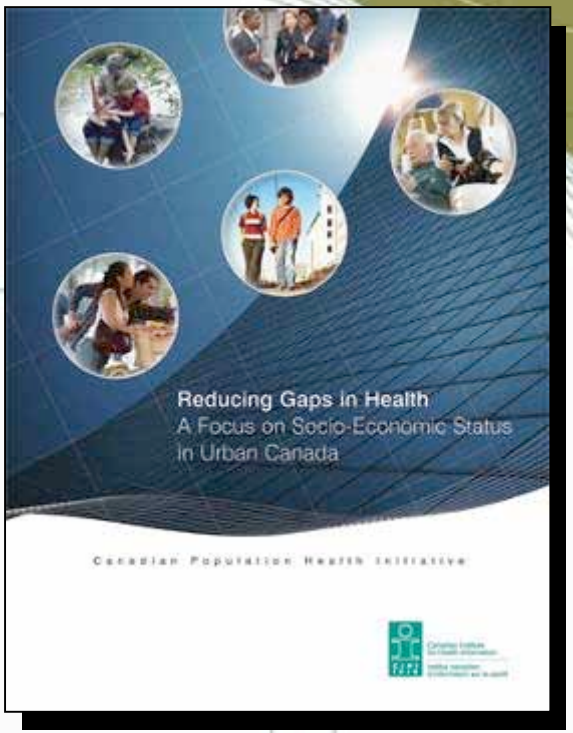
Reducing Gaps in Health: A Focus on Socio-Economic Status in Urban Canada



Making Healthy Communities Count – A Public Health Summit

Niagara Falls, Ontario

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Taking health information further
À l'avant-garde de l'information sur la santé

Canadian Institute for Health Information
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Project Background

- In 2004, CPHI released its first *Improving the Health of Canadians* report
  - One chapter of that report examined income and the health consequences of income, including trends and interpretations of gradients in health.
- In 2006 CPHI released *Improving the Health of Canadians: An Introduction to Health in Urban Places*
  - The 2006 report examined neighbourhoods and health, housing and health, and urban living and health as a starting point for generating discussion about the health of urban Canadians.

Project Background (Continued…)

- *Reducing Gaps in Health: A Focus on Socio-Economic Status in Urban Canada* was born out of a partnership between CPHI and the Urban Public Health Network (UPHN).
- The nature of the partnership is to further explore the links between socio-economic status (SES) and health in Canada's urban areas.
- As part of the partnership, select UPHN cities will publish individual city-level reports that examine SES and health at the local-level (based on natural neighbourhood boundaries), including an evidence-based discussion of locally-relevant policies and programs.

Objective of CPHI's "Reducing Gaps in Health" Report

To provide a broad overview of the links between socio-economic status and health in 15 Canadian census metropolitan areas (CMAs) by examining how health, as measured by a variety of indicators, varies in small geographical areas in those CMAs with different socio-economic characteristics.

CMAs Chosen for Analyses

15 CMAs that provide a broad geographic representation of Canada's urban areas were chosen:

- Victoria
- Vancouver
- Calgary
- Edmonton
- Saskatoon
- Regina
- Winnipeg
- London
- Hamilton
- Toronto
- Ottawa-Gatineau
- Montréal
- Québec
- Halifax
- St. John's

METHODOLOGY

Literature Search

- An extensive search of academic and grey literature on social and economic inequalities in health as they relate to urban areas:
  - Initial journal search: 17,024 records
  - Screened for date, language, geography: 9,616 articles
  - Reviewed titles, abstracts: 1,704 articles
  - Sorted by study type, research focus, year of publication, location of study, research hypothesis, sample descriptors, measures, outcomes, study strengths and limitations: 984 articles remained
- A detailed methods paper outlines the literature search

What is the Deprivation Index?

- A tool for measuring (quantifying) two forms of deprivation:
  1. **Material deprivation**—such as income, education and employment ratios
  2. **Social deprivation**—such as family structure, marital status and incidence of persons living alone.
- Allows for comparisons of small, homogeneous groups of individuals.
- Allows a variety of socio-economic indicators to be analyzed based on their known relationship with health (for example, income, education and marital status).

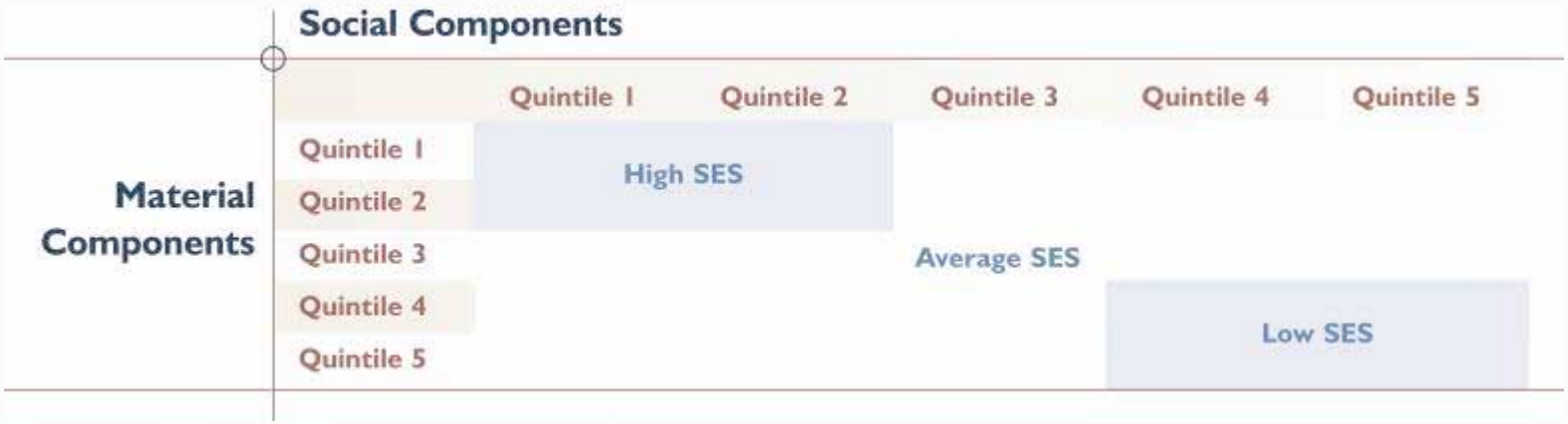
Benefits of Using the Institut national de santé publique du Québec (INSPQ) Deprivation Index:

- Accounts for both material and social factors when assigning an overall deprivation score.
  - Geographical areas are assigned into one of five quintiles (five groups of 20%) for both material and social deprivation, ranging from the 20% least deprived to the 20% most deprived on each of those factors.
- Allows data to be presented at smaller levels of geography than other indices – at Statistics Canada's Dissemination Area (DA) level.

Source:
Pampalon and Raymond (2000).

Moving From Social and Material Quintiles to Low, Average or High SES

- Quintile 1 = the 20% least deprived
- Quintile 5 = the 20% most deprived
- DAs with material and social combinations found in the top-left (shaded) portion of the matrix below were categorized by CPHI as "high SES." DAs found with material and social combinations found in the bottom-right (shaded) portion of the matrix were categorized by CPHI as "low SES." All other DAs were categorized as "average SES."



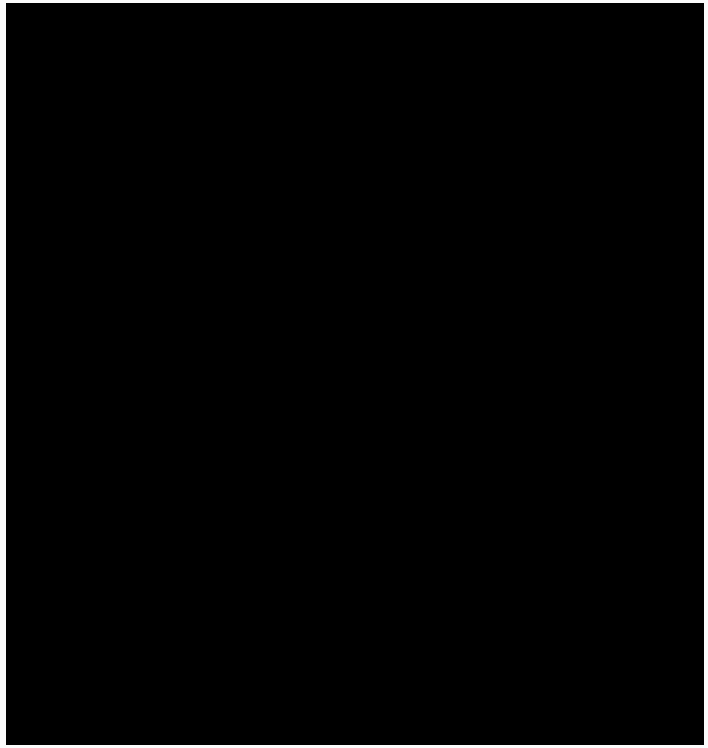
Applying the Deprivation Index to 15 Canadian CMAs

- DAs in each of the 15 CMAs were classified as either urban or rural—those that were identified as rural were excluded from the analyses.
- 30,294 urban DAs were included in the analyses, representing about 66% of all DAs classified as urban by CPHI (46,173 DAs).
- Those urban DAs were assigned a deprivation score of low SES, average SES or high SES relative to their region (British Columbia, Alberta, Manitoba/Saskatchewan, Ontario, Quebec and Nova Scotia/ Newfoundland and Labrador).
- Age-standardized hospitalization rates and self-reported health indicator percentages were calculated within the three SES groups for each of the 15 CMAs and for all 15 CMAs collectively (CPHI's pan-Canadian data).

Deprivation Index Applied to Victoria CMA, British Columbia

Data Analysis Plan

- 21 indicators are presented for each CMA by SES group
- Analysis based on Statistics Canada DAs allowed the following comparisons:
  - between SES groups within each CMA for each indicator
  - between CMAs and the overall pan-Canadian rate for each indicator within each SES group



Québec CMA, Quebec

CIHI Indicators

Age-standardized hospitalization rates (2003–2004 to 2005–2006) for longer-term chronic health problems and acute conditions were analyzed:

- Ambulatory care sensitive conditions (ACSC)
- Diabetes
- Chronic obstructive pulmonary disease (COPD)
- Asthma in children
- Injuries
- Land transport accidents
- Unintentional falls
- Injuries in children
- Mental health
- Anxiety disorders
- Affective disorders
- Substance-related disorders
- Low birth weight*

* Rate per 100 live births and not age standardized.

Statistics Canada Indicators

A subset of the Canadian Community Health Survey (CCHS) data from cycles 2.1 (2003) and 3.1 (2005) were combined to tabulate the percentage of people reporting excellent or very good health, as well as reporting certain health-related behaviours:

- "Excellent" or "very good" self-rated health (ages 12 and over; age standardized)
- Physically inactive (ages 12 and over; age standardized)
- Smoking (ages 12 and over; age standardized)
- Alcohol binging (ages 12 and over; age standardized)
- Overweight or obese (ages 18 and over; age standardized)
- Risk factor index, that is, 3 or 4 of the following (physically inactive, smoking, alcohol binging, overweight or obese) (ages 18 and over; age standardized)
- Influenza immunization (ages 65 and over)
- Activity limitation (ages 65 and over)

RESULTS

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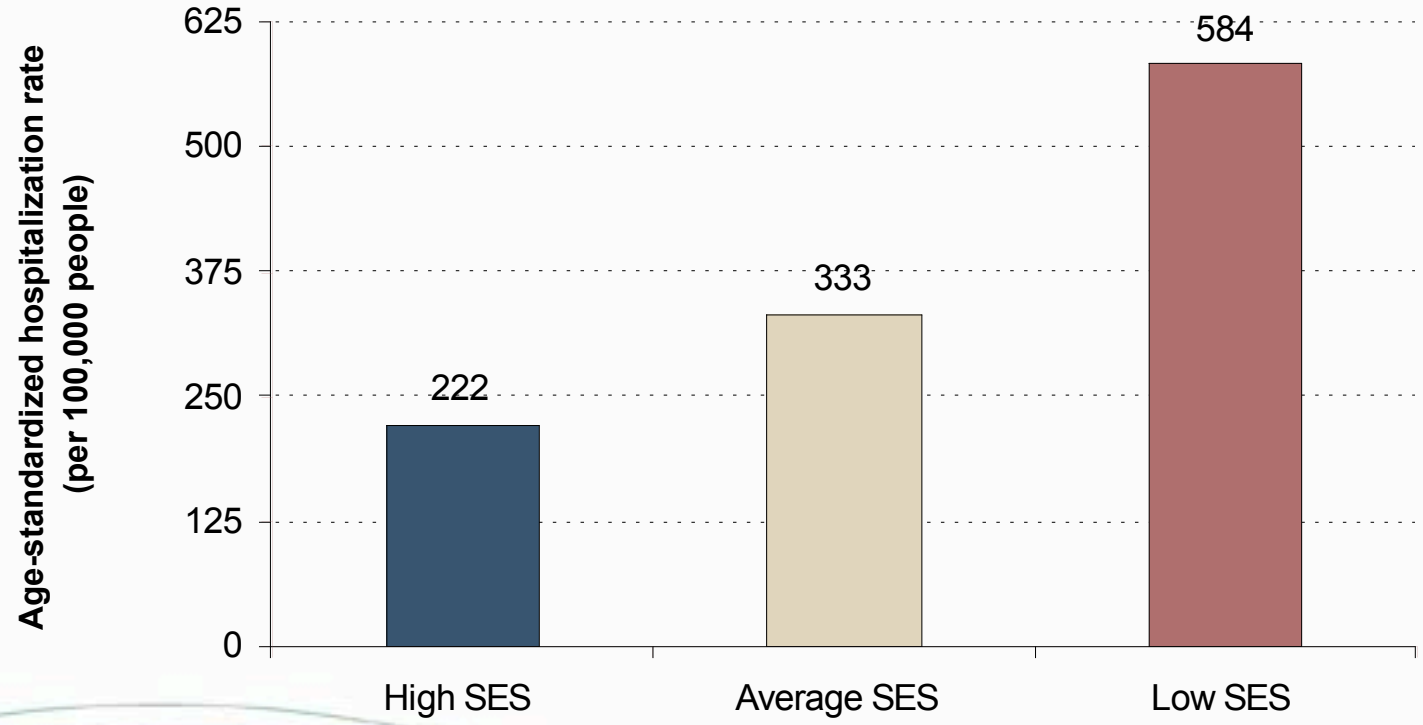
Pan-Canadian Age-Standardized Hospitalization Rates

- The following Pan-Canadian data illustrate age-standardized hospitalization rates (per 100,000 people) for all urban DAs in Canada (n=46,173 urban DAs)*

** While these data focus on all urban DAs in Canada, the Pan-Canadian analyses that will be presented in CPHI's upcoming report will focus exclusively on those 15 CMAs profiled in the report as a total across those 15 CMAs (n=30,294 urban DAs). The data presented herein will not appear in the CPHI report.*

Ambulatory Care Sensitive Conditions (ACSC)

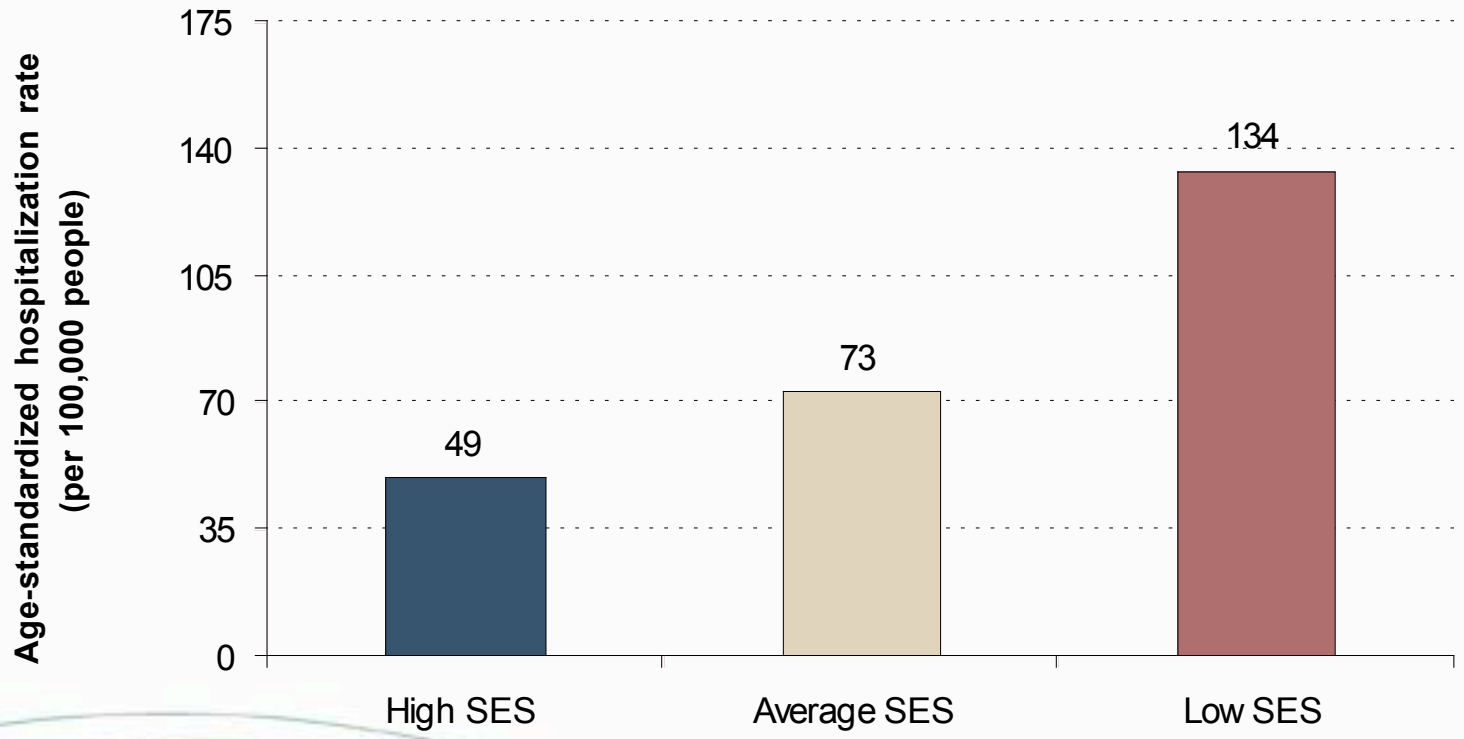
Age-standardized hospitalization rates from ambulatory care sensitive conditions (ACSC) among people under 75 years of age by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



*Rates between all groups were significantly different

Diabetes

Age-standardized hospitalization rates from diabetes by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



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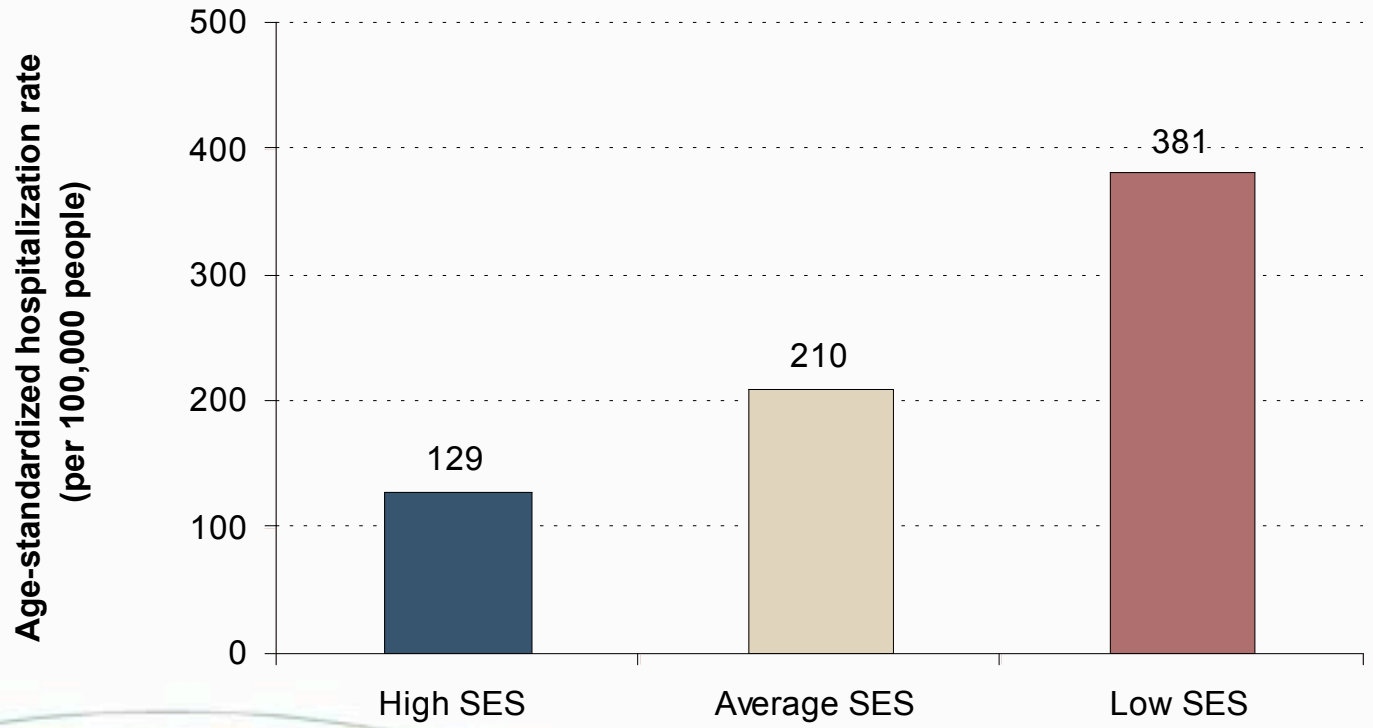
Chronic Obstructive Pulmonary Disease (COPD)

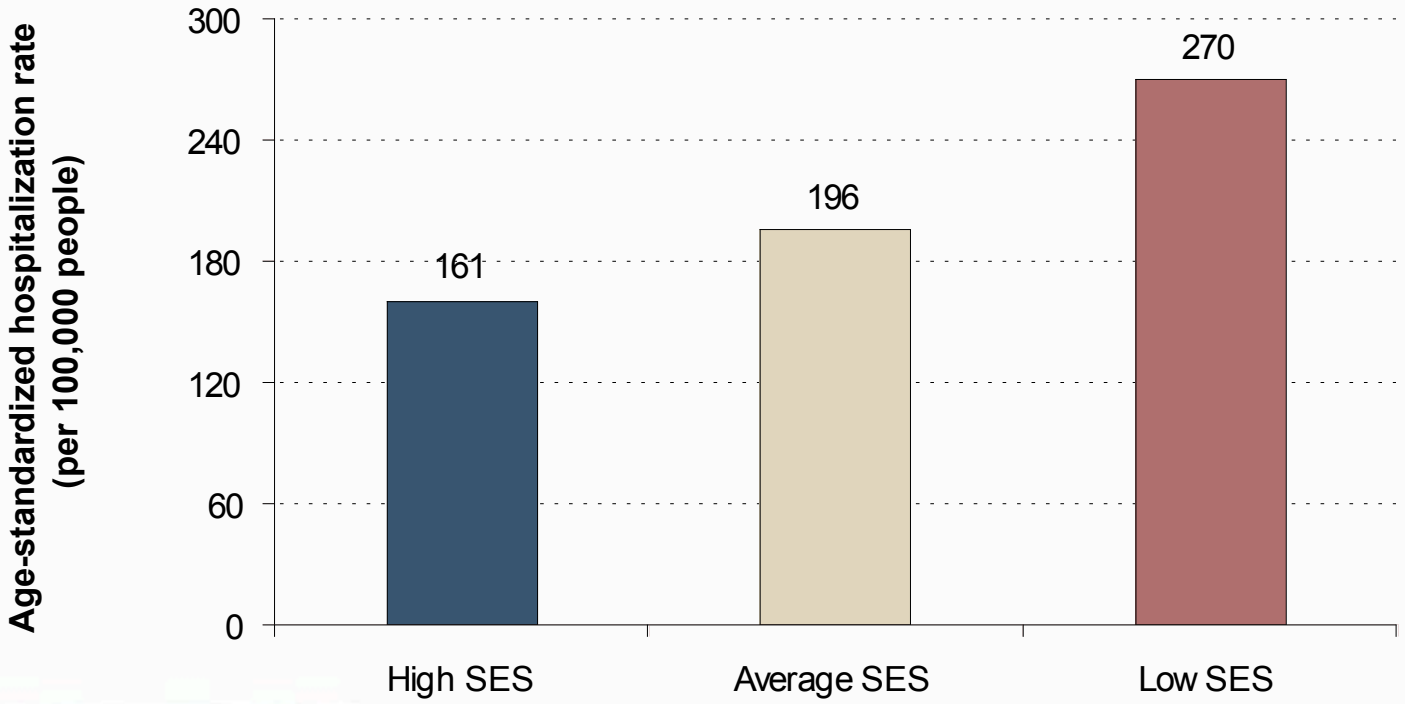
Age-standardized hospitalization rates from chronic obstructive pulmonary disease (COPD) among people 20 years of age or older by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



*Rates between all groups were significantly different

Asthma in Children

Age-standardized hospitalization rates from asthma in children under 20 years of age by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



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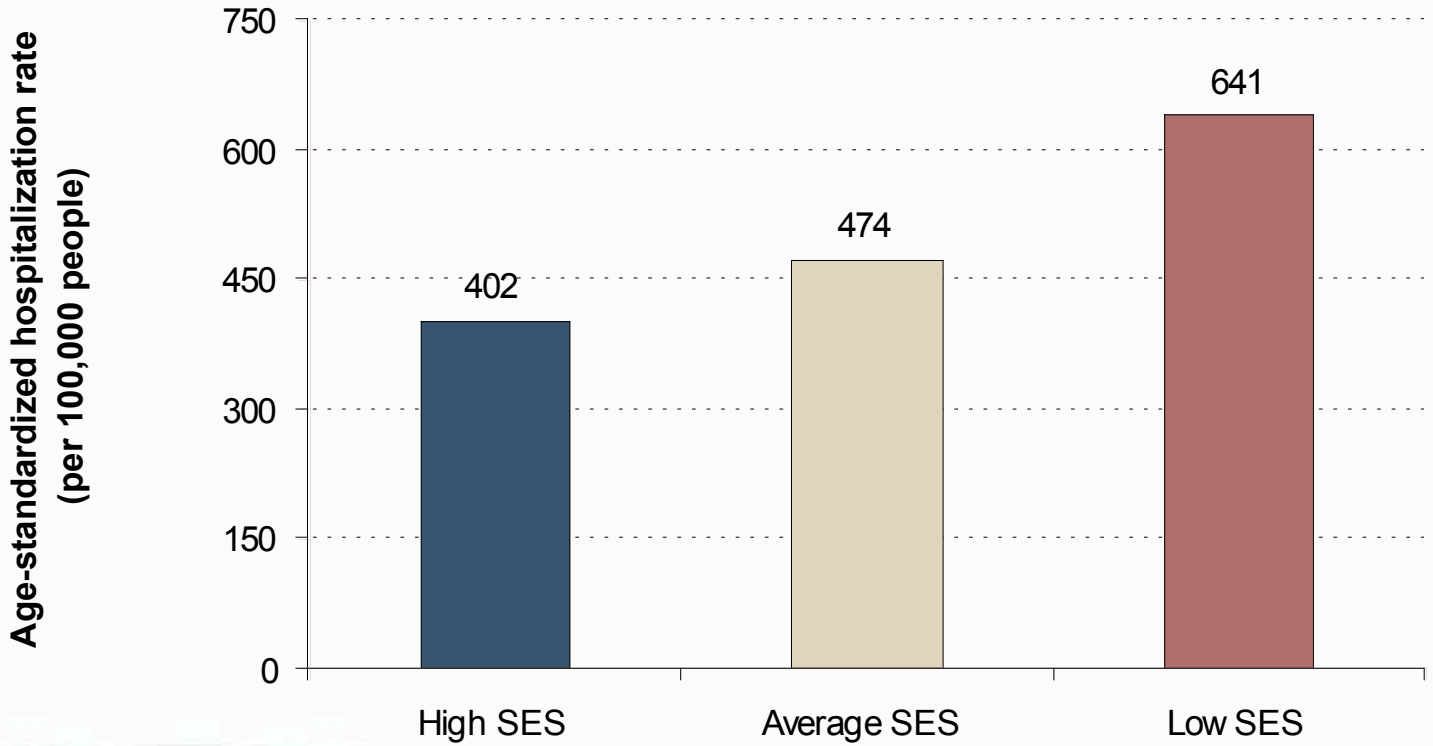
Injuries

Age-standardized hospitalization rates from injuries by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



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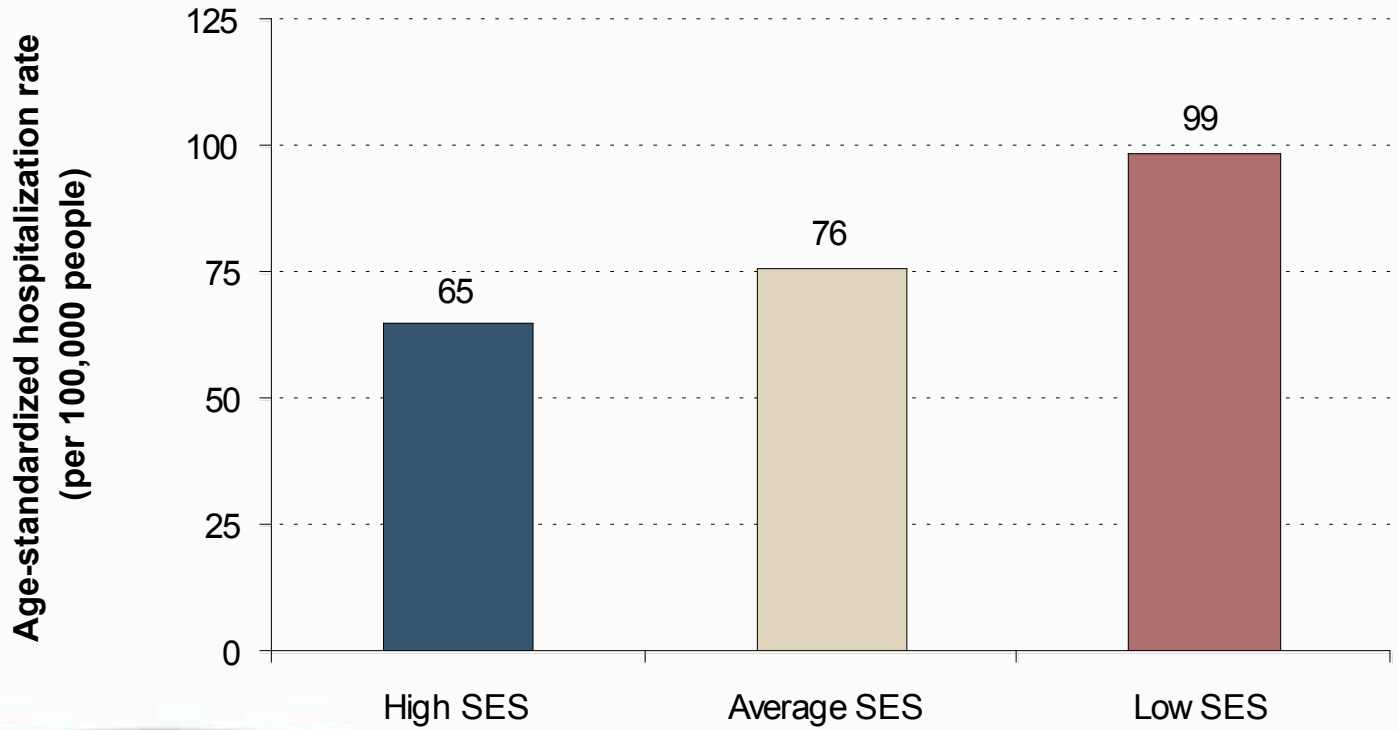
Land Transport Accidents

Age-standardized hospitalization rates from land transport accidents (LTA) by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



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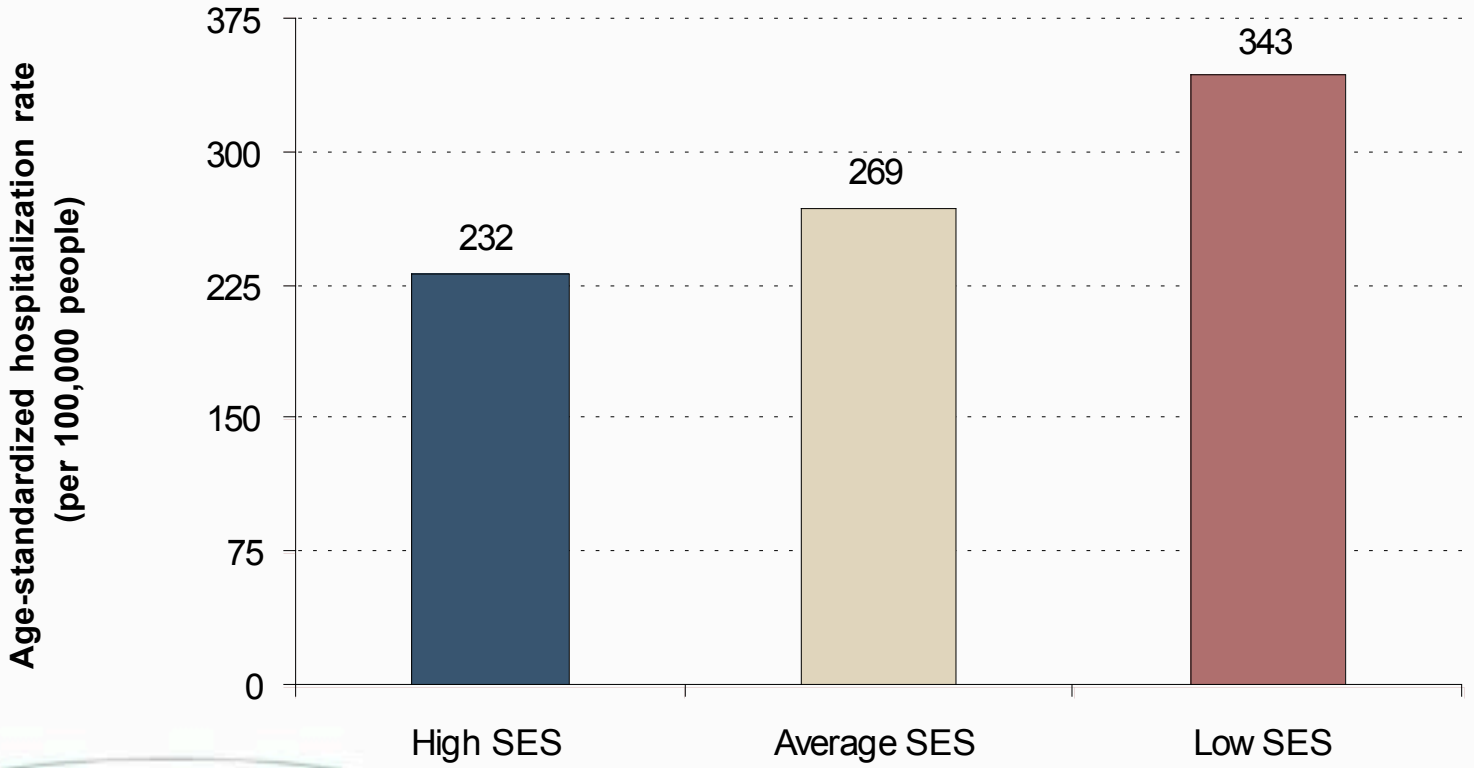
Unintentional Falls

Age-standardized hospitalization rates from unintentional falls by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



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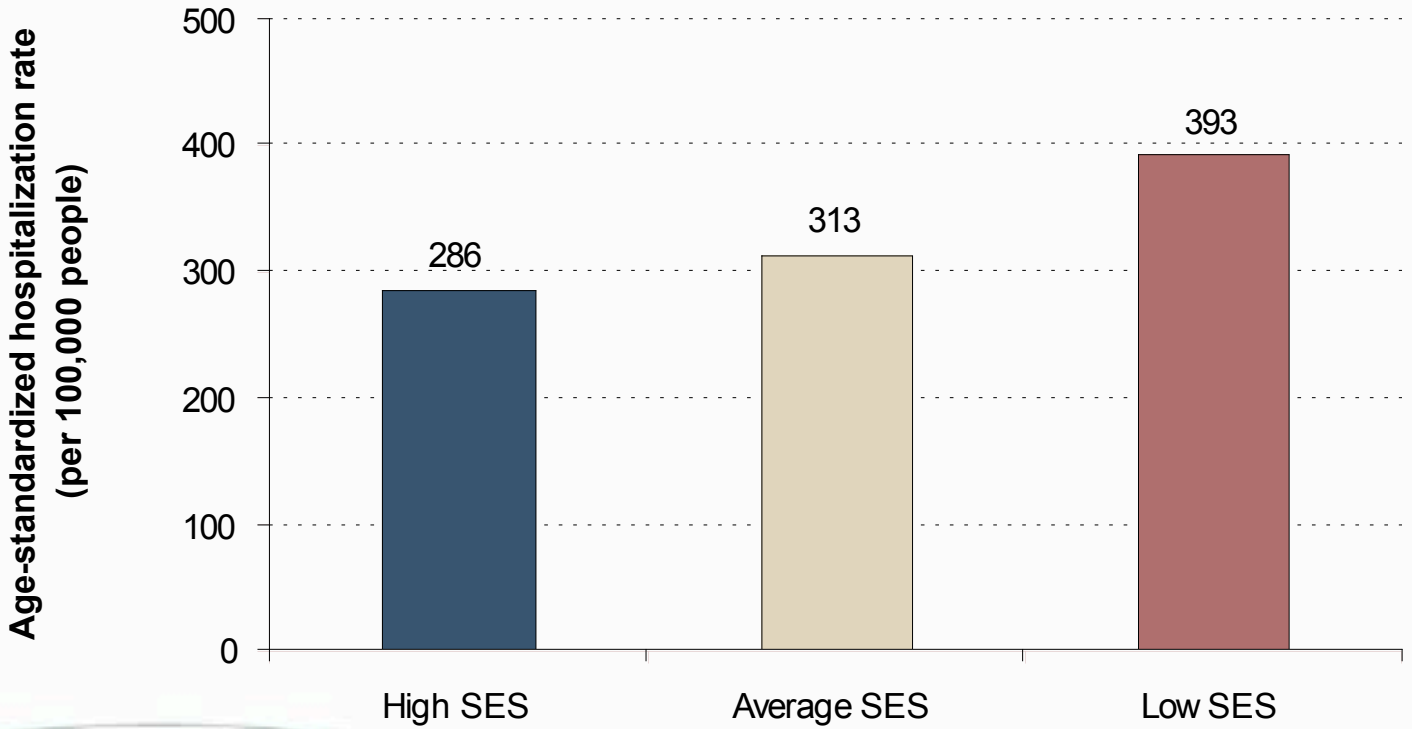
Injuries in Children

Age-standardized hospitalization rates from injuries in children under 20 years of age by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



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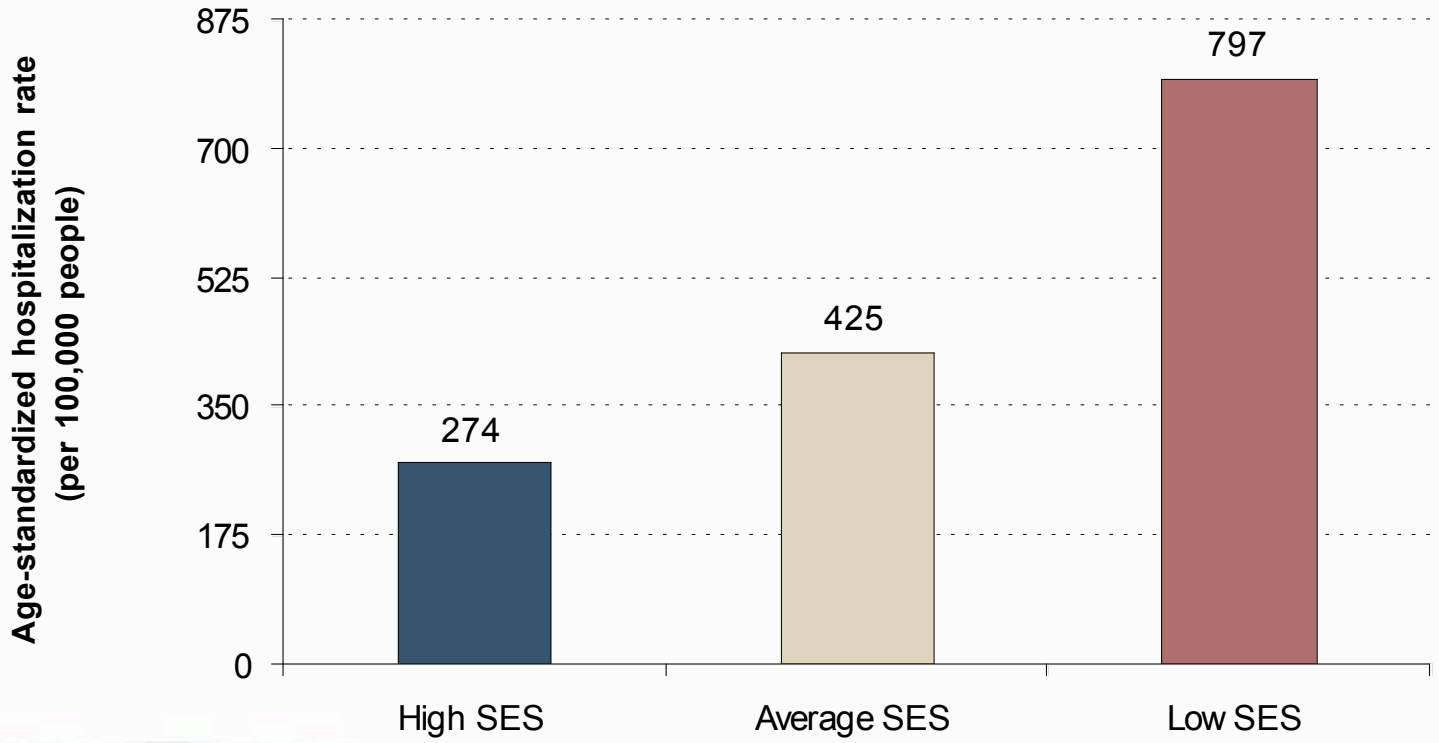
Mental Health

Age-standardized hospitalization rates for mental health by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



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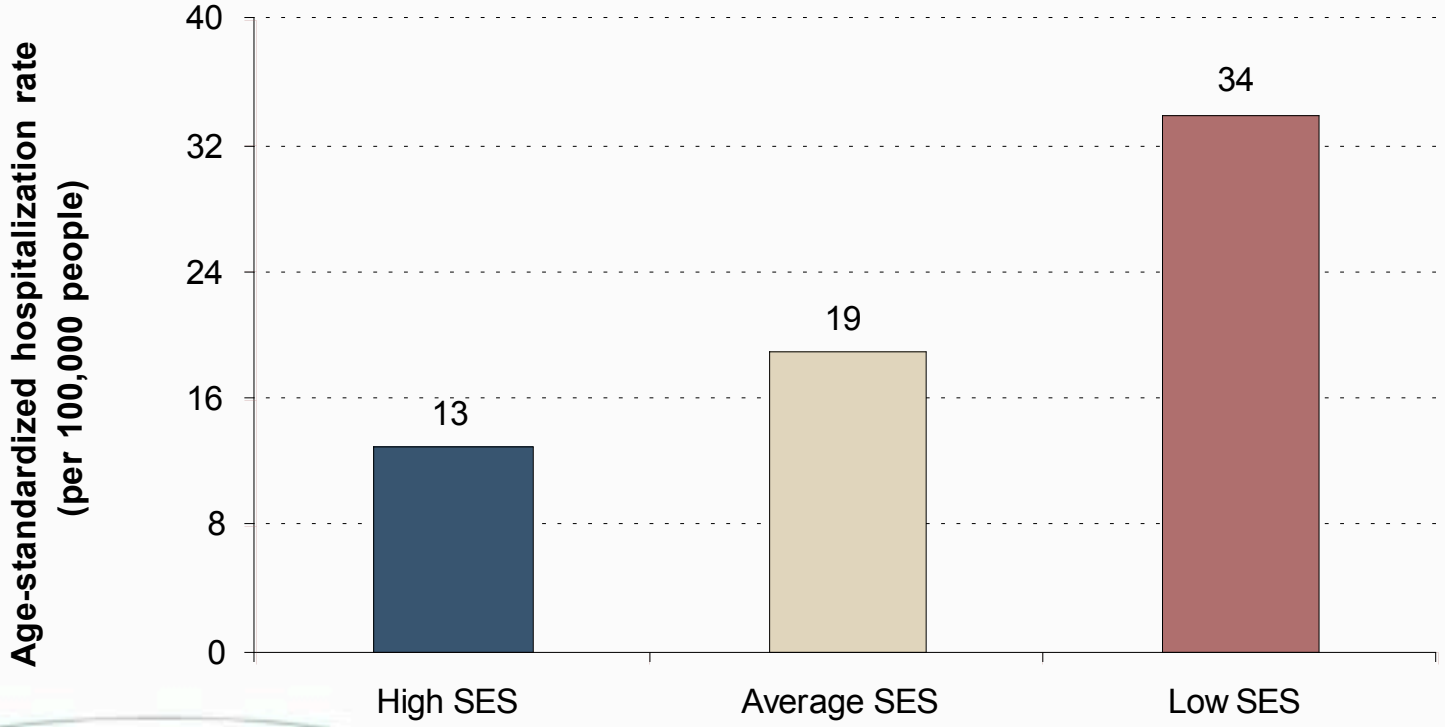
Anxiety Disorders

Age-standardized hospitalization rates from anxiety disorders by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



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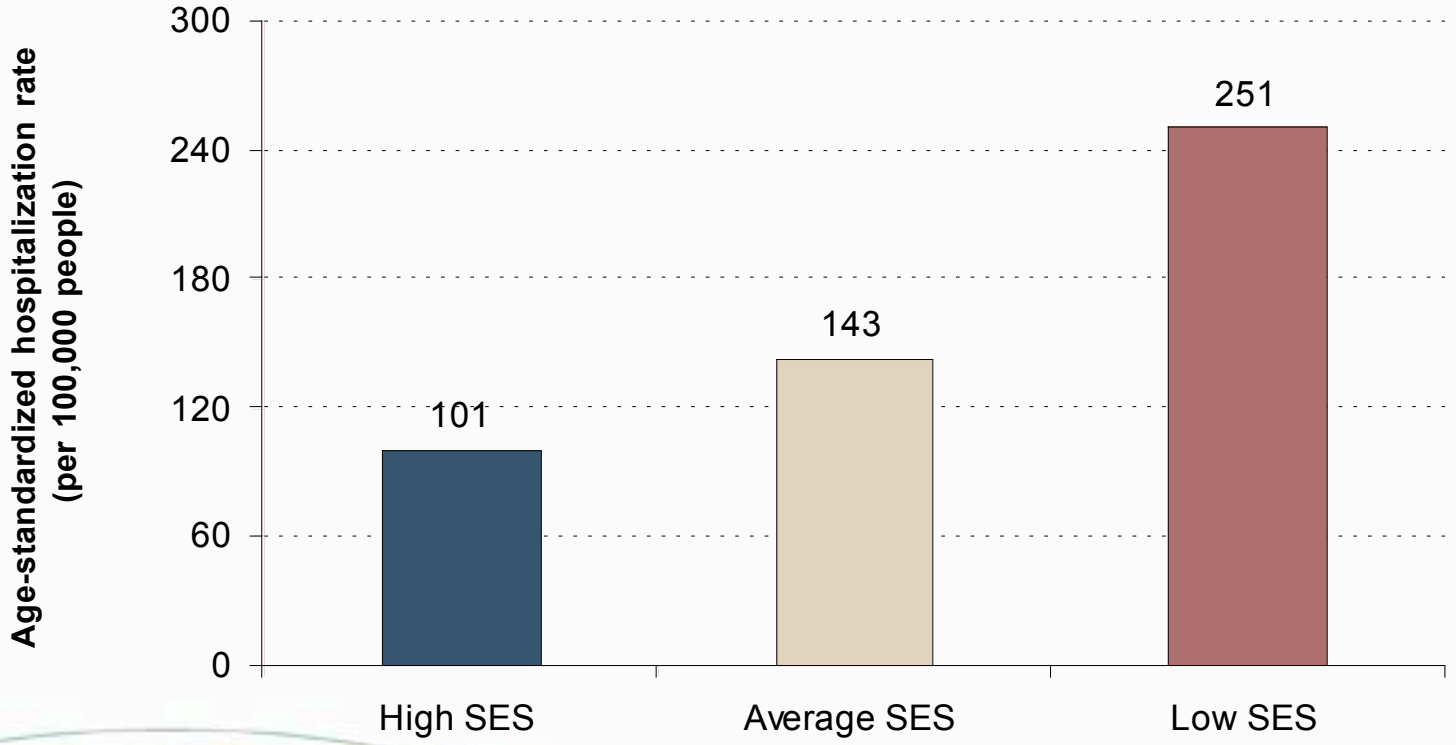
Affective Disorders

Age-standardized hospitalization rates from affective disorders by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



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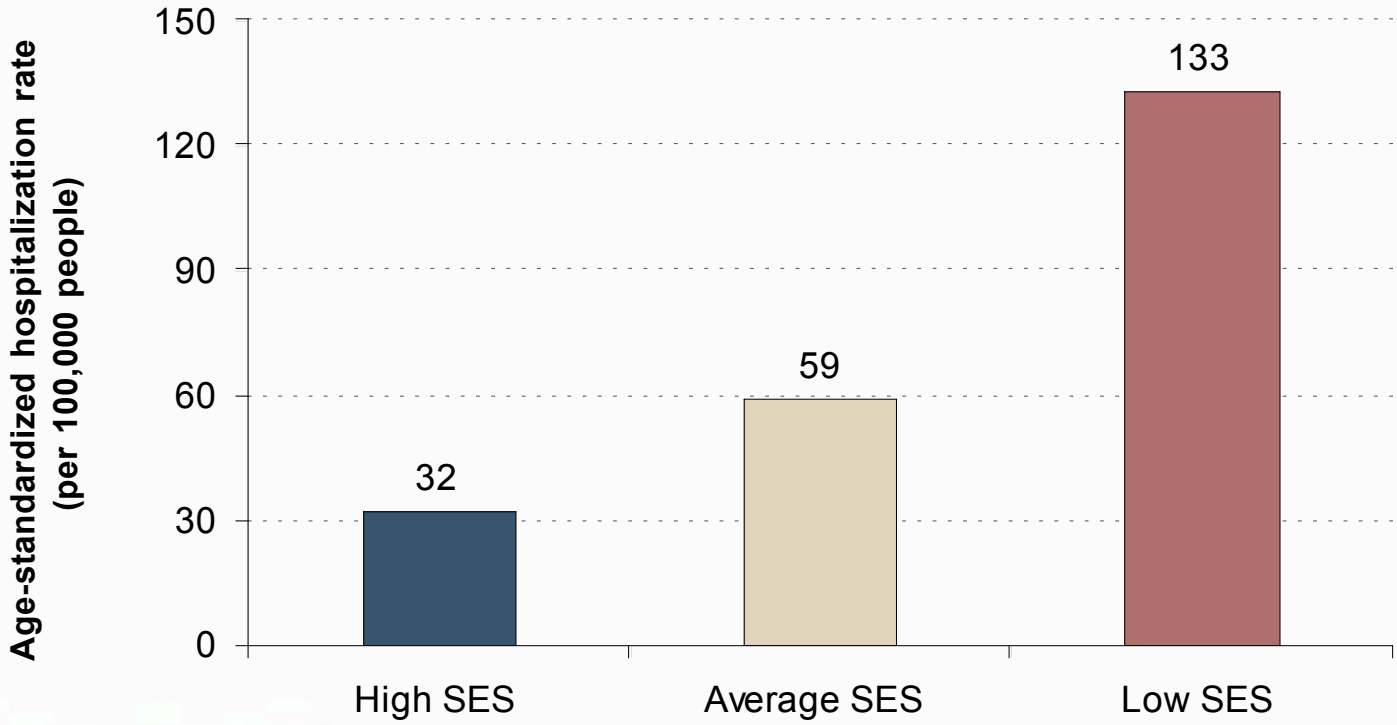
Substance-Related Disorders

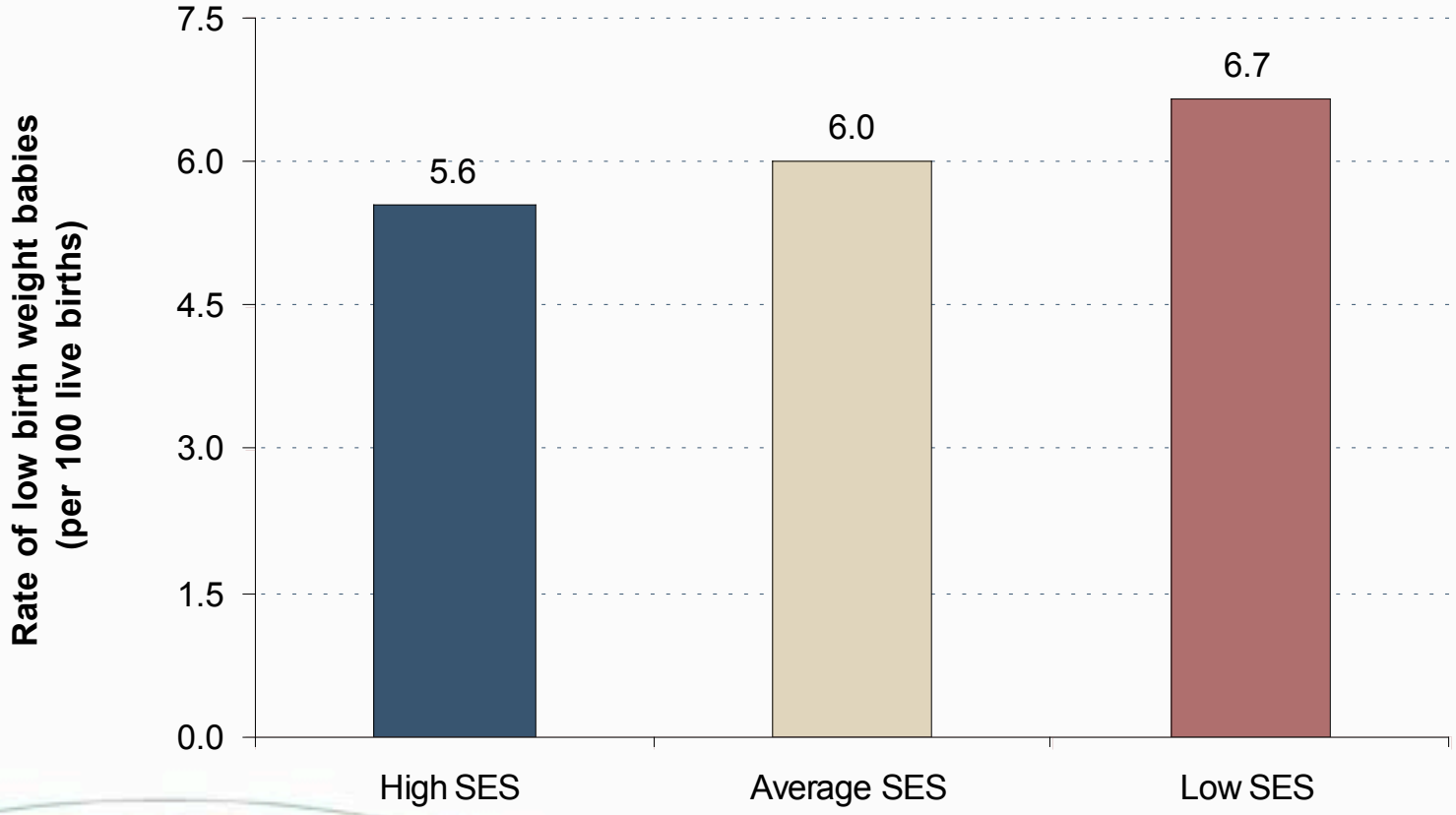
Age-standardized hospitalization rates from substance-related disorders by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



*Rates between all groups were significantly different

Low Birth Weight

Rate of babies born weighing less than 2500 grams per 100 live births (low birth weight) by socio-economic status group in urban Canada (2003/2004 – 2005/2006).*



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Findings and Significance

- Among many of the health-related indicators examined, there was a gradient across the three SES groups, with variations in the steepness of the gradient indicator examined.
- Supporting previous research that has studied the links between SES and health at different levels of geography, the analyses demonstrated consistent and robust links between SES and health in Canada's cities.
- In general, the analyses demonstrated that locations characterized by lower SES were more likely to experience poorer health than locations with an average or high SES.

Report Release

- **Report release date is November 24, 2008.**
- To be released at the 2008 Chronic Disease Prevention Alliance of Canada (CDPAC) conference in Ottawa, Ontario (November 24-26, 2008) during the opening plenary session.
  - Titled *The State of Urban Health in Canada: Release of the CPHI/CIHI Report,* three panelists (Dr. Cordell Neudorf, Dr. Sharon Manson Singer and Dr. David V. McQueen) will discuss the report
  - CPHI staff will also be onsite to present a poster and answer any questions about the report

Companion Products:

- Summary report
- PowerPoint presentation
- Literature search methodology
- Data and analysis methodology
- Interactive maps

Members of our Expert Advisory Group

- **Cordell Neudorf** (Chair), Chief Medical Health Officer, Saskatoon Health Region, Saskatchewan;
- **Robert Choinière**, Coordonnateur, Plannification, recherche et innovation, Études et analyses de l'état de la santé de la population, Institut national de santé publique du Québec, Québec;
- **Joy Edwards**, Manager, Population Health Assessment, Population Health and Research, Capital Health, Alberta;
- **Yanyan Gong**, Methodologist, Health Indicators, CIHI, Ontario;
- **Denis Hamel**, Statistician, Institut national de santé publique du Québec, Québec;
- **Barbara Harvie**, Director, Clinical Information, Nova Scotia Department of Health, Nova Scotia;

Members of our Expert Advisory Group (Continued…)

- **Bill Holden**, Senior Planner, City of Saskatoon, Saskatchewan;
- **Glenn Irwin**, Director, Data Development and Research Dissemination Division, Applied Research and Analysis Directorate, Health Canada, Ontario;
- **Julie McAuley**, Director, Health Statistics Division, Statistics Canada, Ontario;
- **David McKeown**, Medical Officer of Health, Toronto Public Health, Ontario; and
- **Nazeem Muhajarine**, Research Faculty, Saskatchewan Population Health and Evaluation Research Unit (SPHERU) and Department Head, Community Health and Epidemiology, University of Saskatchewan, Saskatchewan.

Our Partners

CIHI
ICIS

Institut national de santé publique du Québec

Statistics Canada

Urban Public Health Network

For More Information

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