

# **Measuring Health and Health Care in Rural Canada**



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## **Presentation covers 3 topics:**

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- Conceptual and methodological issues
- Selected indicators of rural health as illustration
- Issues that need to be addressed

# **Conceptual & Methodological Issues**



# **No universally accepted definition**

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- What is “rural”?
- What do you want to know?



# **“Rural” as a geographic-cum-demographic concept**

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- Rural areas are areas with small population and far from urban centres
- Mostly dictated by data availability
- As much consistency as possible
- Other characteristics as manifestations
- Rural is not homogenous

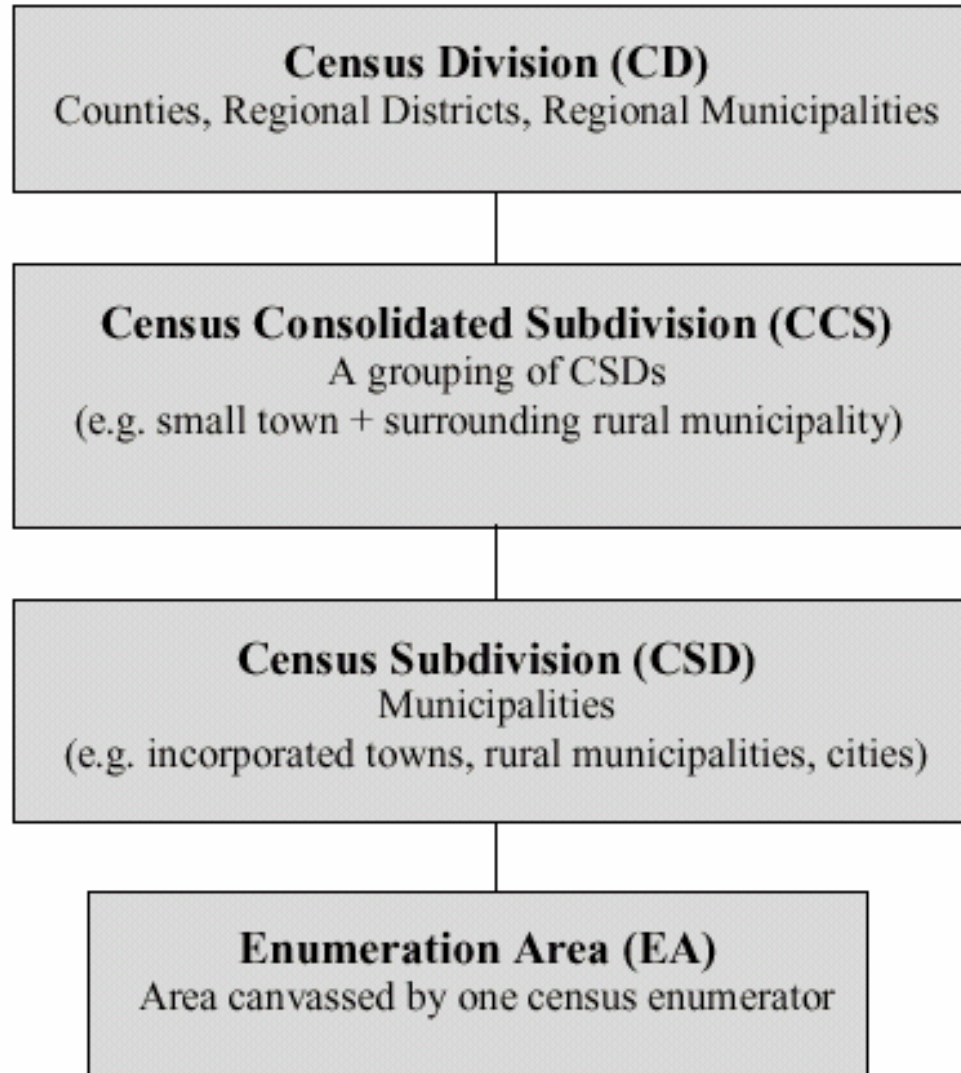


# **“Building blocks” for classifying geographic areas as rural**

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- Enumeration area (EA)
- Census subdivision (CSD)
- Census consolidated subdivision (CCS)
- Census division (CD)
- Census agglomeration (CA)
- Census metropolitan area (CMA)

# Building Blocks for Classifying Geographic Space as “Rural” at Statistics Canada





# **Six definitions of “rural”:**

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- **“Rural” based on postal codes**
- **Census Rural Areas**
- **Rural and Small Town (RST)**
- **OECD Rural Community**
- **OECD Predominantly Rural Region**
- **MOHLTC-OMA definition of “rural”**



## **“Rural” based on postal codes**

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- “0” in second position of postal code
- No longer useful for defining “rural”
- Could be used as building blocks



# Census Rural Areas

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- “Sparsely populated lands lying outside urban areas” - 1996 census dictionary
- Residual of urban areas –
  - Urban areas: minimum population of 1,000 and population density of 400+ people per sq. km.



# **Rural and Small Town (RST)**

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- Population living outside commuting zone of larger urban centres
- RST is non-CA/CMA population



# OECD Rural Community

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- Community: basic administrative unit; classified as urban or rural
- 150 persons or less per sq. km.
- Statscan application:
  - equate CCS as community
  - CCSs with less than 150 persons per sq. km.

# OECD Predominantly Rural Region



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- Region: larger administrative unit; described as more or less rural
- Statscan application:
  - equate CD with region
  - predominantly rural: CDs with  $> 50\%$  of population in rural communities
  - intermediate: CDs with  $15\% - 50\%$  of population in rural communities
  - predominantly urban: CDs with  $< 15\%$  of population in rural communities



## **MOHLTC-OMA definition of “rural”**

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- **Communities with population of 10,000 or less and at least 80 km from an urban centre with population of 50,000+**



# Which one to use?

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- Depends on what you want to know
- Avoid definition based on postal codes
- Statscan recommends RST because:
  - approximates a community
  - stresses integration with urban centre



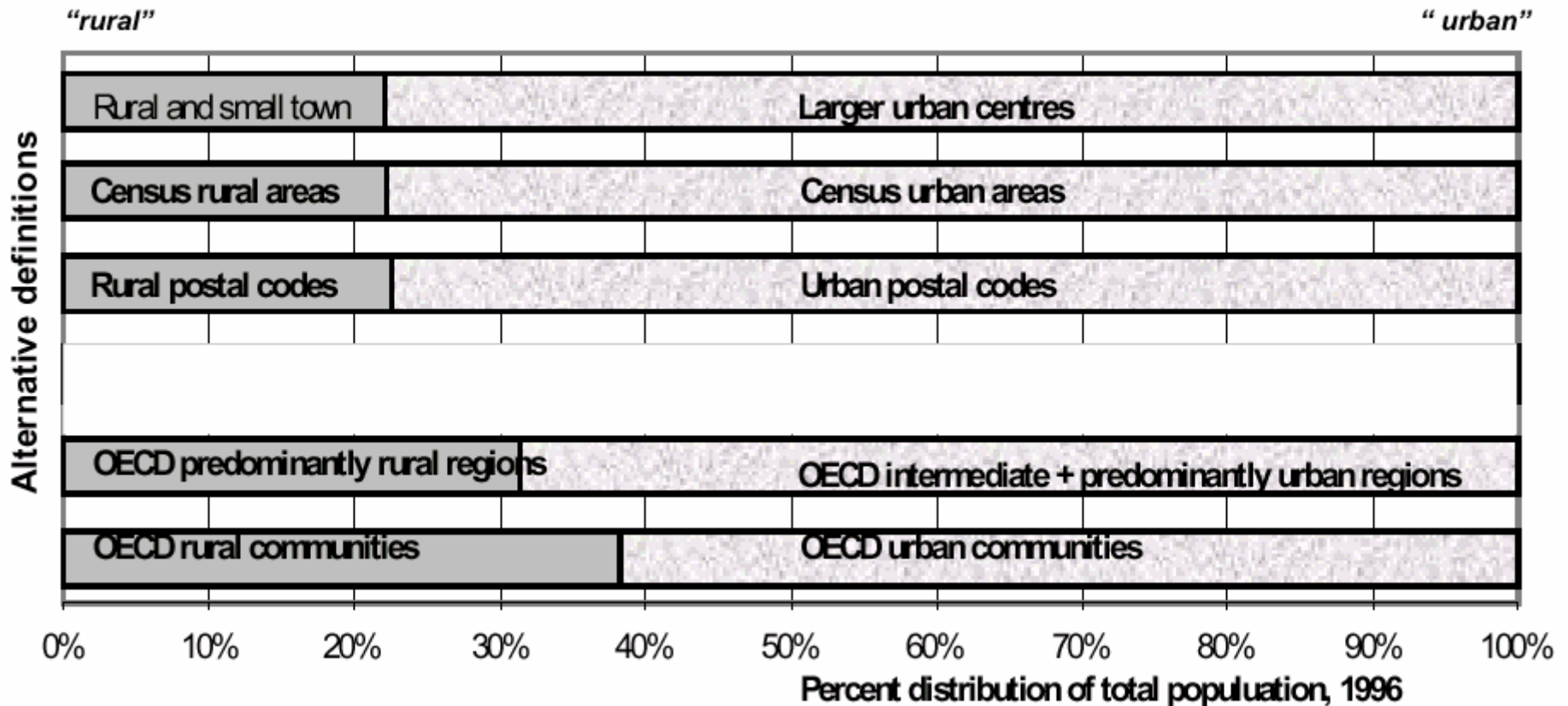
# Does definition adopted make a difference?

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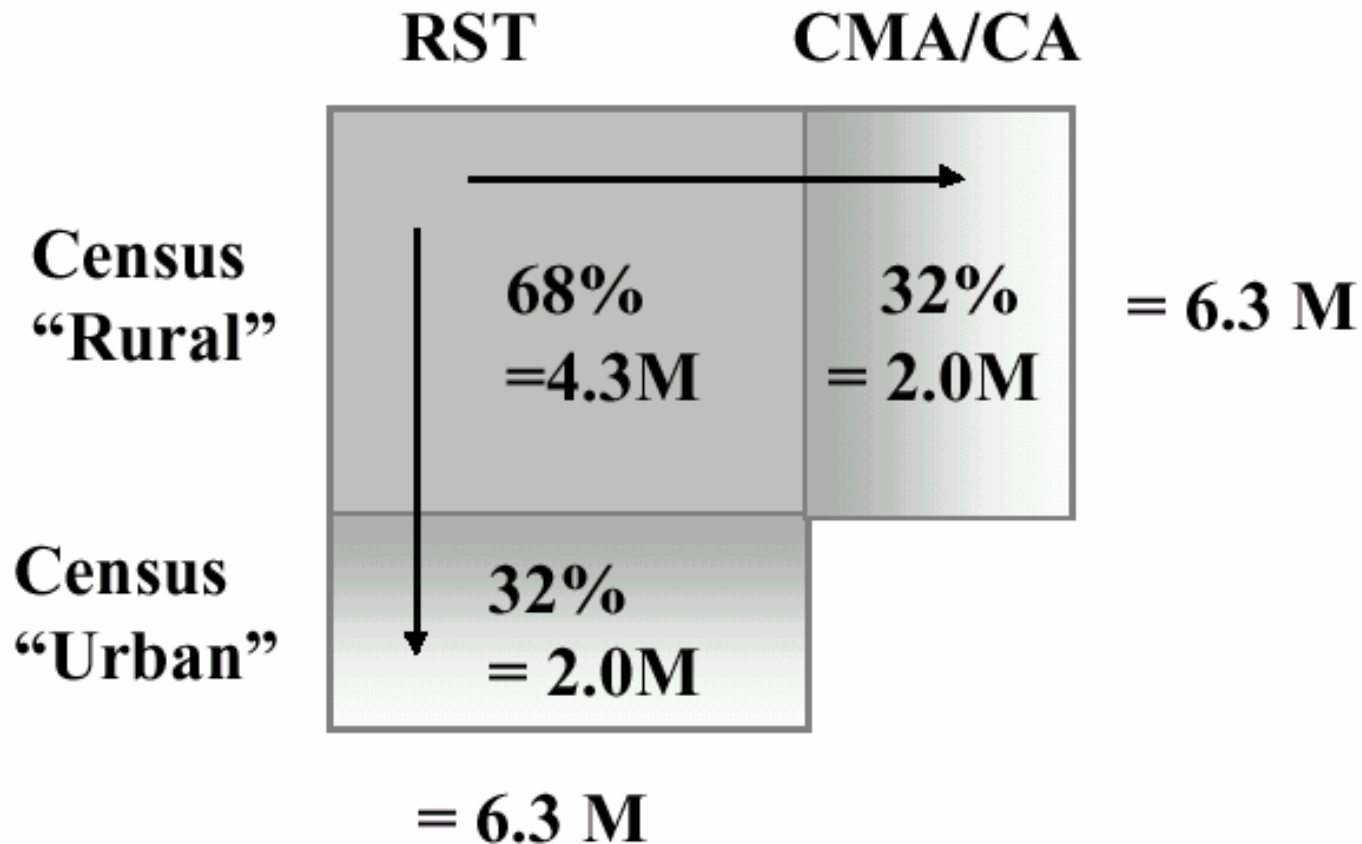
Yes

- Size of “rural” population differs: 22% (6.3 million) - 38% (10.8 million)
- Different people are classified as “rural”

## Canada's "Rural" Population Ranges from 22 percent to 38 percent, 1996



# Population Overlap of Census “Rural Areas” and “Rural and Small Town,” Canada, 1996



*Source:* Statistics Canada. 1996 Census of Population

**What do we know about  
health and health care  
in rural Canada?**

# Who does what in measuring rural health?

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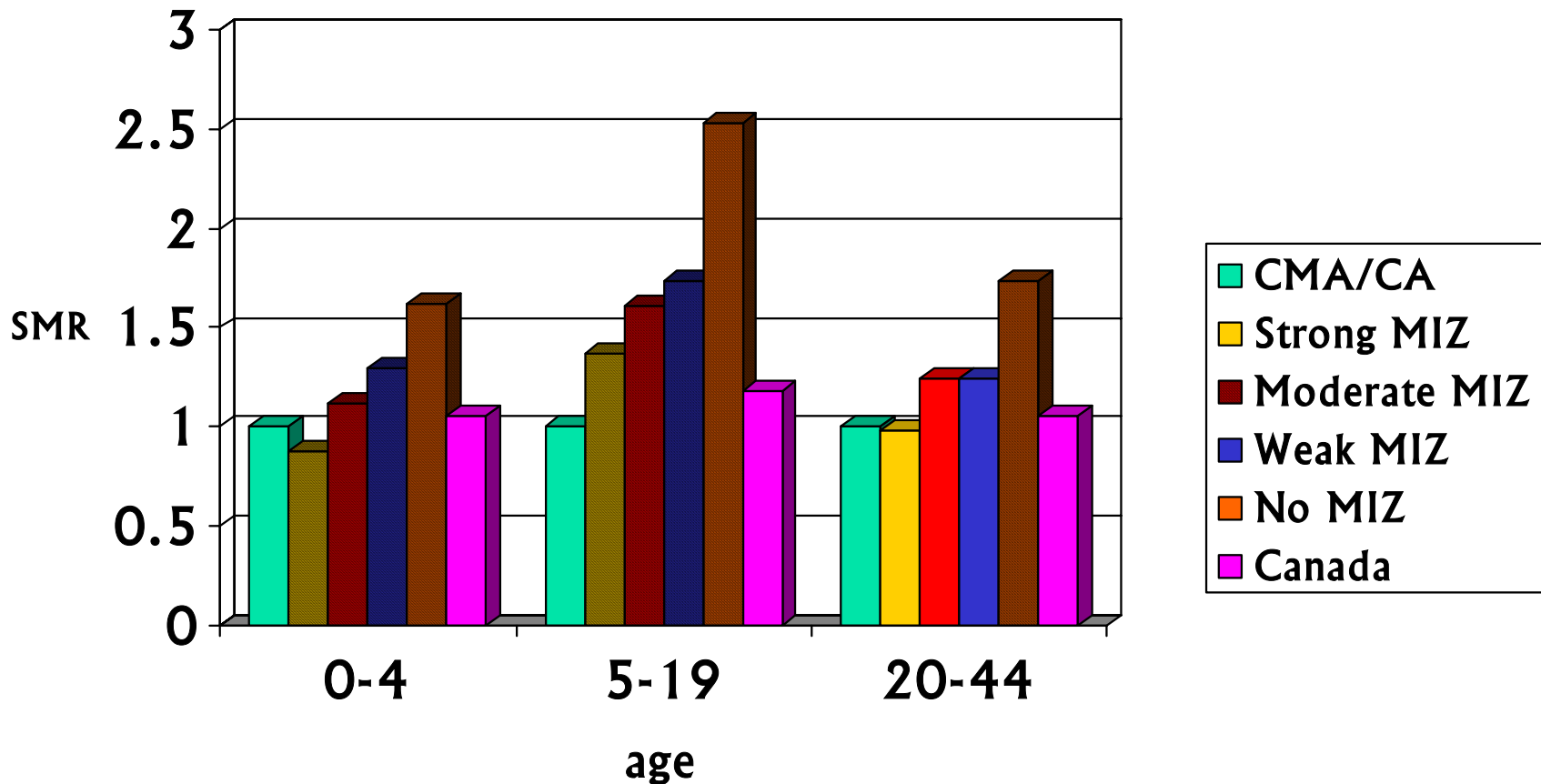
- Agriculture Division, Statscan: *defining “rural”*
- Population Health Assessment Section, Health Canada: *rural mortality and morbidity*
- Rural Development Institute, Brandon University: *“Determinants of Health of Rural Populations and Communities”*
- CRaNHR, Laurentian University:
  - *“Assessing Rural Health: Toward Developing Health Indicators for Rural Canada”*
  - *“Health and the National Atlas of Canada”*
  - *“Canada’s Rural Communities: Understanding Rural Health and Its Determinants” (joint study with Health Canada)*

## Health Status for Populations in Predominately Urban, Intermediate and Predominately Rural Health Regions in Canada, 1996

Indicator of Health Status	Predominantly Urban	Intermediate	Predominately Rural
Life expectancy at birth: years	78.8	77.7	77.0
Infant mortality rate per 1,000 live births	5.1	6.3	7.1
Total mortality: age-standardized rate per 100,000 people	657.0	704.8	748.3
All circulatory disease-related deaths: age-standardized rate per 100,000 people	243.4	260.5	269.6
All cancer-related deaths: age-standardized rate per 100,000 people	181.1	193.0	194.6
Unintentional injury-related deaths: age-standardized rate per 100,000 people	25.9	34.7	45.4

**Source: Building on Values: The Future of Health Care in Canada, Commission on the Future of Health Care in Canada**

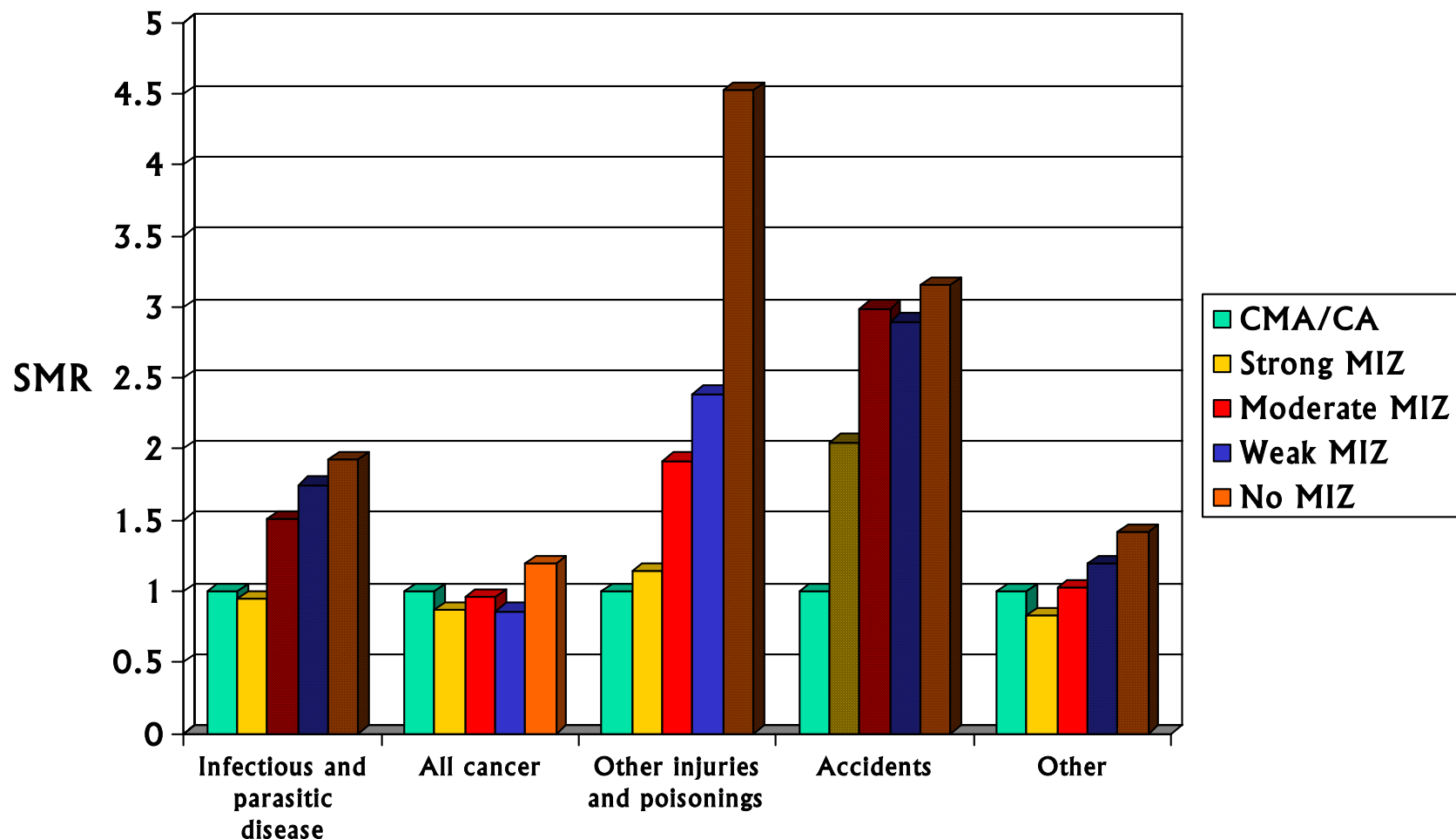
# Standardized mortality ratios by age and MIZ, all-cause mortality, Canada 1986-1996



Note: Pattern means SMR statistically significant at  $p < 0.01$

Source: Canadian Annual Mortality data 1986-1996 and 1996 Census, Statistics Canada

# Standardized mortality ratios for people aged 0-4 by MIZ, chronic and infectious diseases, Canada 1986-1996



Note: Pattern means SMR statistically significant at  $p < 0.01$

Source: Canadian Annual Mortality data 1986-1996 and 1996 Census, Statistics Canada

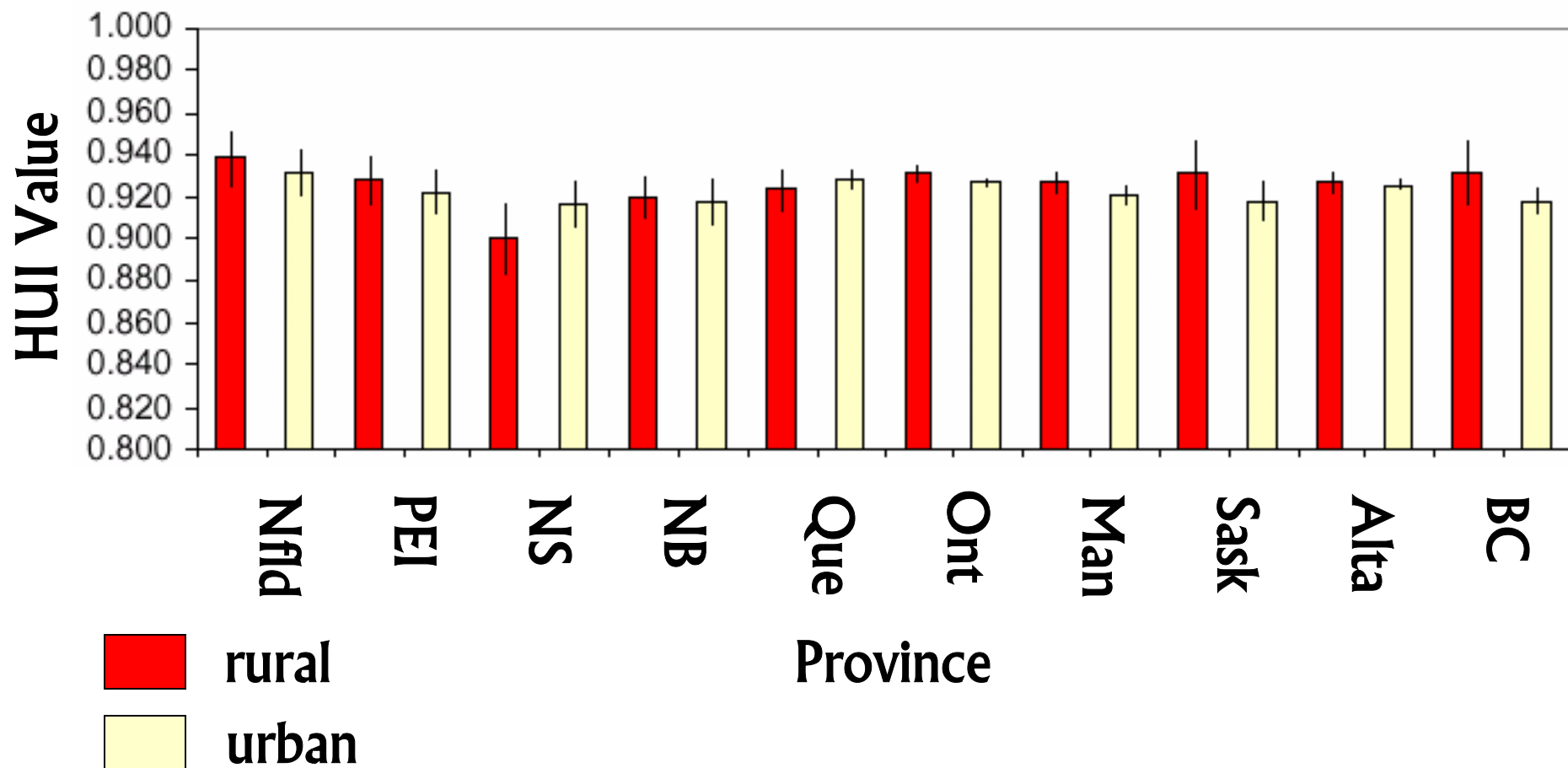
## **Percentage of low birth weight by Rural/Urban by Age Groups**

<b>Statscan Definition</b>	<b>All</b>	<b>&lt; 20</b>	<b>20-39</b>	<b>40+</b>
Predominantly urban	5.5	7.6	5.4	6.9
Intermediate	5.5	6.1	5.3	11.2
Predominantly rural	5.3	5.7	5.2	4.4

<b>OECD Definition</b>	<b>All</b>	<b>&lt; 20</b>	<b>20-39</b>	<b>40+</b>
Predominantly urban	5.7	7.6	5.6	7.9
Intermediate	5.7	7.7	5.6	9.1
Predominantly rural	5.2	5.8	5.2	5.8

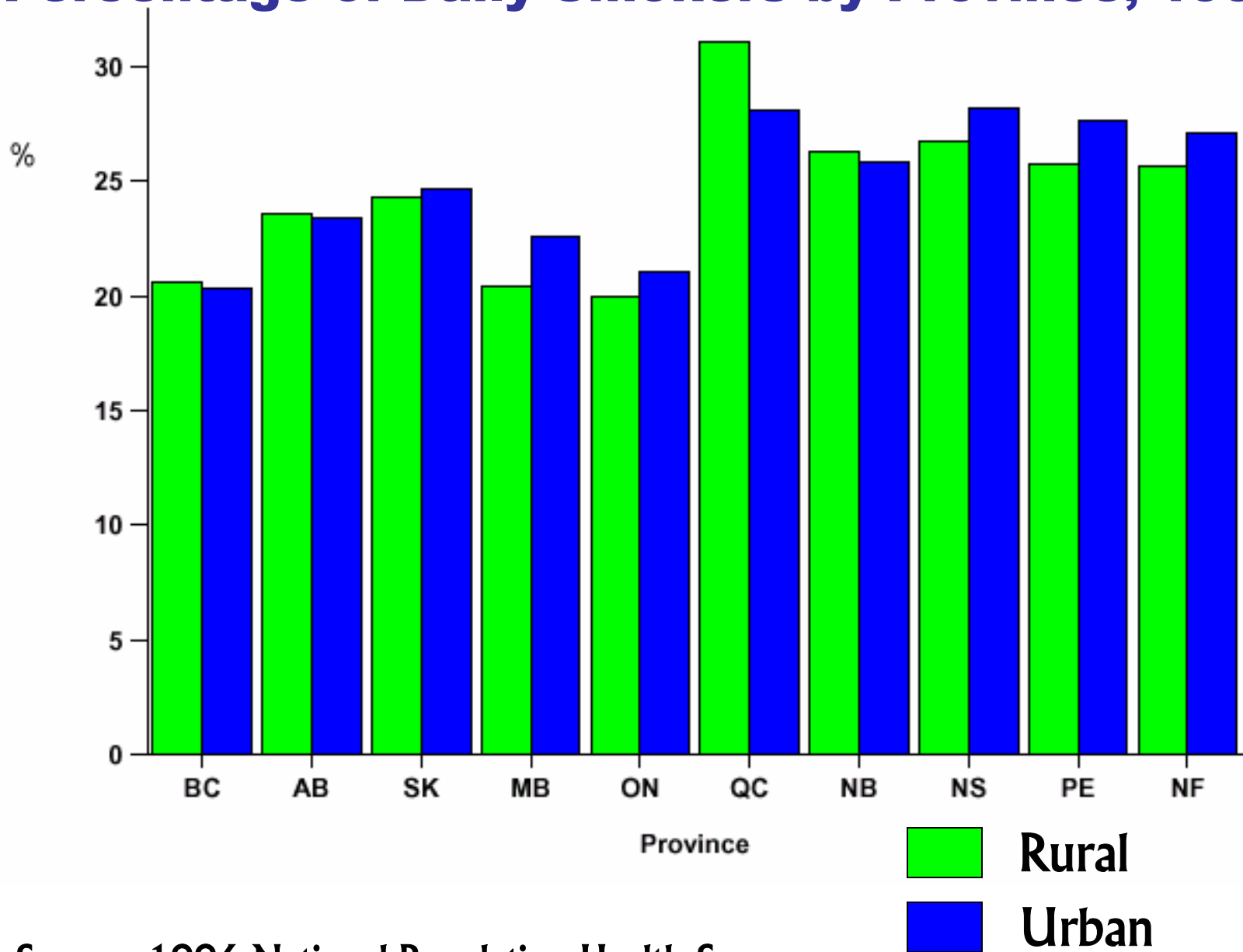
Source: R. Pitblado, R.W. Pong et al. (1999). *Assessing Rural Health: Toward Developing Health Indicators for Rural Canada*. Sudbury, Ontario: Centre for Rural and Northern Health Research, Laurentian University.

## Health Utility Index by “Urban-Rural” by Province



Source: R. Pitblado, R.W. Pong et al. (1999). *Assessing Rural Health: Toward Developing Health Indicators for Rural Canada*. Sudbury, Ontario: Centre for Rural and Northern Health Research, Laurentian University.

# Percentage of Daily Smokers by Province, 1996



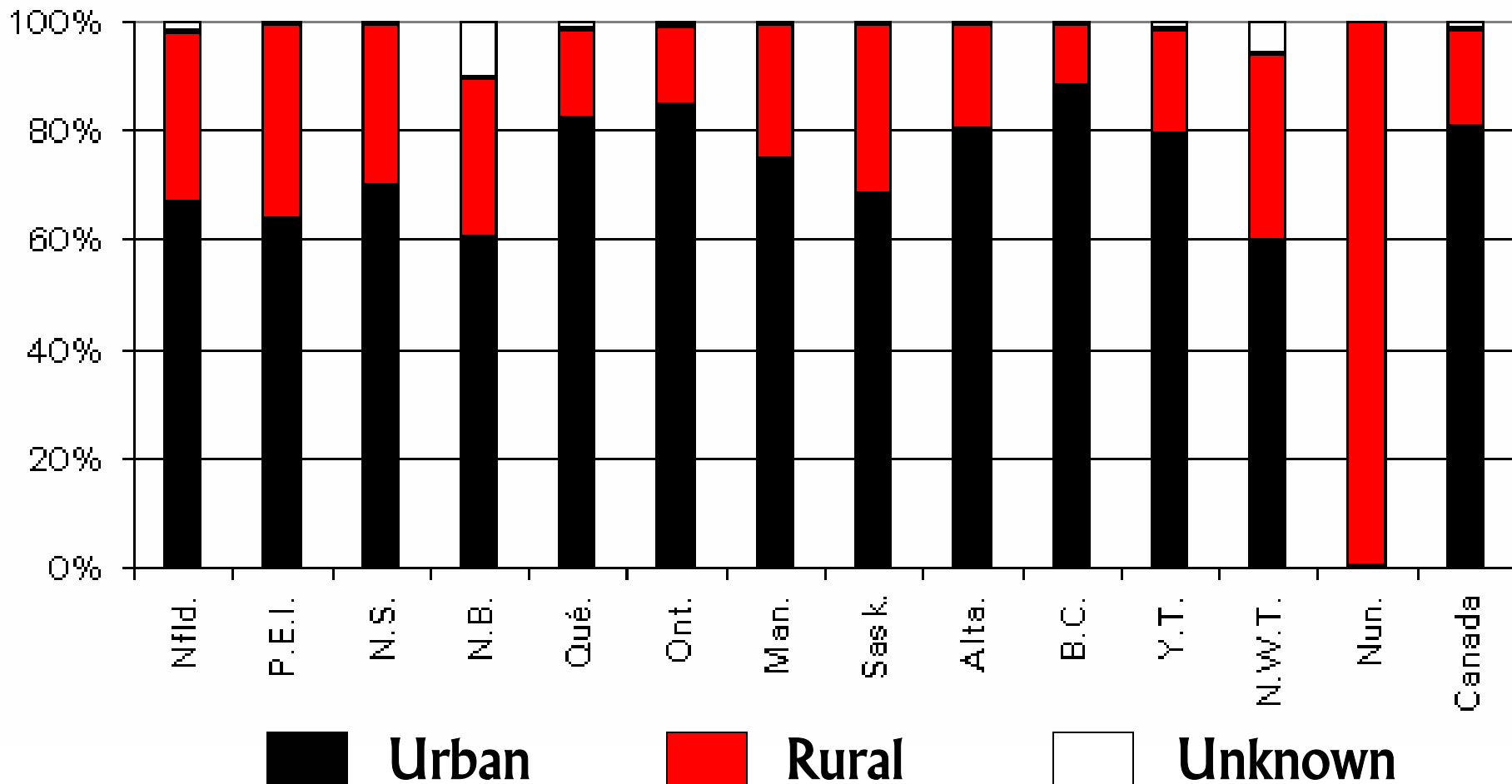
Source: 1996 National Population Health Survey

## **Percentages of Physicians and Population by “Urban/Rural” in Canada, 1991 and 1996**

	<b>1991</b>		<b>1996</b>	
	<b>Urban</b>	<b>Rural</b>	<b>Urban</b>	<b>Rural</b>
<b>Physicians</b>	<b>85.1</b>	<b>14.9</b>	<b>90.3</b>	<b>9.8</b>
<b>Population</b>	<b>70.8</b>	<b>29.2</b>	<b>77.8</b>	<b>22.2</b>

Source: R. Pitblado and R.W. Pong (1999). *Geographic Distribution of Physicians in Canada*. Sudbury, Ontario: Centre for Rural and Northern Health Research, Laurentian University.

# Proportions of Registered Nurses Rural and Urban Canada, 2000



Source: Pitblado, R. et al. (2002).

*Supply and Distribution of Registered Nurses in Rural and Small Town Canada, 2000.*

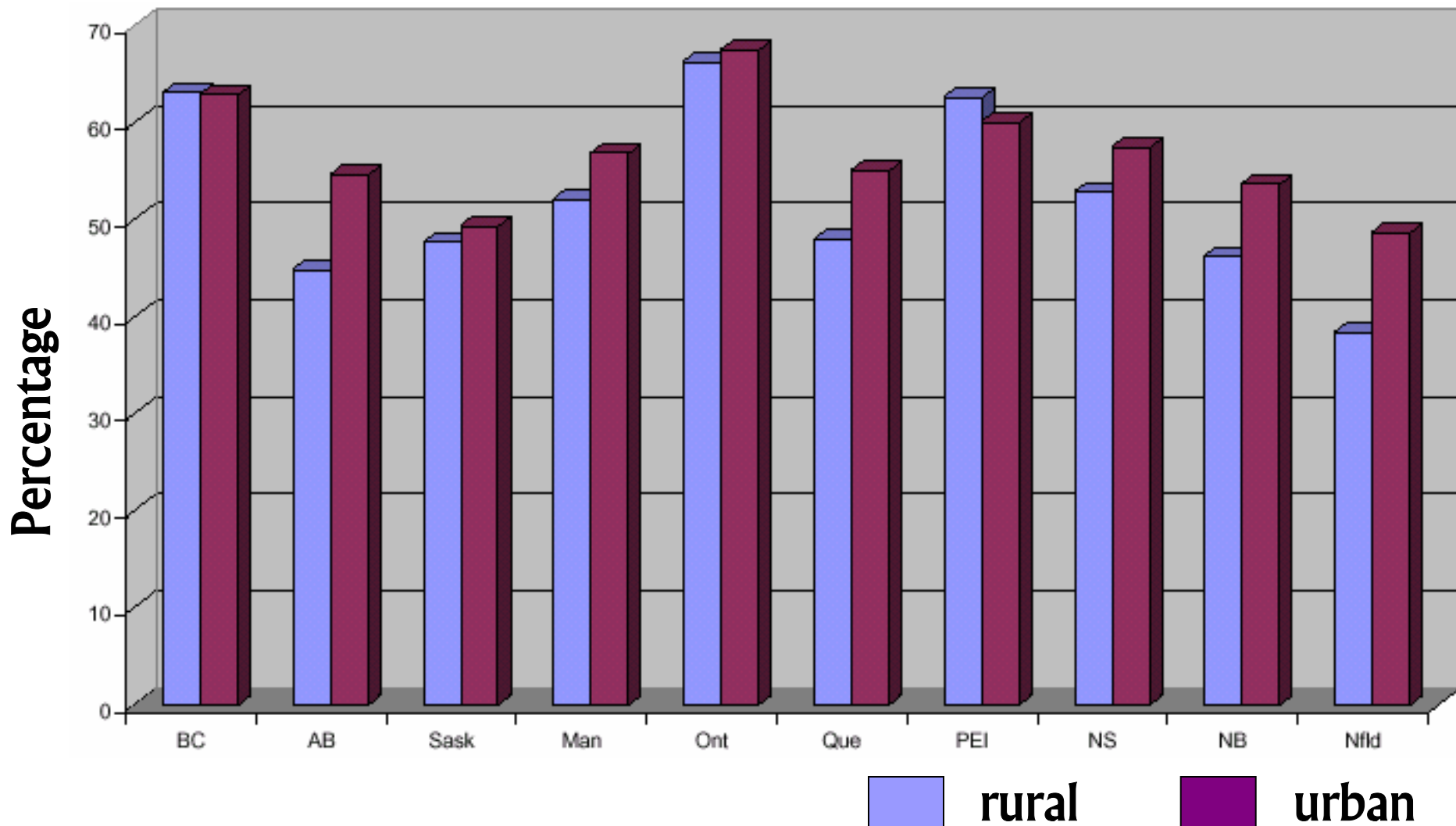
Ottawa: CIHI.

## **Average Hospital Length-of-Stay for all Causes by Degree of “Ruralness”**

	<b>OECD Definition of Rural</b>	<b>Statscan Definition of Rural</b>
<b>Predominantly urban</b>	<b>6.6</b>	<b>6.4</b>
<b>Intermediate</b>	<b>6.2</b>	<b>6.4</b>
<b>Predominantly rural</b>	<b>6.1</b>	<b>6.0</b>

Source: Hospital Morbidity Database, CIHI

## Use of Dental Services by “Urban/Rural” by Province, 1996



Source: 1996 National Population Health Survey



# **Some socioeconomic characteristics of rural Canada**

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- Lower employment rate
- Lower average family income
- Lower proportion of families with income below low income cut-off
- Higher old-age dependency ratio
- Higher child dependency ratio
- Lower percentage of people with post-secondary education



# Challenges and Actions

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- Few rural health indicators
- Some data not available at sub-provincial level
- “Rural flags” often questionable
- Include appropriate geographic information in datasets and surveys
- Include postal codes
- Data release for small areas
- Costs of acquiring data at sub-provincial/sub-regional level
- International comparisons