



Musculoskeletal Conditions

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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**) 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

- 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

Volume 1

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

Volume 2

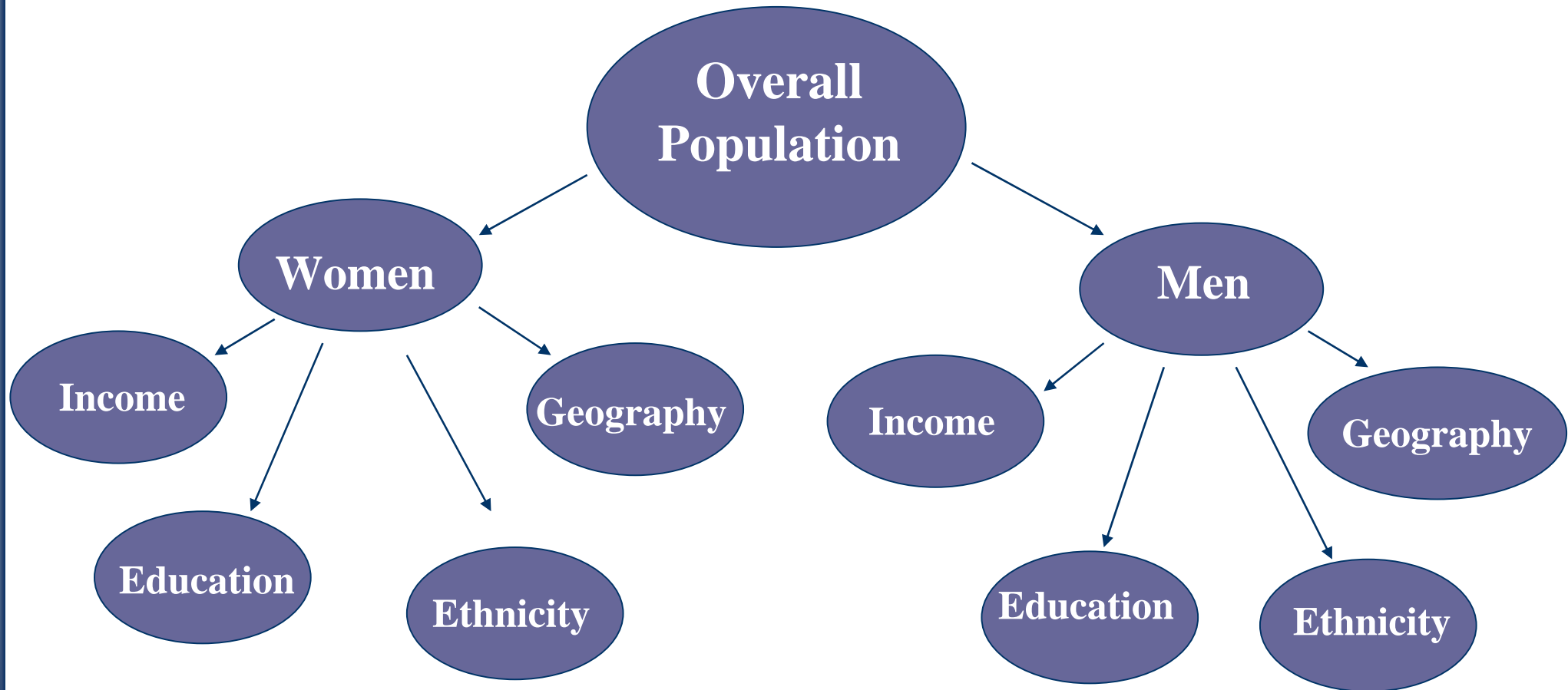
- Musculoskeletal Disorders (arthritis, osteoporosis)
- Reproductive and Gynecological Health
- Diabetes
- HIV Infection
- Special Populations (low income, immigrant and older women)
- Social Determinants of Health
- Conclusions and Policy Implications

Web-based reporting

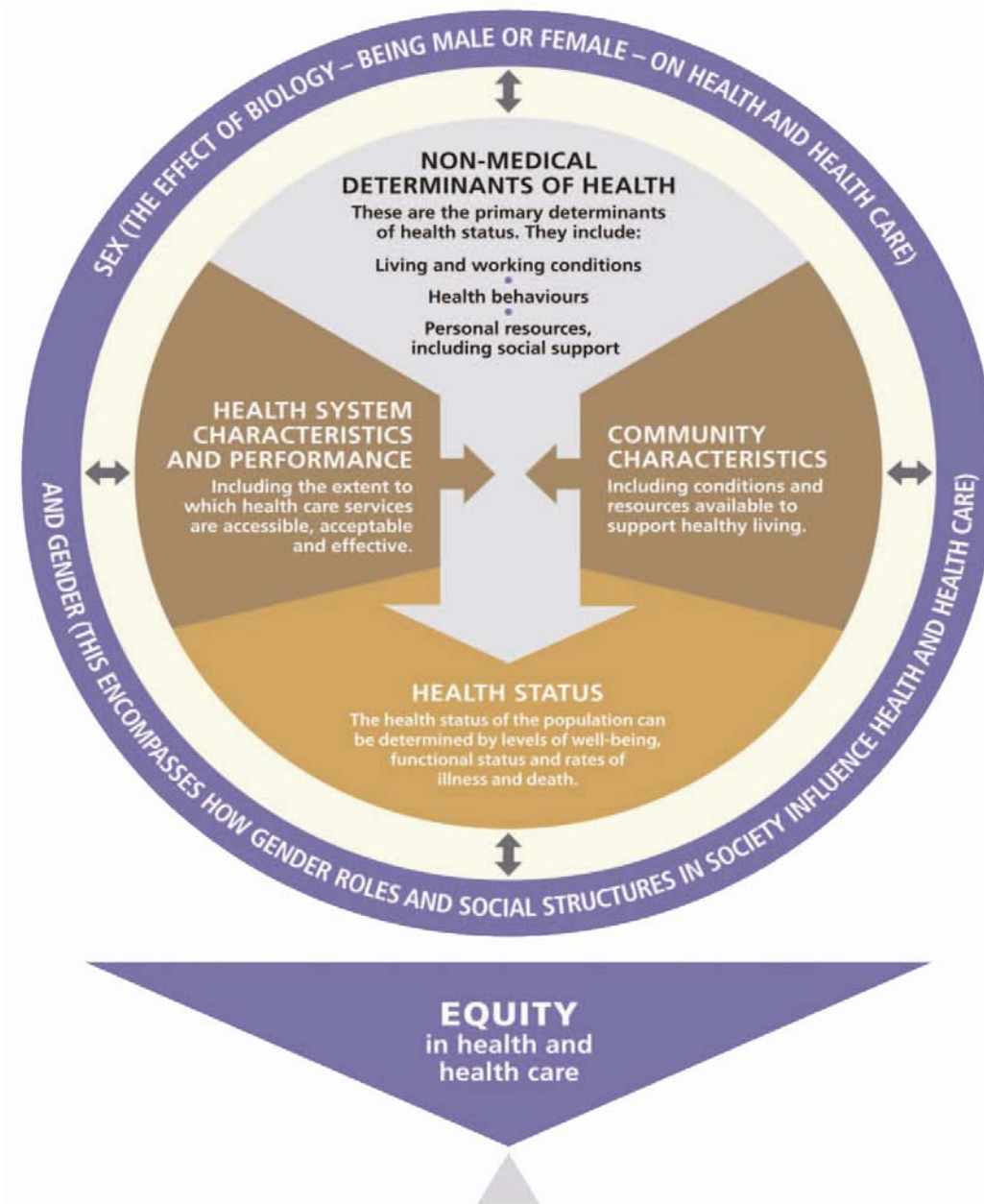
Community-Engaged Research

- 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



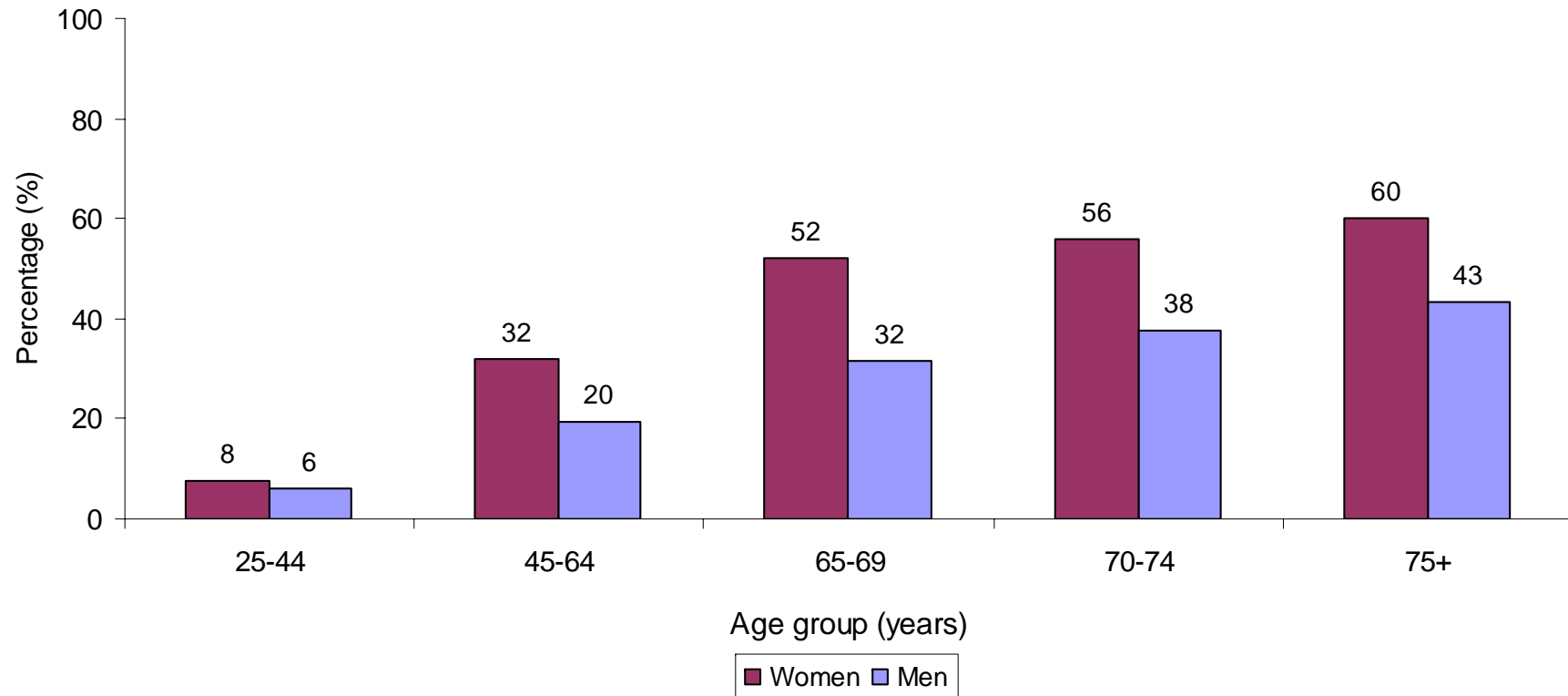
POWER Study Gender and Equity Health Indicator Framework



Musculoskeletal Conditions

General Musculoskeletal (MSK) Indicators

Percentage of adults aged 25 and older who have arthritis or rheumatism[^], by sex and age group, in Ontario, 2005



Data source: Canadian Community Health Survey (CCHS), 2005 (Cycle 3.1)

[^]physician-diagnosed arthritis or rheumatism, excluding fibromyalgia

Distribution of MSK conditions and other chronic conditions in Ontario, 2005, 2007

CCHS 2005, 2007
Unweighted N=49, 745
Weighted N = 8,438,806

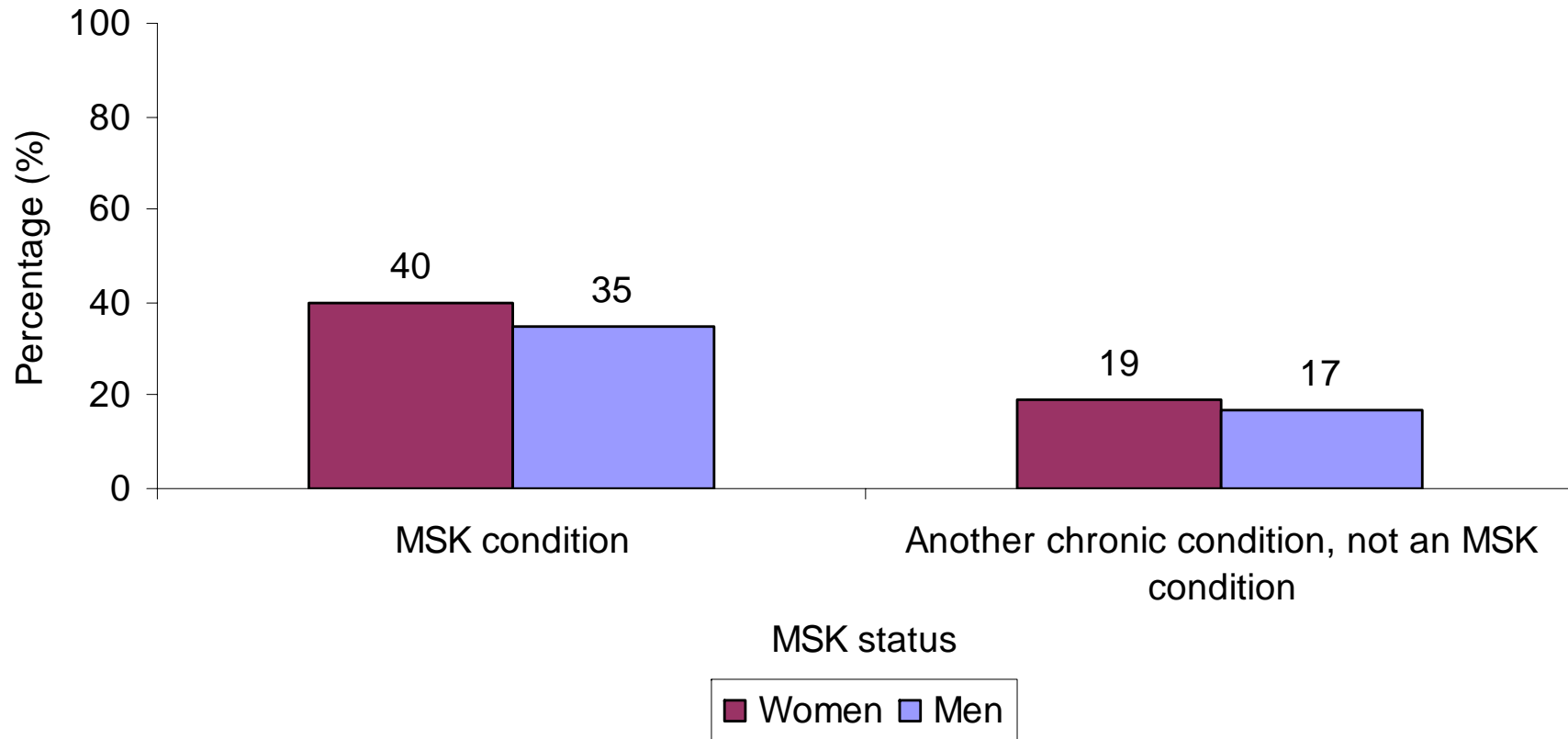
MSK condition
34.9 percent

No MSK condition
65.1 percent

No MSK condition,
at least one other selected
chronic condition
12.1 percent

No chronic conditions
52.9 percent

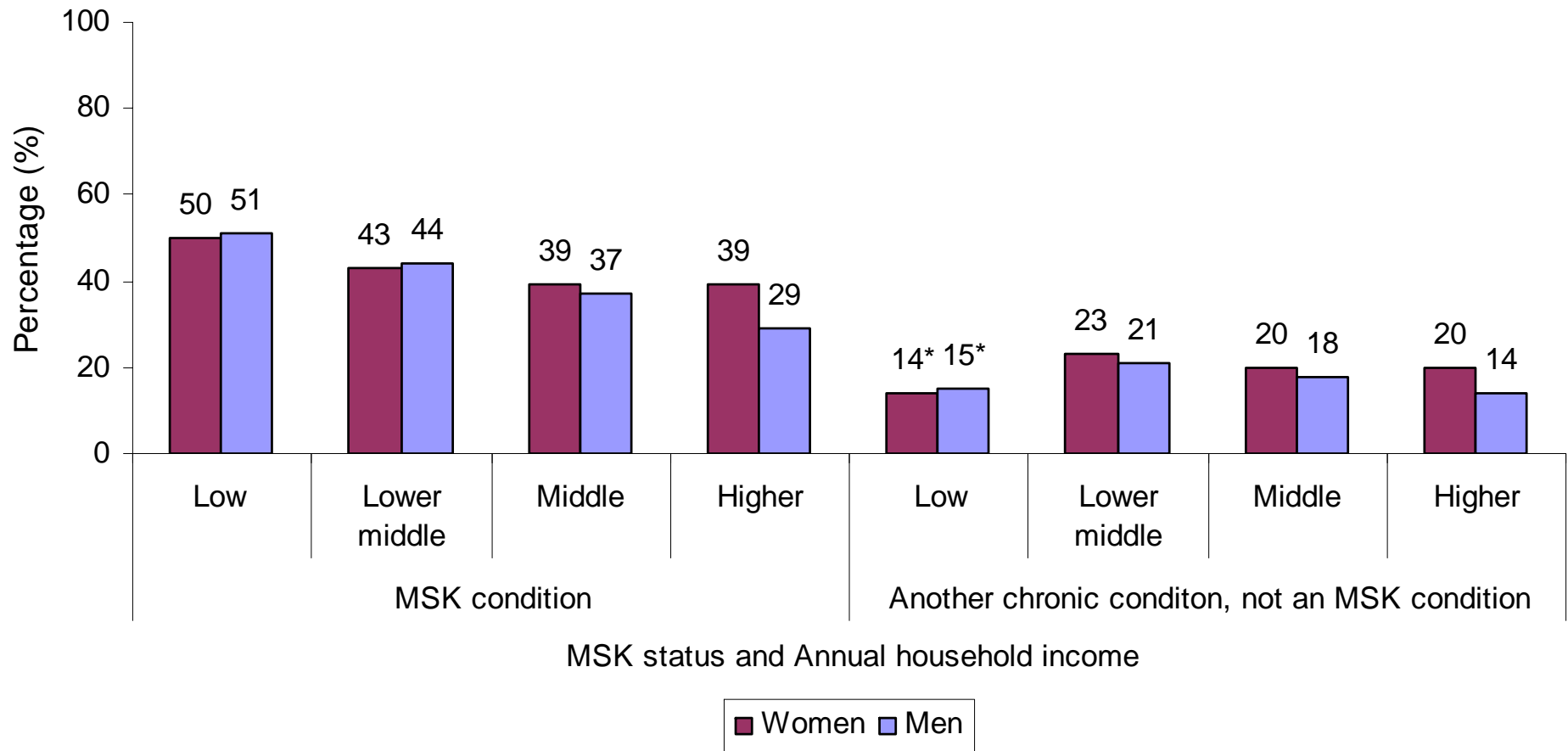
Age-standardized percentage of adults aged 25 and older with a chronic condition who reported having at least one other chronic condition diagnosed by a health professional among those with and without an MSK condition[^], by sex, in Ontario, 2005 and 2007



Data source: Canadian Community Health Survey (CCHS), 2005 (Cycle 3.1) and 2007

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

Age-standardized percentage of adults aged 25 and older with a chronic condition who reported having at least one other chronic condition diagnosed by a health professional among those with and without an MSK condition[^], by sex and annual household income, in Ontario, 2005 and 2007

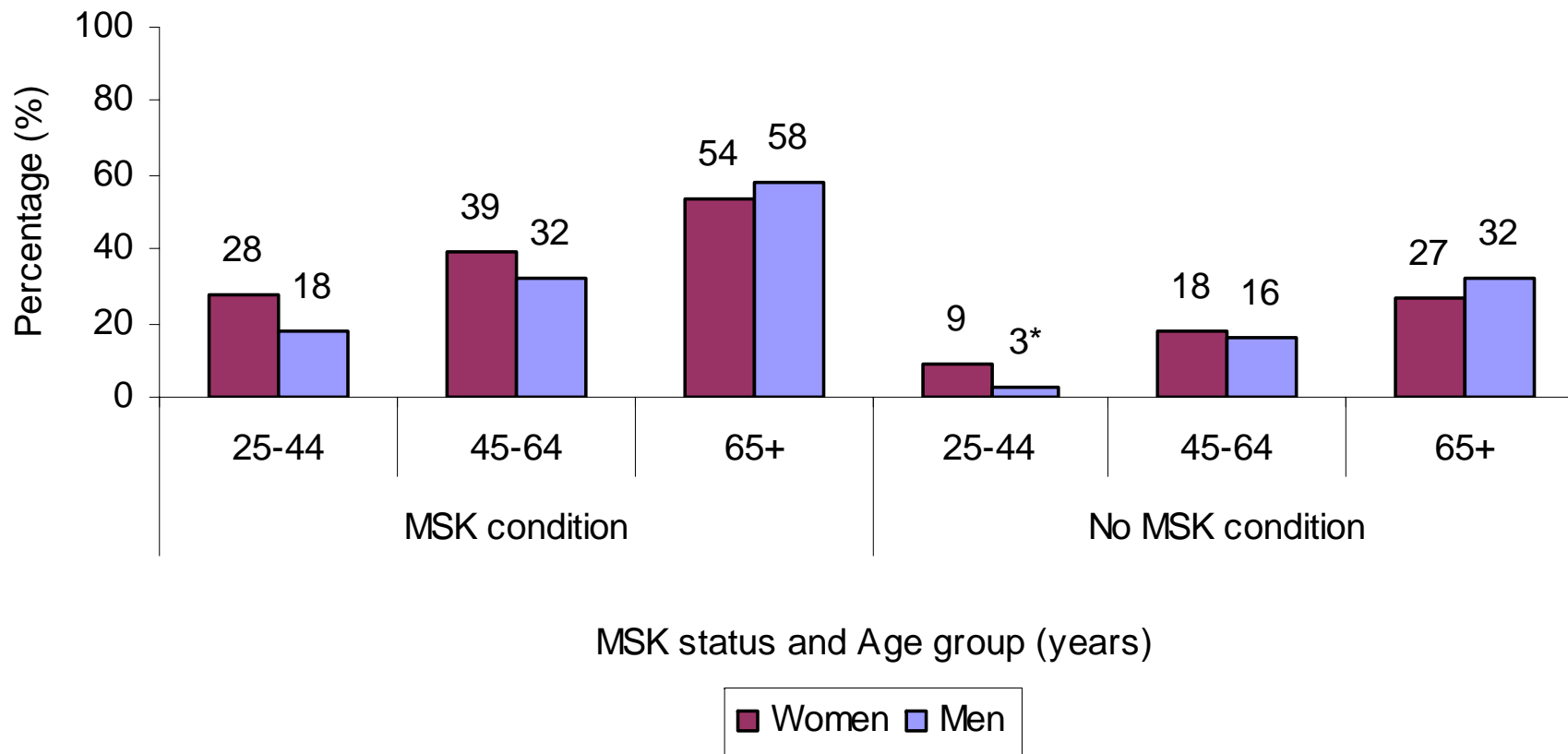


Data source: Canadian Community Health Survey (CCHS), 2005 (Cycle 3.1) and 2007

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

*Interpret with caution due to high sampling variability

Percentage of adults aged 25 and older with a chronic condition who reported having at least one other chronic condition diagnosed by a health professional among those with and without an MSK condition[^], by sex and age group, in Ontario, 2005 and 2007

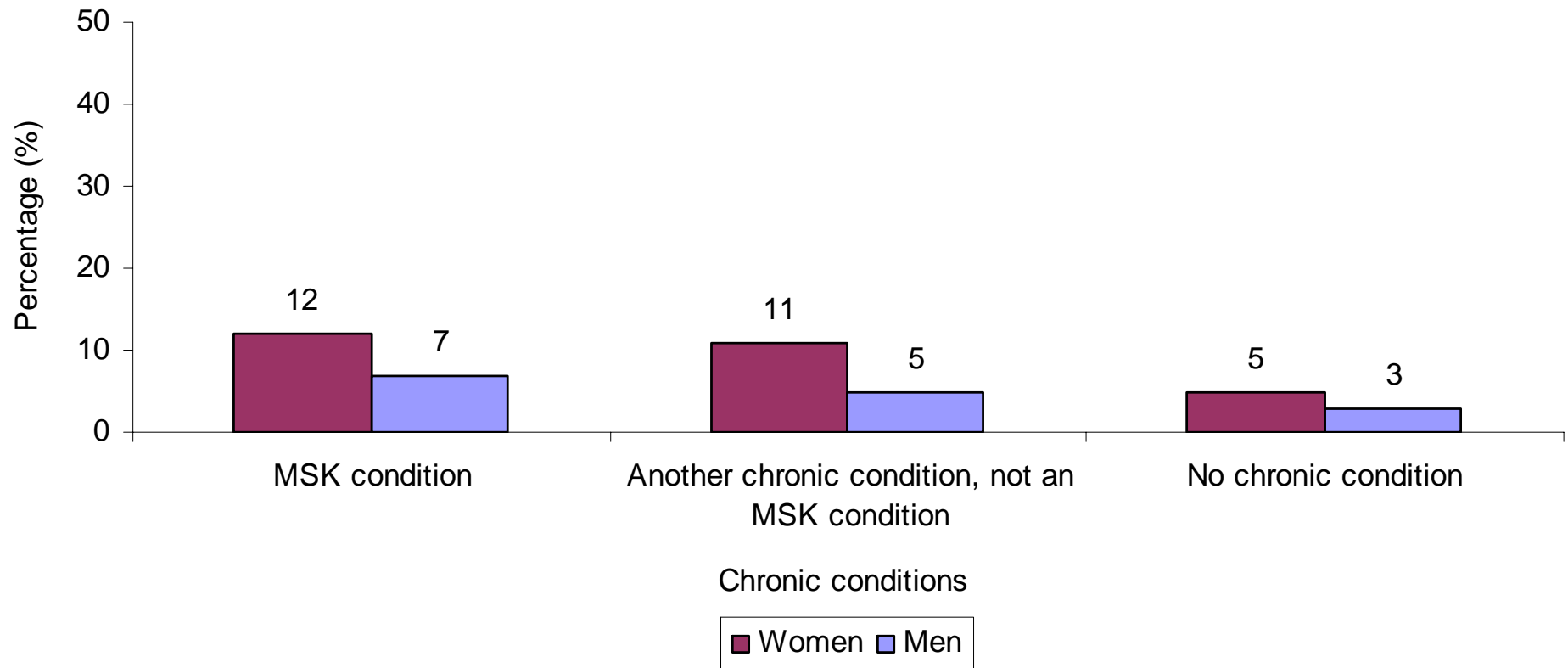


Data source: Canadian Community Health Survey (CCHS), 2005 (Cycle 3.1) and 2007

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

*Interpret with caution due to high sampling variability

Age-standardized percentage of adults aged 25 and older who had probable depression[¥] among those with and without an MSK condition[^], by sex, in Ontario, 2000/01

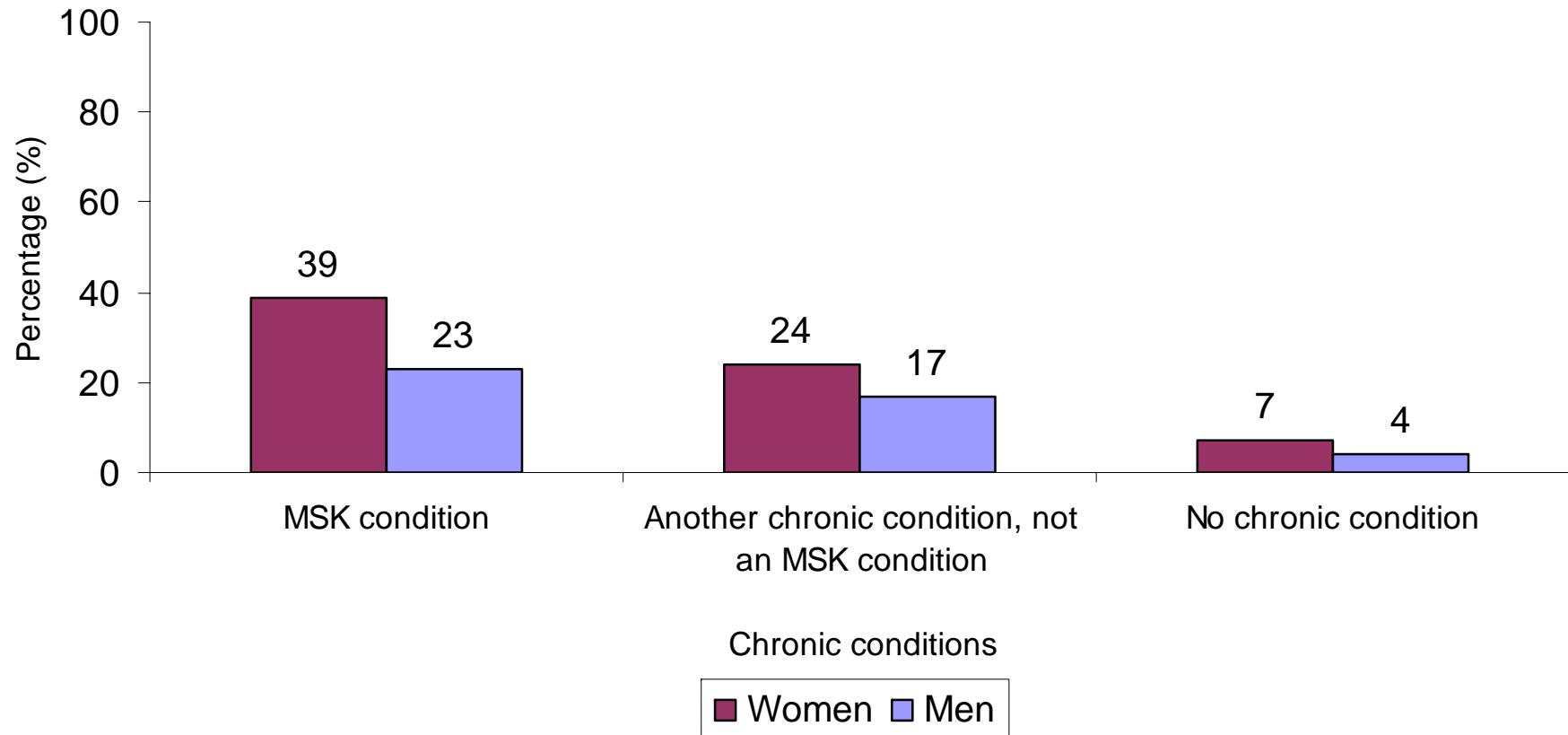


Data source: Canadian Community Health Survey (CCHS), 2000/01 (Cycle 1.1)

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

[¥] Composite International Diagnostic Interview-Short Form for Major Depression score of ≥ 0.9

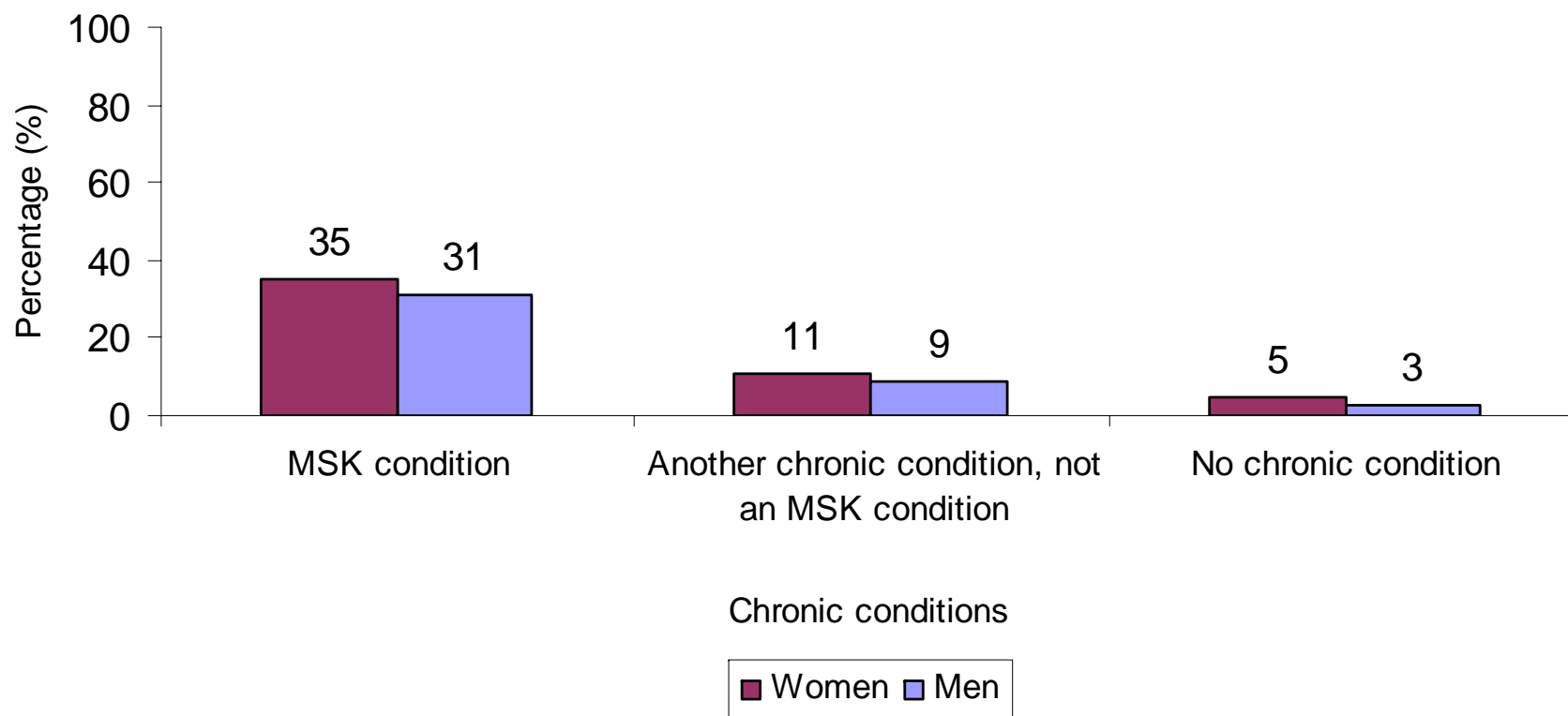
Age-standardized percentage of adults aged 25 and older who reported having limitations in IADLs (instrumental activities of daily living) and/or ADLs (activities of daily living) among those with and without an MSK condition[^], by sex, in Ontario, 2005



Data source: Canadian Community Health Survey (CCHS), 2005 (Cycle 3.1)

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

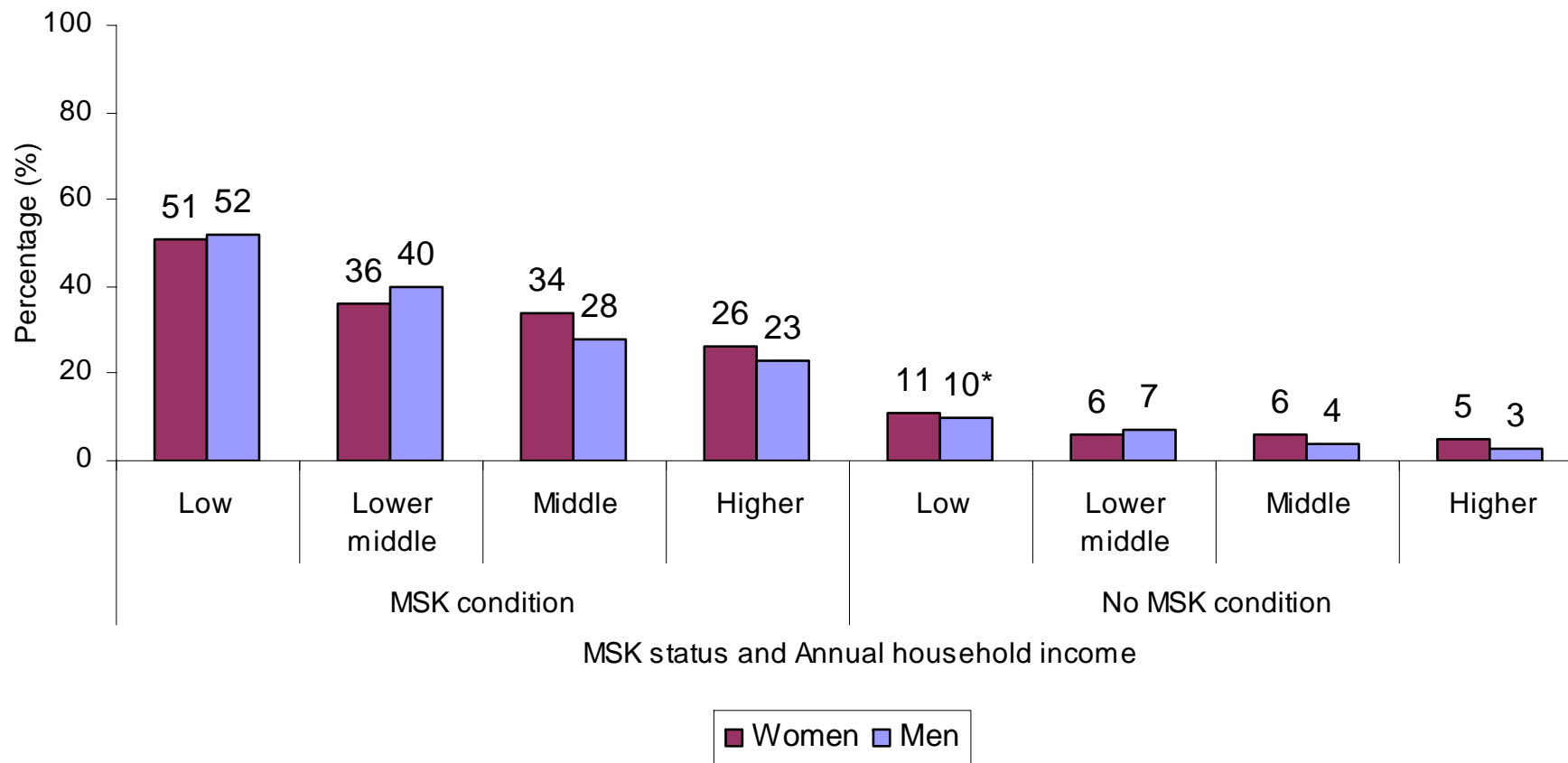
Age-standardized percentage of adults aged 25 and older who reported that their activities were prevented due to pain or discomfort among those with and without an MSK condition[^], by sex, in Ontario, 2000/01



Data source: Canadian Community Health Survey (CCHS), 2000/01 (Cycle 1.1)

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

Age-standardized percentage of adults aged 25 and older who reported that their activities were prevented due to pain or discomfort among those with and without an MSK condition[^], by sex and annual household income, in Ontario, 2000/01

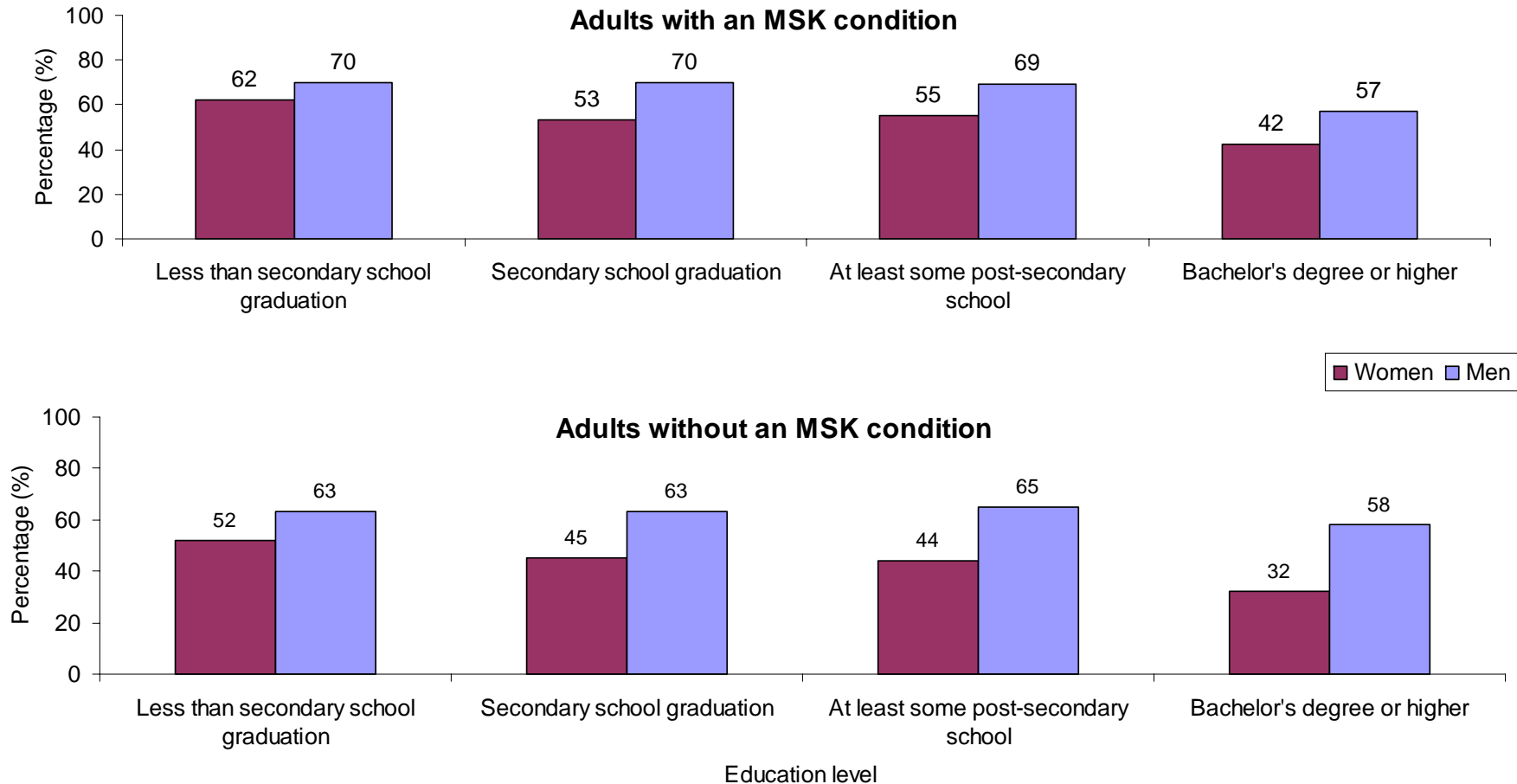


Data source: Canadian Community Health Survey (CCHS), 2000/01 (Cycle 1.1)

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

* Interpret with caution due to high sampling variability

Age-standardized percentage of adults aged 25 and older who reported being overweight or obese[‡], among those with and without an MSK condition[^], by sex and education level, in Ontario, 2005 and 2007

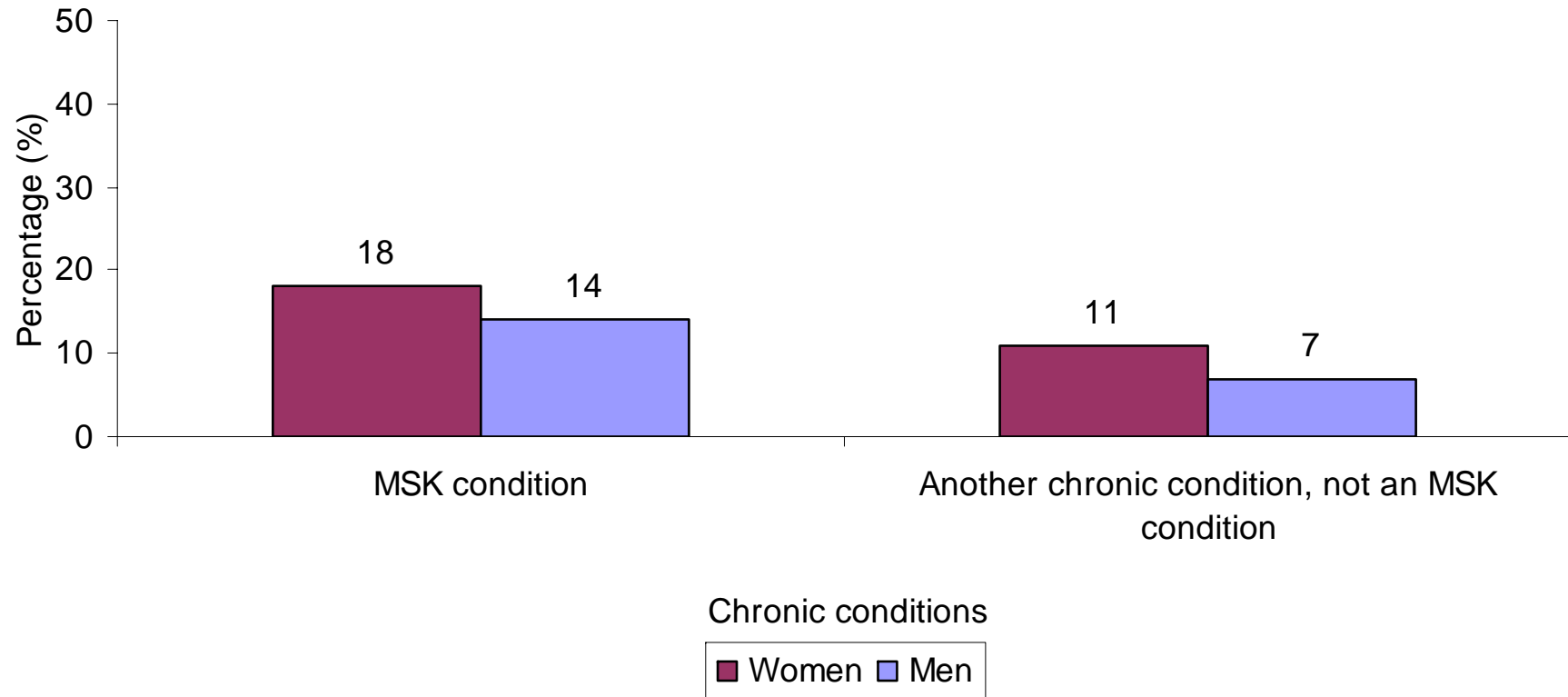


Data source: Canadian Community Health Survey (CCHS), 2005 (Cycle 3.1) and 2007

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

[‡]Body Mass Index (BMI) ≥ 25 calculated from self-reported height and weight

Age-standardized percentage of adults aged 25 and older with a chronic condition who reported taking two or more types of medication[¥] among those with and without an MSK condition[^], by sex, in Ontario, 2000/01

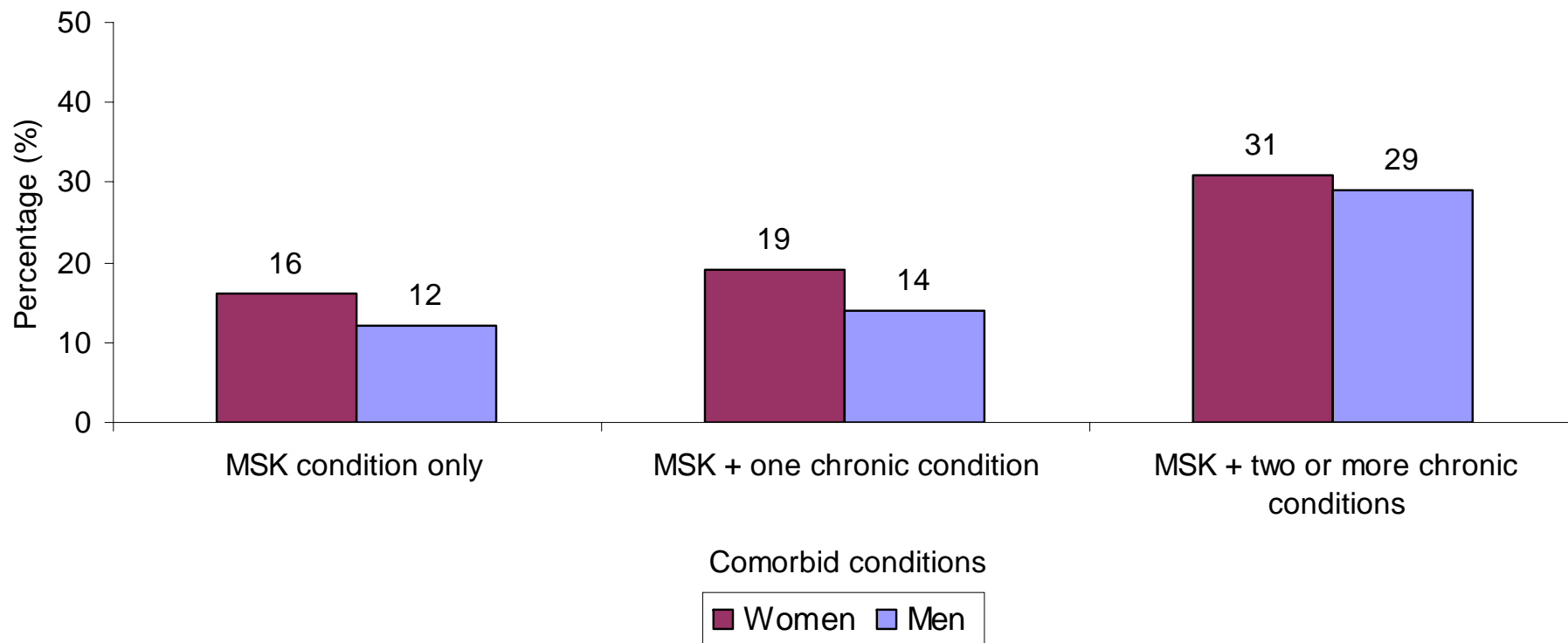


Data source: Canadian Community Health Survey (CCHS), 2000/01 (Cycle 1.1)

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

[¥] Medications included pain relievers, narcotics and/or anti-depressants

Age-standardized percentage of adults aged 25 and older with an MSK condition[^] who reported taking two or more types of medication[¥], by sex and number of chronic conditions, in Ontario, 2000/01

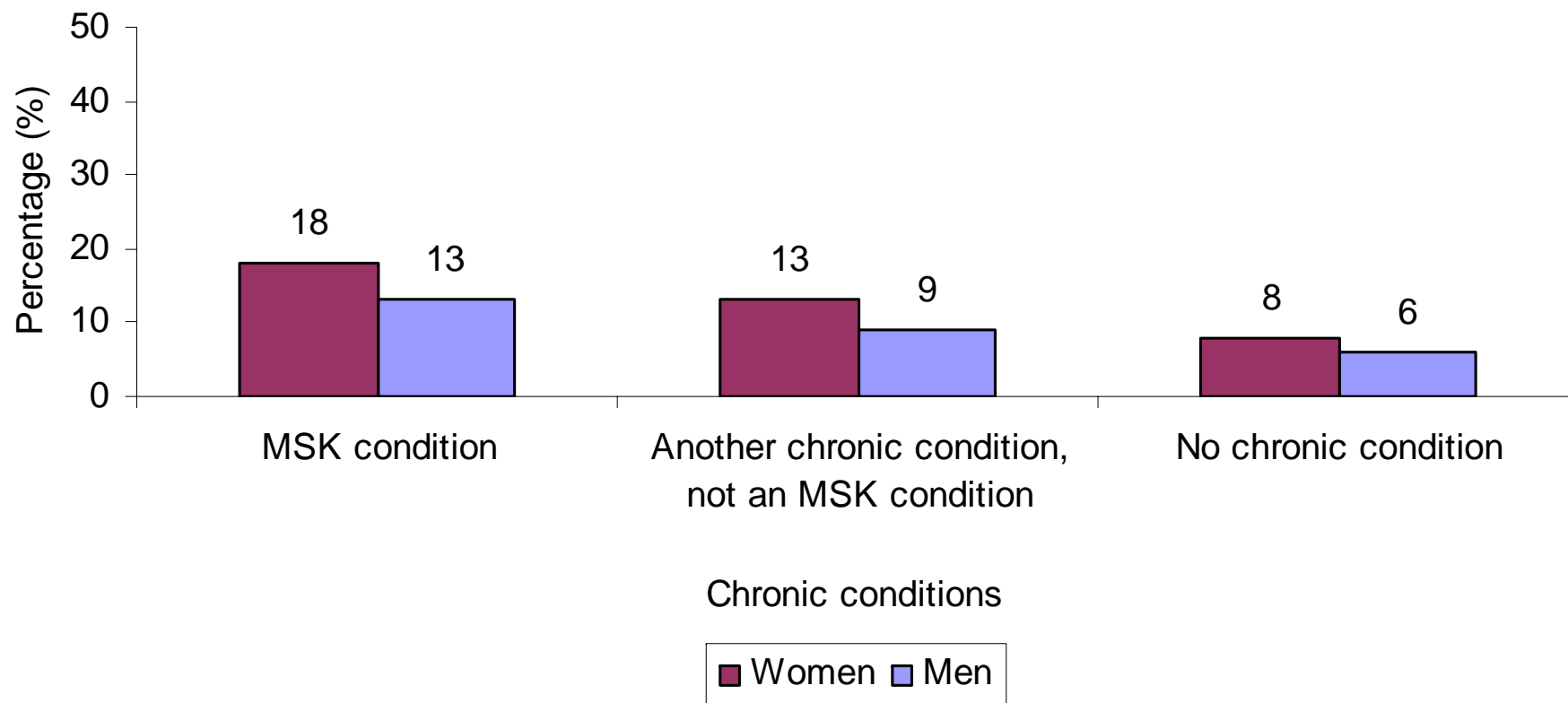


Data source: Canadian Community Health Survey (CCHS), 2000/01 (Cycle 1.1)

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

[¥] Medications included pain relievers, narcotics and/or anti-depressants

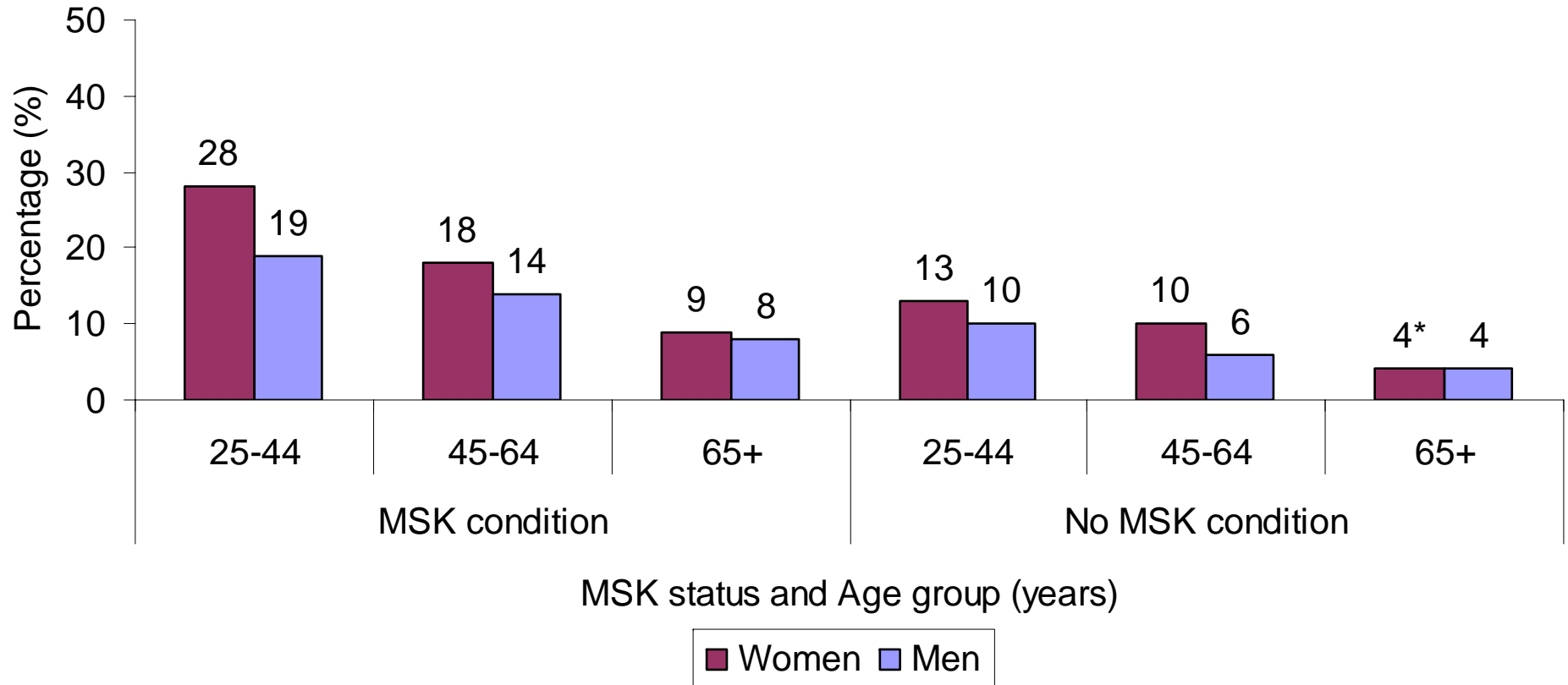
Age-standardized percentage of adults aged 25 and older who reported having unmet health care needs among those with and without an MSK condition[^], by sex, in Ontario, 2005



Data source: Canadian Community Health Survey (CCHS), 2005 (Cycle 3.1)

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

Percentage of adults aged 25 and older who reported having unmet health care needs among those with and without an MSK condition[^], by sex and age group, in Ontario, 2005

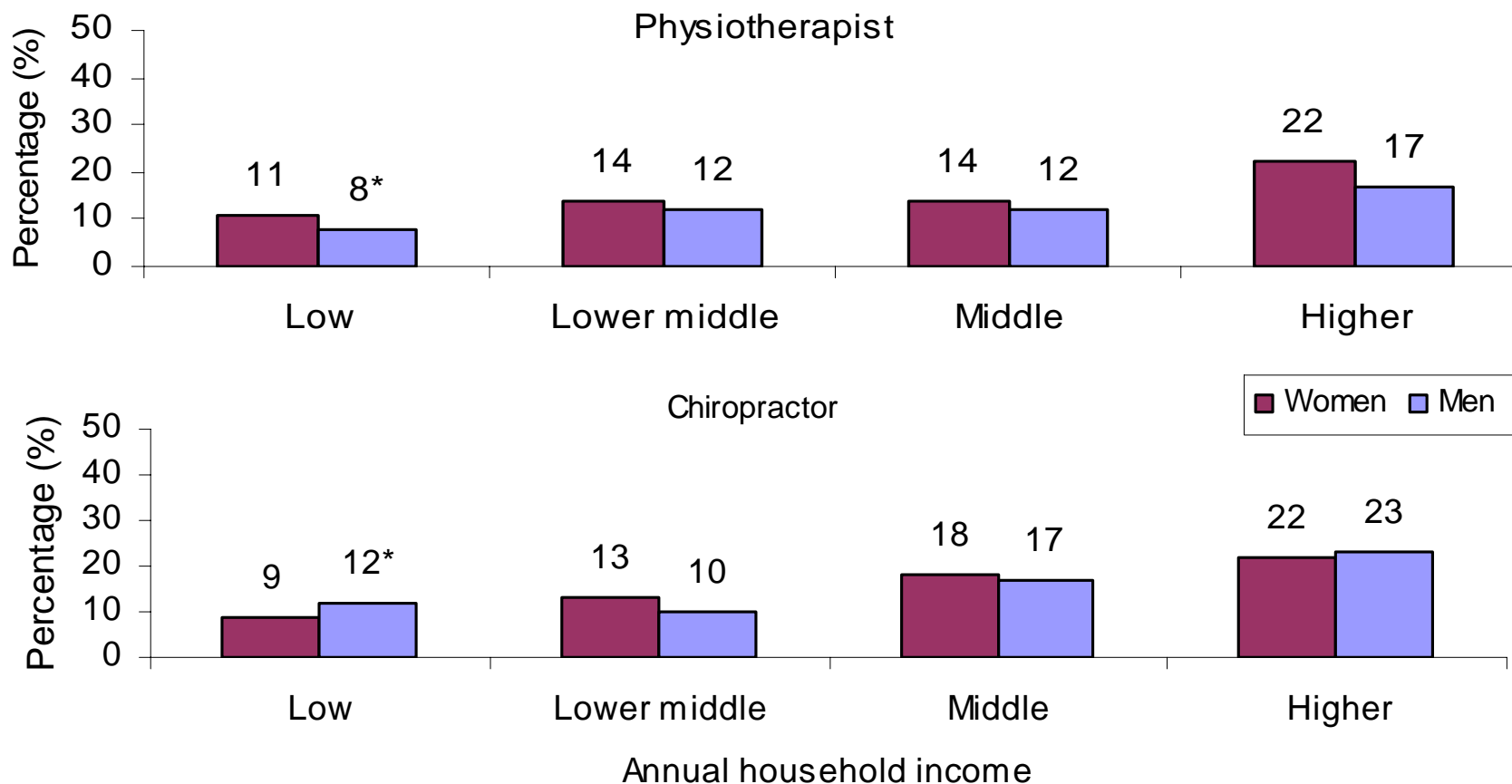


Data source: Canadian Community Health Survey (CCHS), 2005 (Cycle 3.1)

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

* Interpret with caution due to high sampling variability

Age-standardized percentage of adults aged 25 and older with an MSK condition[^] who saw a physiotherapist or chiropractor in the past year, by sex and annual household income, in Ontario, 2005 and 2007

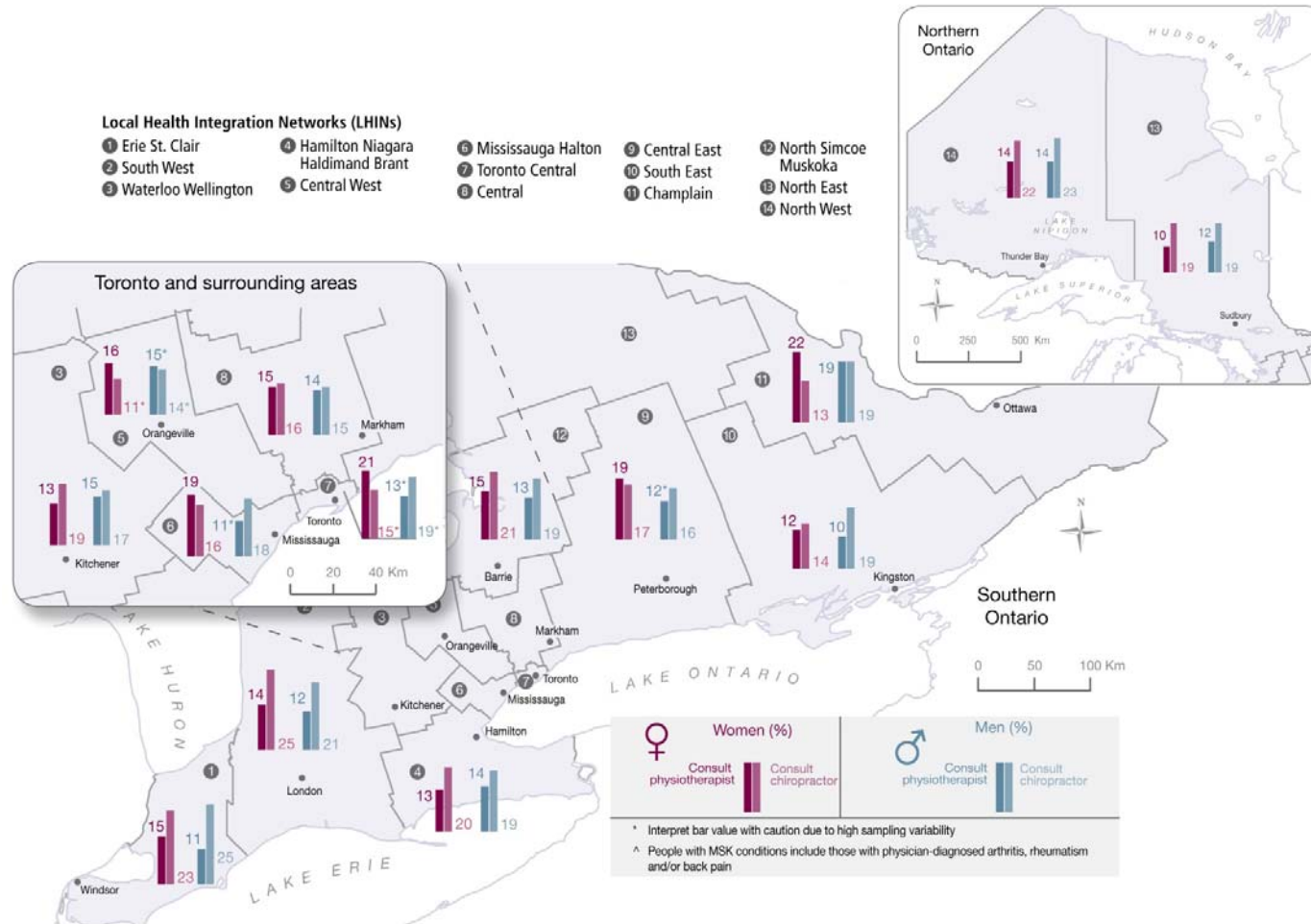


Data source: Canadian Community Health Survey (CCHS), 2005 (Cycle 3.1) and 2007

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

* Interpret with caution due to high sampling variability (coefficient of variation 16.6 – 33.3)

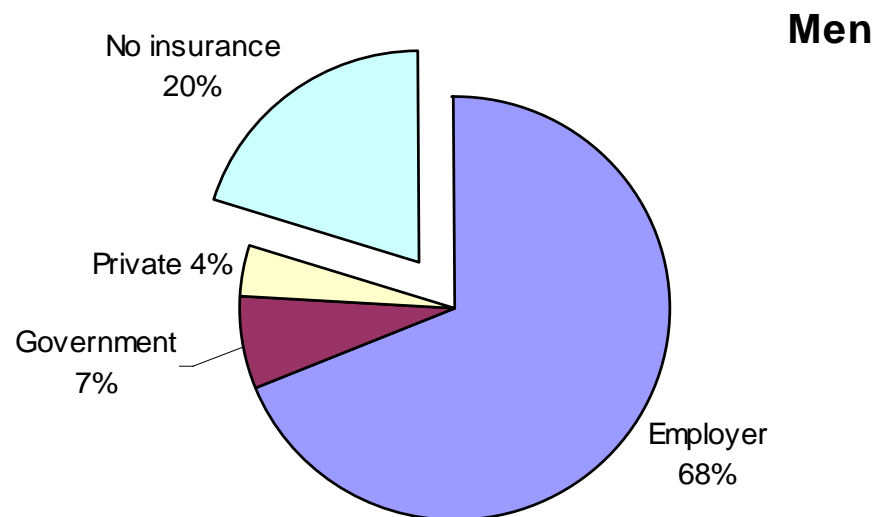
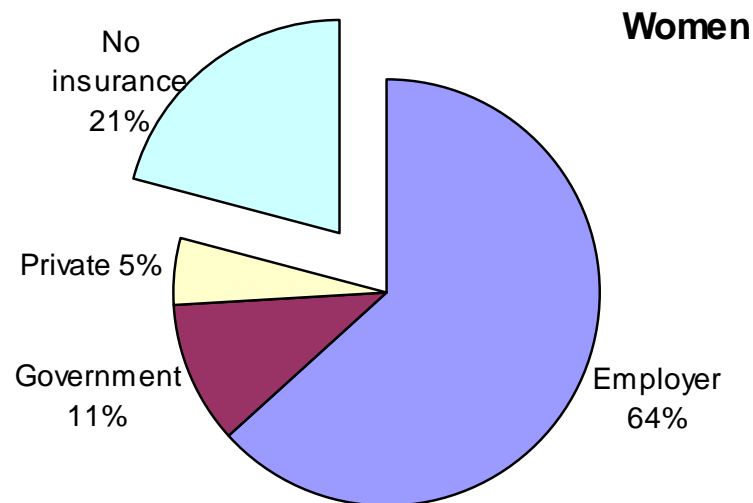
Age-standardized percentage of adults aged 25 and older with an MSK condition[^] who saw a physiotherapist or chiropractor at least once in the past year, by sex and Local Health Integration Network (LHIN), in Ontario, 2005 and 2007



Data source: Canadian Community Health Survey (CCHS), 2005 (Cycle 3.1) and 2007

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

Type of prescription drug coverage held by adults aged 25-64 with an MSK condition[^], by sex, in Ontario, 2005

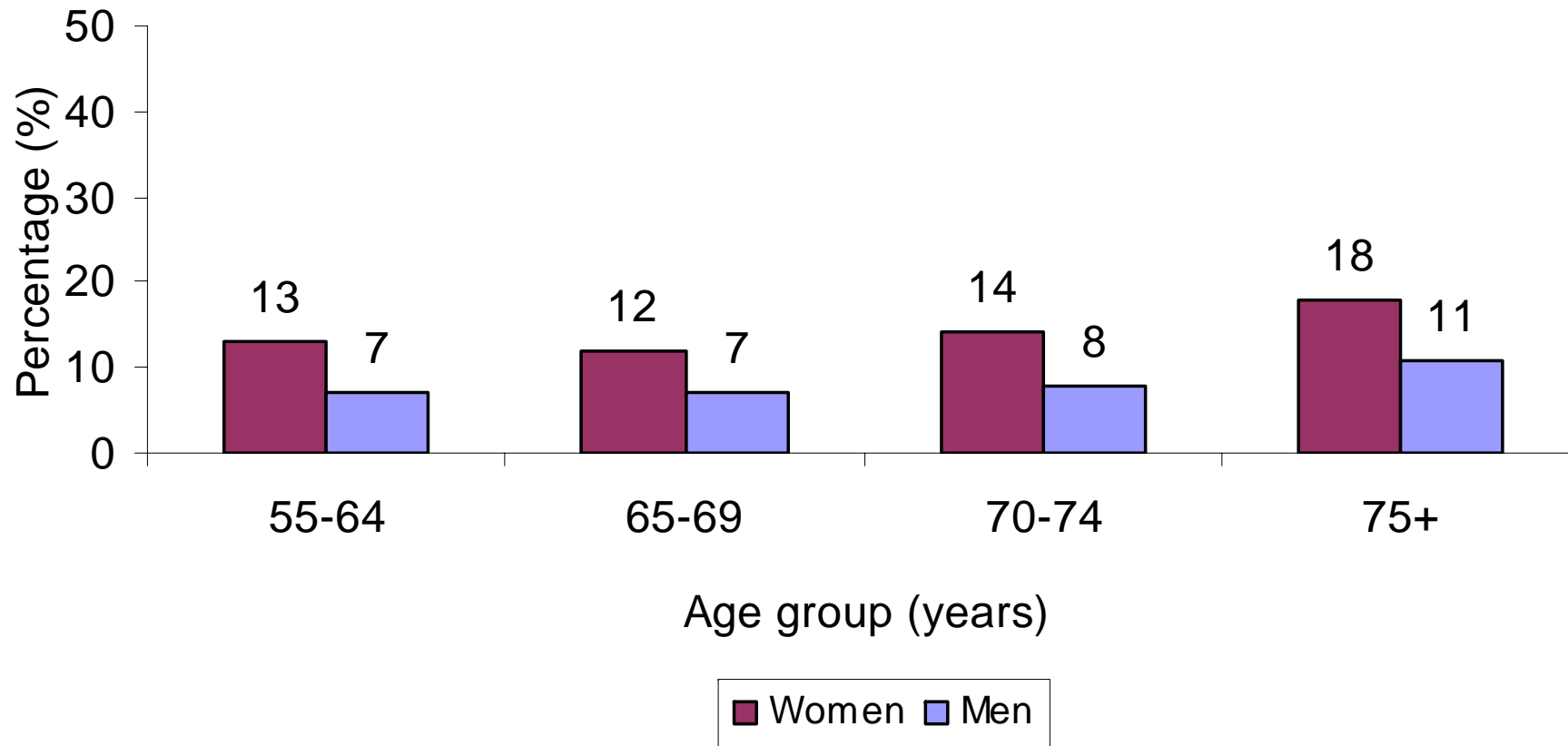


Data source: Canadian Community Health Survey (CCHS), 2005 (Cycle 3.1)

[^]People with MSK conditions include those with physician-diagnosed arthritis, rheumatism and/or back pain

Osteoarthritis

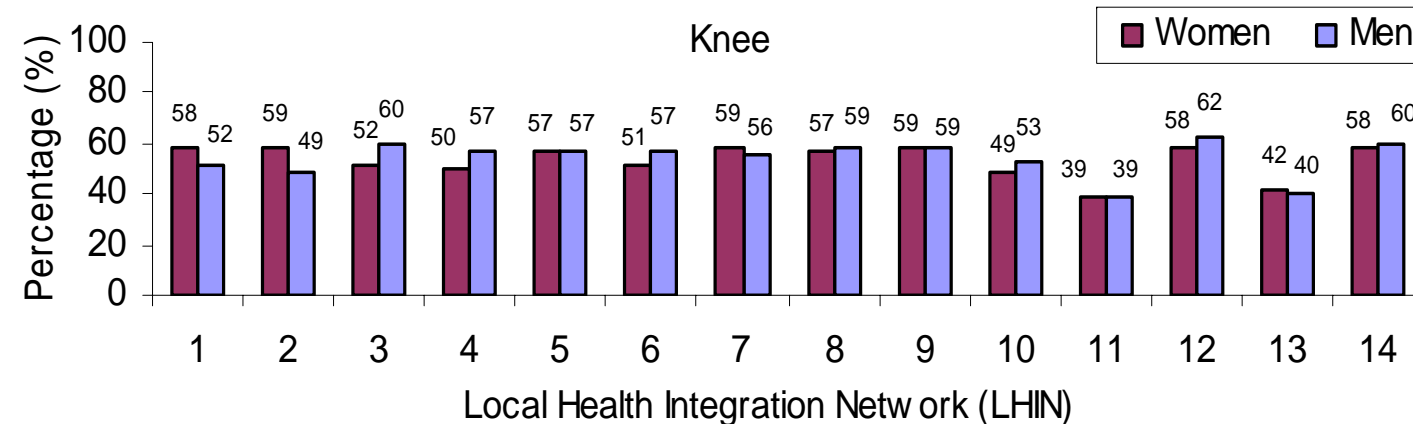
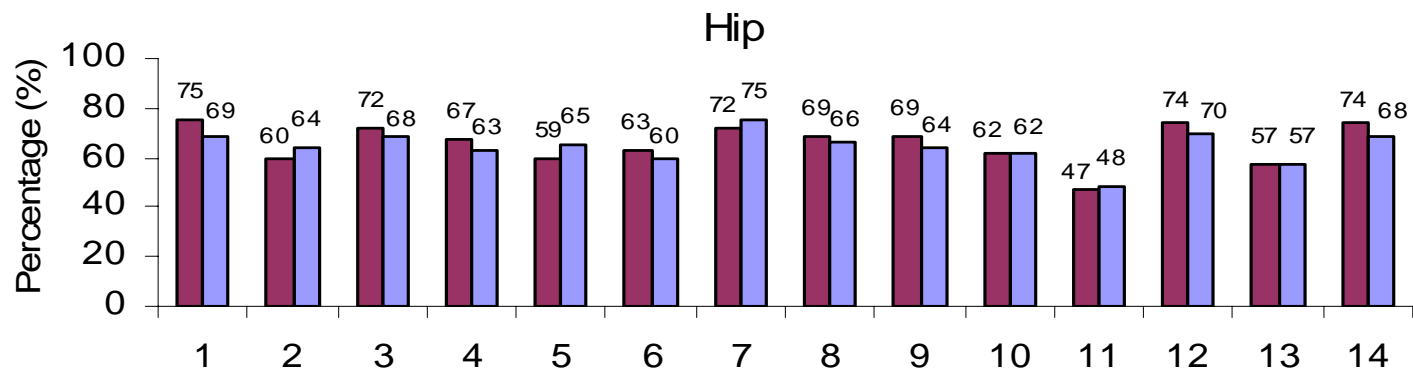
Percentage of adults aged 55 and older who had moderate to severe hip or knee osteoarthritis[^], by sex and age group, in two Ontario communities, 1995-1997



Data source: Ontario Hip/Knee Osteoarthritis cohort

[^] Respondents were included if they reported difficulty in the previous three months with *each* of stair climbing, rising from a chair, standing and walking; *and* they reported swelling, pain or stiffness in any joint lasting at least six weeks; *and* they indicated on a diagram that a hip or knee had been 'troublesome'.

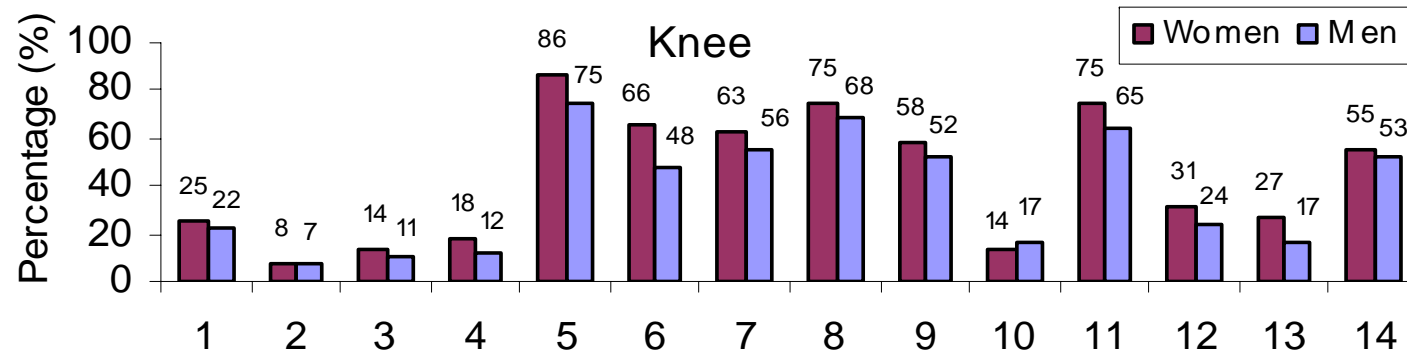
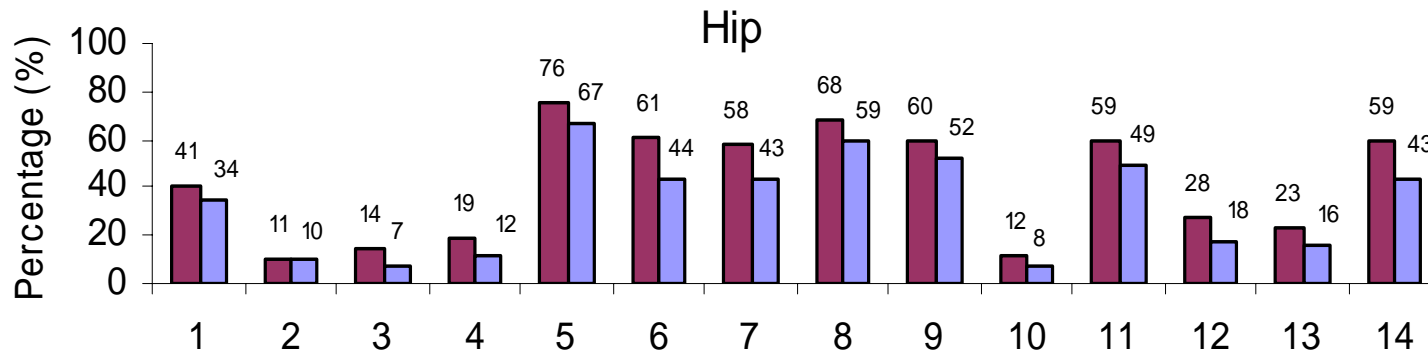
Percentage of adults aged 20 and older who received an elective primary total joint replacement within the recommended wait time of 26 weeks, by sex, procedure type and LHIN, in Ontario, 2007/08



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

Age-standardized percentage of adults aged 20 and older who were admitted to inpatient rehabilitation[^] following a primary total joint replacement, by sex, procedure type and LHIN, in Ontario, 2006/07



Local Health Integration Network (LHIN)

LHIN

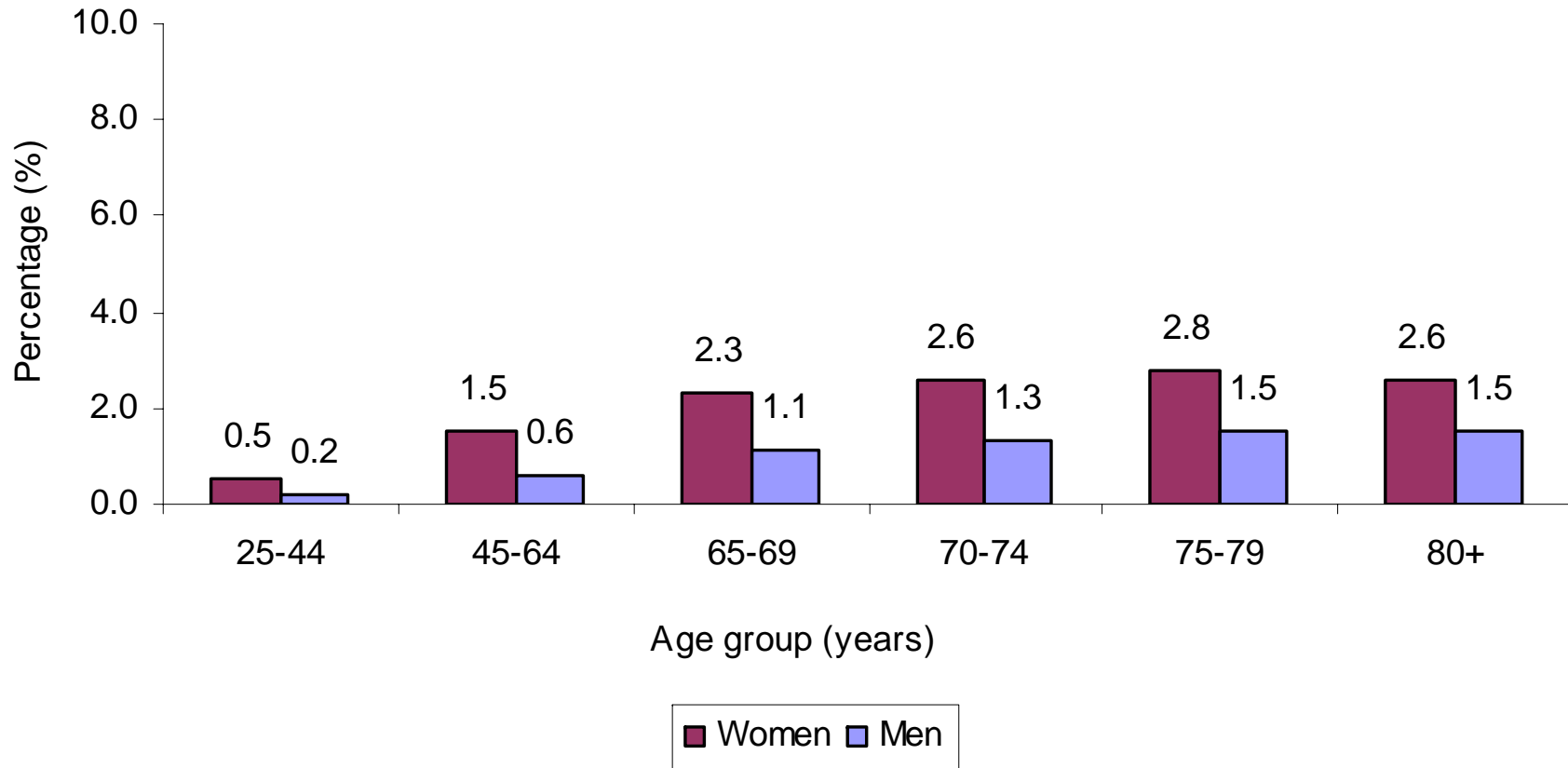
1. Erie St. Clair
2. South West
3. Waterloo Wellington
4. Hamilton Niagara Haldimand Brant
5. Central West
6. Mississauga Halton
7. Toronto Central
8. Central East
10. South East
11. Champlain
12. North Simcoe Muskoka
13. North East
14. North West

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

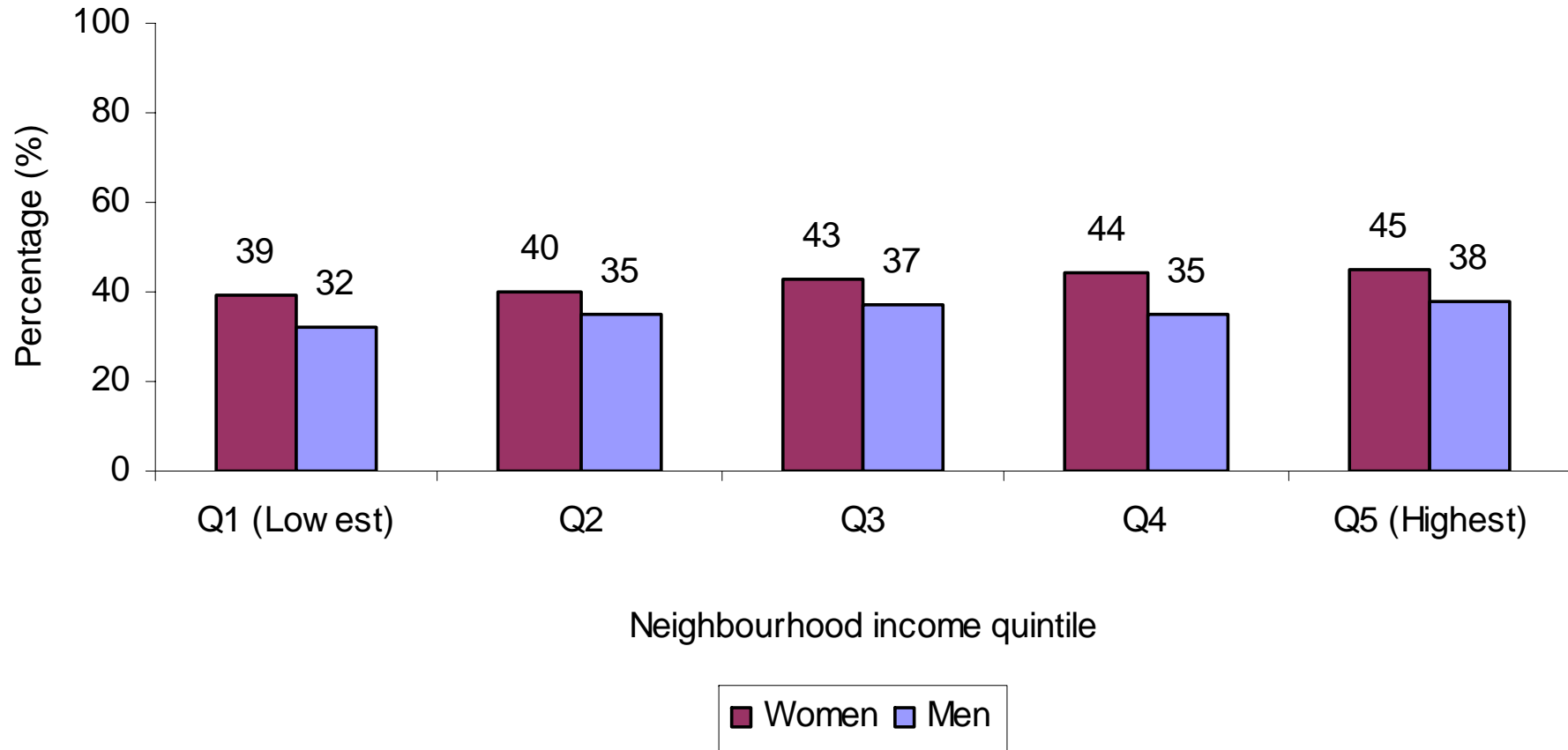
[^]Inpatient rehabilitation included admission to a rehabilitation hospital or to another acute care hospital within 14 days of discharge from hospital after a joint replacement.

Rheumatoid Arthritis

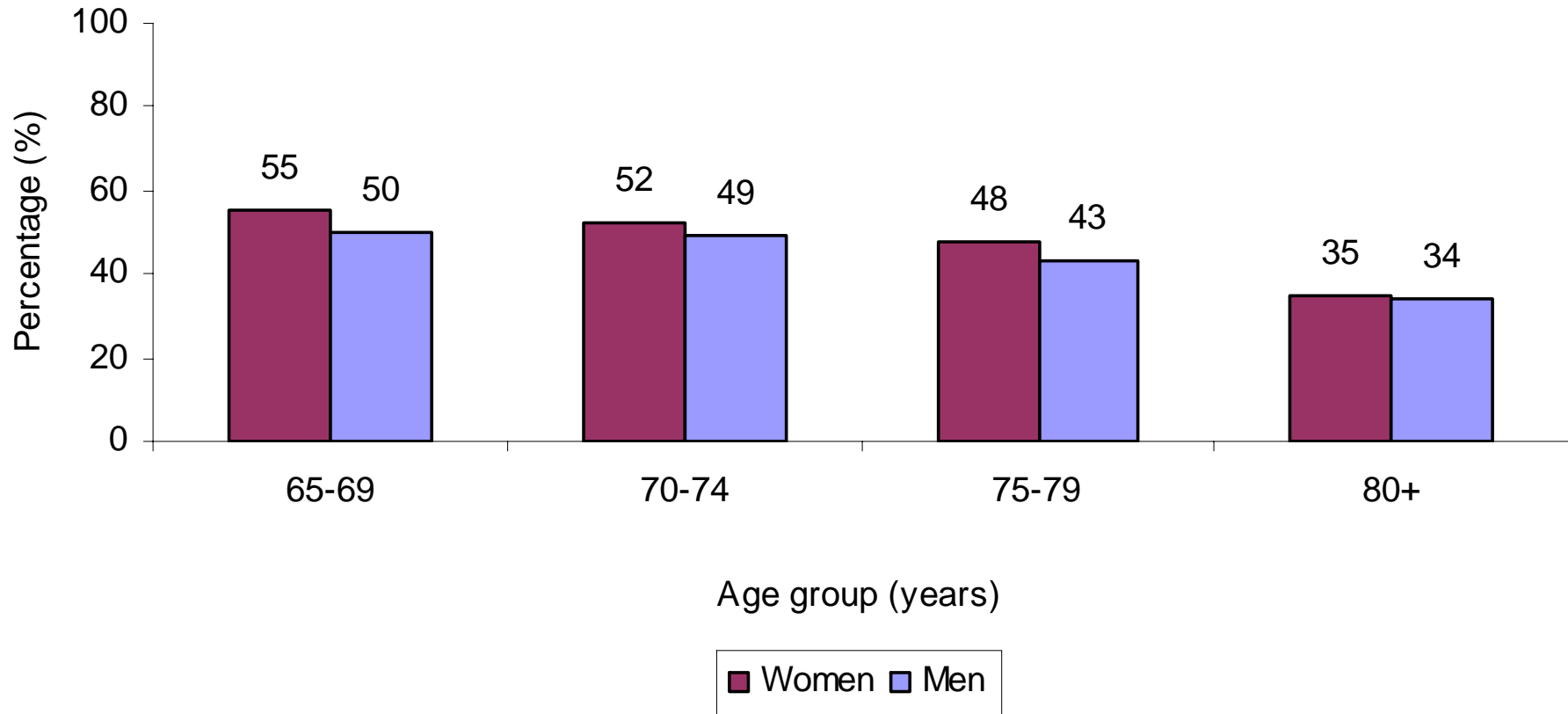
Percentage of adults aged 25 and older with rheumatoid arthritis, by sex and age group, in Ontario, April 1, 2005



Age-adjusted percentage of adults aged 25 and older with rheumatoid arthritis who were seen by a specialist[^] during a one year period, by sex and neighbourhood income quintile, 2005/06

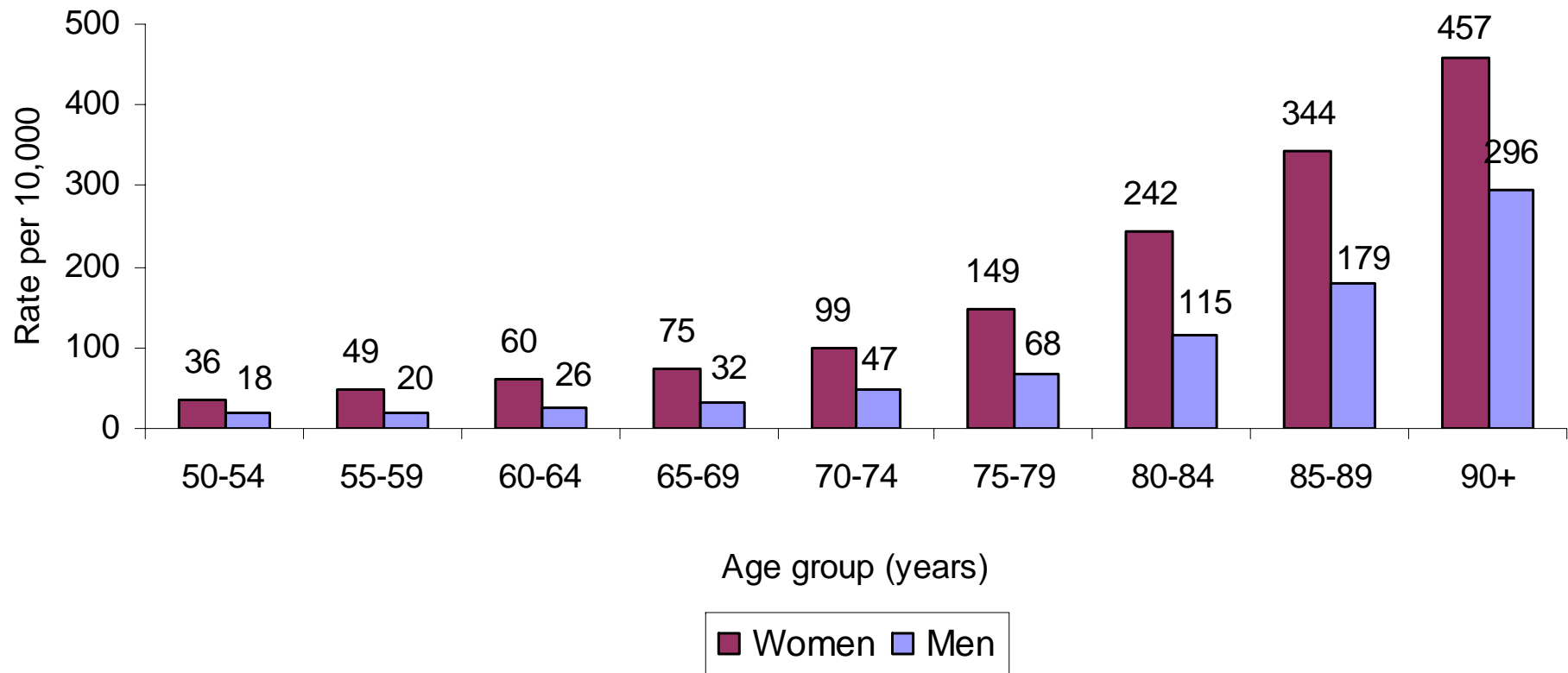


Percentage of adults aged 65 and older with rheumatoid arthritis who filled a prescription for a disease modifying anti-rheumatic drug (DMARD) or biologic agent, by sex and age group, in Ontario, 2005/06



Osteoporosis

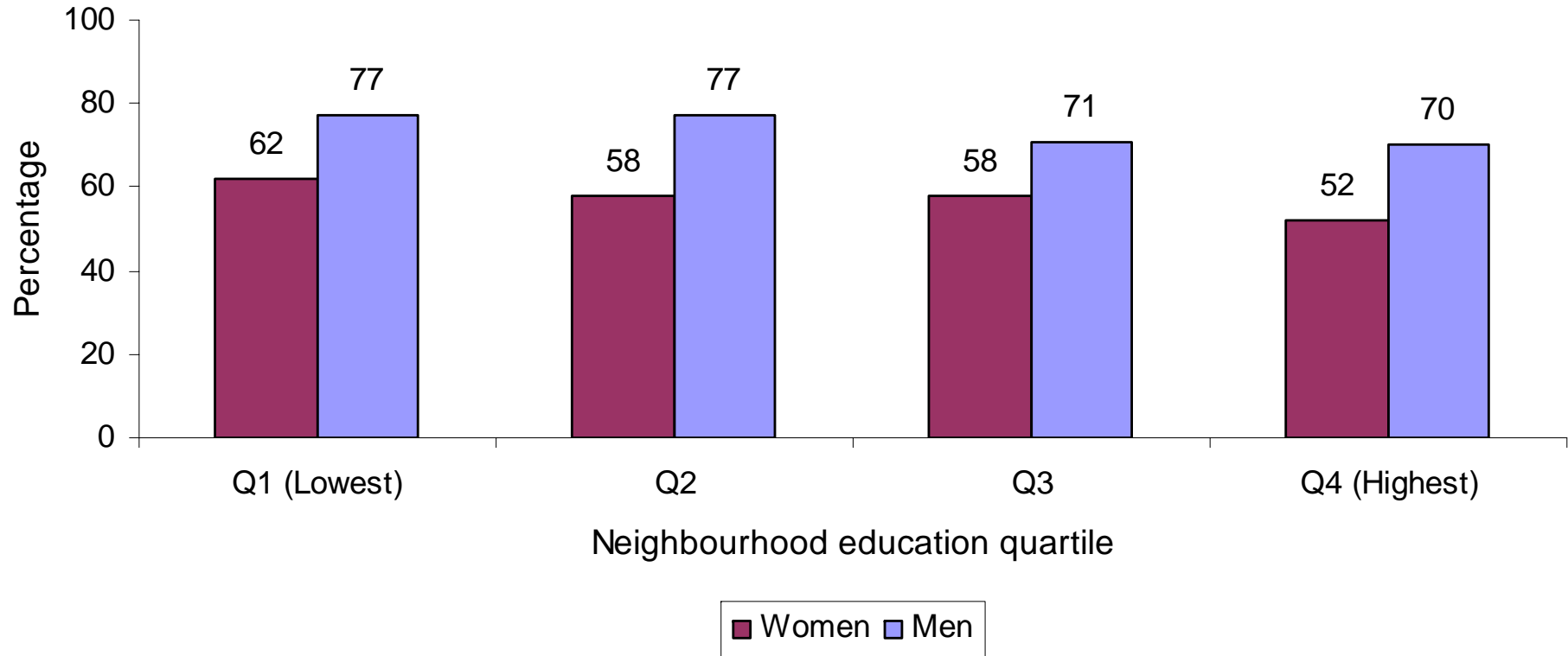
Low-trauma fracture[^] rate (per 10,000) among adults aged 50 and older, by sex and age group, in Ontario, 2007/08



Data Sources: Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD); National Ambulatory Care Reporting System (NACRS); Statistics Canada 2006 Census

[^] Low-trauma fractures likely due to osteoporosis include fractures of the hip, spine (rib, sternum, thoracic, and lumbar spine), wrist and forearm, shoulder and upper arm

Age-standardized percentage of adults aged 66 and older who received neither a BMD test nor prescription drug treatment within one year post-discharge after a low-trauma fracture[^], by sex and neighbourhood education quartile, in Ontario, 2007/08



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

[^] The sample is limited to adults who had a low-trauma fracture (fractures of the hip, spine (rib, sternum, thoracic, and lumbar spine), wrist and forearm, shoulder and upper arm) who were alive one year post discharge and who had not filled a prescription for an osteoporosis medication or had a BMD within twelve months prior to their fracture.

Summary of Findings

- MSK conditions are a significant cause of pain and disability in Ontario and the burden of illness is greater among women and those with less education or low income
- MSK conditions commonly occur in the setting of other common chronic conditions and depression
- MSK conditions have a greater impact on disability than other chronic conditions
- There was substantial variability in rates of discharge to inpatient rehabilitation after total joint replacement (hip or knee) surgery
- Rheumatoid arthritis is a serious MSK condition that is under treated (access and use of specialist care and use of appropriate medications) in Ontario
- Substantial gaps in care for osteoporosis persist

Study Limitations

- Self-reported MSK status for a number of indicators and use of proxy measures and an administrative data algorithm to identify burden of illness in Ontario
- Administrative data do not include details on disease severity and unmet need for care
- Data are not available on BMD test results
- Lack of data on medications in adults under age 65
- Administrative data cannot be used to assess the effect of ethnicity on disease burden, access to services or care

Key messages

- Increase focus on prevention and health promotion to reduce the burden of MSK conditions
- Wide implementation of a patient-centred approach to chronic disease management can help improve the quality of life and health outcomes of women and men with MSK conditions
- Increase the focus on an early diagnosis and treatment of people with inflammatory arthritis, in particular rheumatoid arthritis, to reduce associated disability
- Continued support for the Ontario Osteoporosis Strategy is needed to reduce persistent gaps in care
- Improve the quality, availability and timeliness of data to assess MSK conditions and their care in the province

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