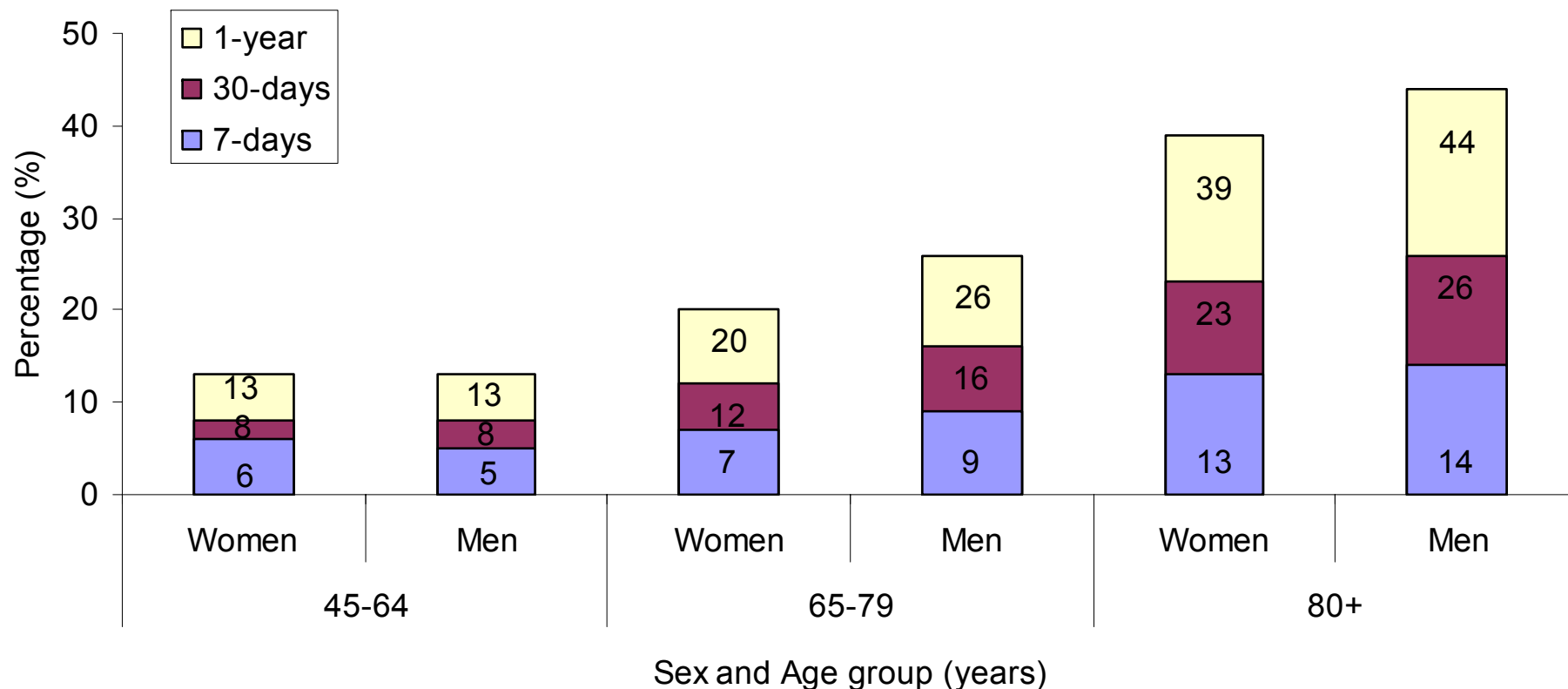
Risk-adjusted 30-day mortality among adults age ≥ 45 seen in an emergency department or admitted to hospital with a primary diagnosis of stroke or TIA by sex and LHIN, in Ontario, 2005/06

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 East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

power

www.powerstudy.ca

Study Limitations

- We indicate *where* disparities occurred, but cannot explain *why* disparities occurred

- Data sources created for administrative purposes
  - Insufficient clinical detail

- Survey data influenced based on self report

- Medication data coverage (65 and older)

- Limited data on ambulatory care

- Older data (2001 or 2005/06)

- Neighbourhood income quintile as a proxy measure for SES

- No data on ethnicity

Summary of Findings: Health And Functional Status and CVD Risk Factors

- Women who reported they had heart disease or that they have had a stroke consistently reported worse functional status and higher rates of disability than men.

- Lower socioeconomic status was also associated with worse functional status and higher rates of disability among women and men with CVD.

- The prevalence of CVD risk factors was high among both women and men and across income categories, underscoring the need for secondary prevention

Summary of Findings: Heart Failure, Ischemic Heart Disease, Stroke

- Rates of potentially avoidable emergency department use and hospital readmission were high for both women and men after a hospital admission for HF.

- Despite progress, gender gaps in care persist.

- Income was associated with some differences in care.

- Age was associated with differences in performance on many measures.

- Performance on many measures varied across the province.

power

www.powerstudy.ca

Key messages

- Reduce health inequities associated with CVD by focusing upstream.
- Prevention (primary and secondary) is key to reducing the burden of illness due to CVD.
- Close the gender gap in care for CVD.
- Comprehensive patient-centred chronic disease management can improve quality and outcomes of care for CVD.
- Province-wide, integrated, organized models of care delivery can improve health outcomes and reduce inequities in care.
- Improve quality, availability and timeliness of data to assess CVD and CVD care in the province.

power

www.powerstudy.ca

For more information, please contact us:

The POWER Study

Keenan Research Centre in the
Li Ka Shing Knowledge Institute of
St. Michael's Hospital
30 Bond Street (193 Yonge Street, 6th Floor)
Toronto, ON M5B 1W8
Telephone: (416) 864-6060, ext. 3946
Fax: (416) 864-6057

www.powerstudy.ca
powerstudy@smh.toronto.on.ca

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

ST. MICHAEL'S HOSPITAL
A teaching hospital affiliated with the University of Toronto
KEENAN RESEARCH CENTRE
LI KA SHING KNOWLEDGE INSTITUTE

ICES Institute for Clinical
Evaluative Sciences