

Measuring Health and Health Care in Rural Canada



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Presentation covers 3 topics:

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

Conceptual & Methodological Issues



No universally accepted definition

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



“Rural” as a geographic-cum-demographic concept

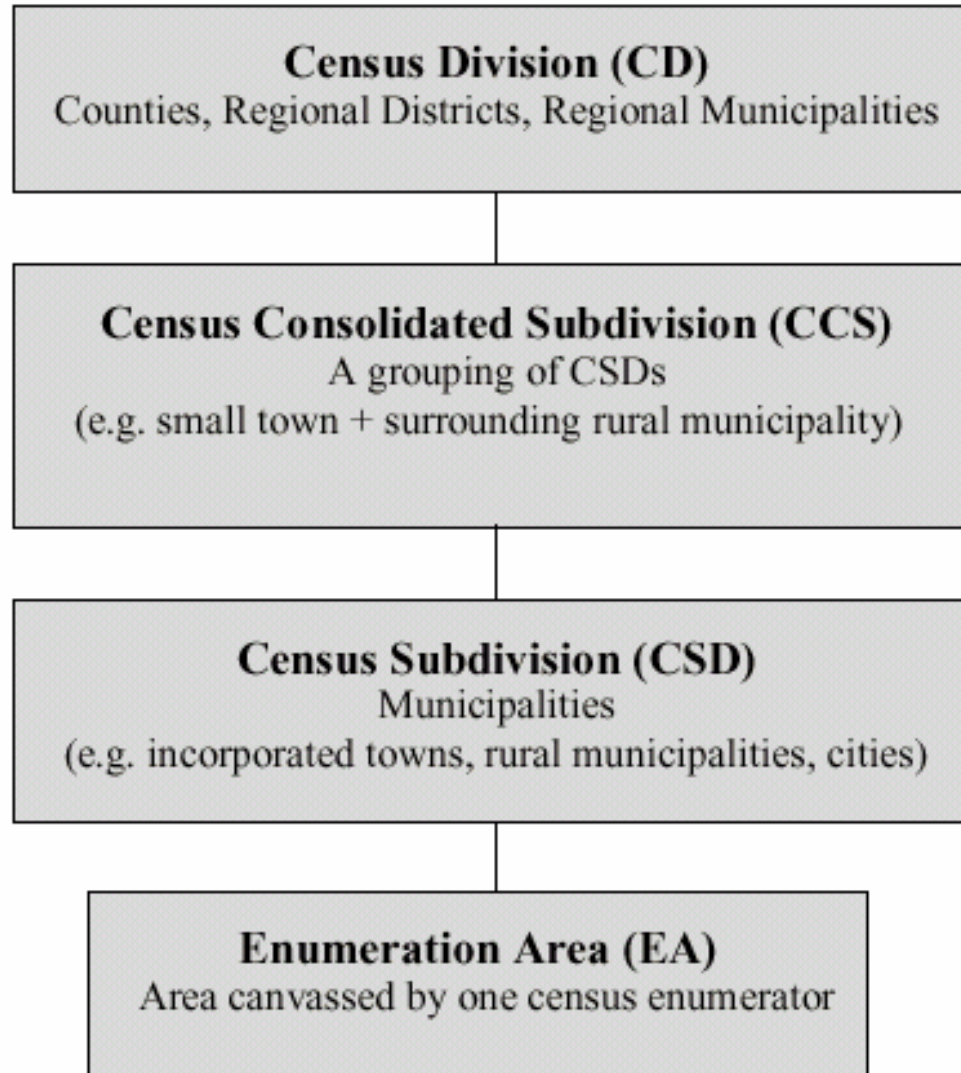
- Rural areas are areas with small population and far from urban centres
- Mostly dictated by data availability
- As much consistency as possible
- Other characteristics as manifestations
- Rural is not homogenous



“Building blocks” for classifying geographic areas as rural

- 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”:

- **“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

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



Census Rural Areas

- “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)

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



OECD Rural Community

- 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



- 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”

- **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?

- 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

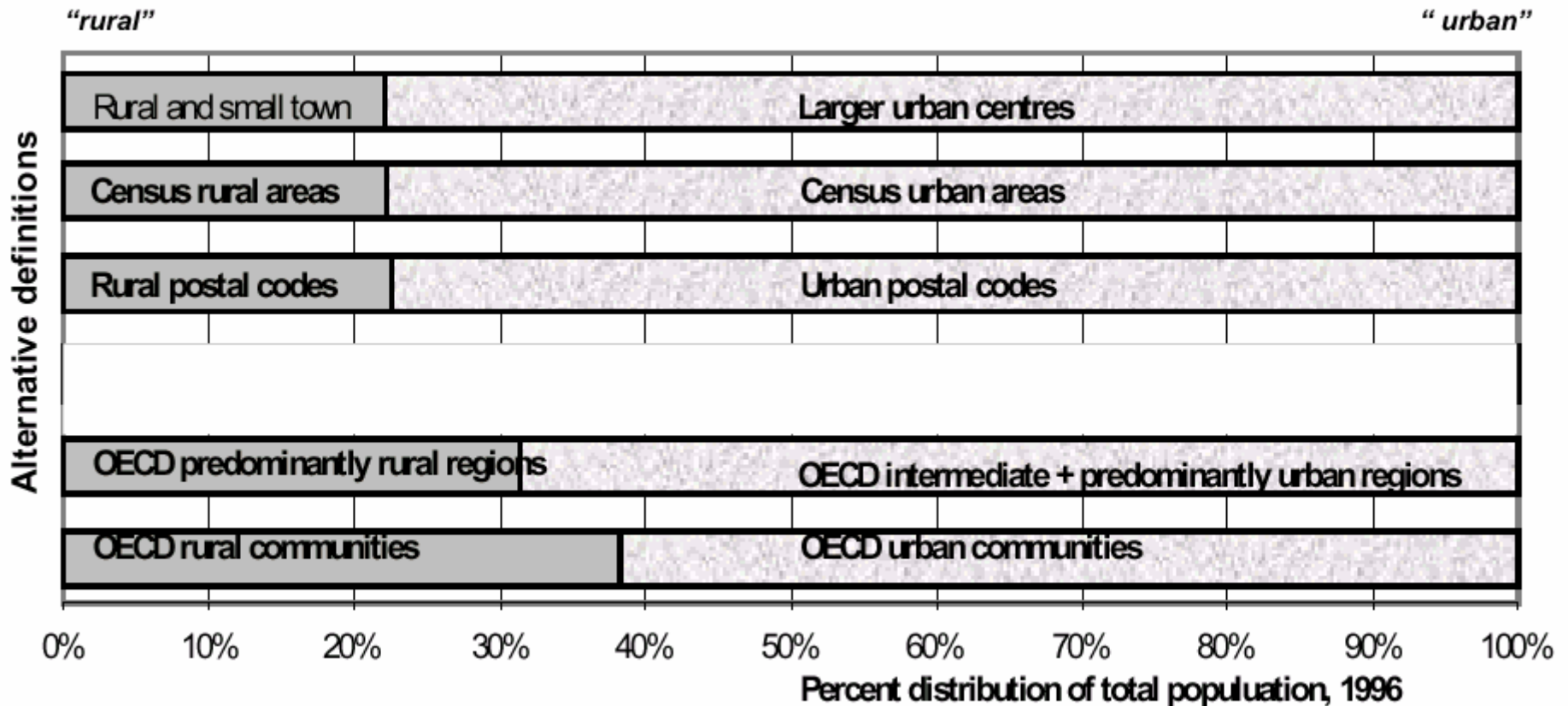


Does definition adopted make a difference?

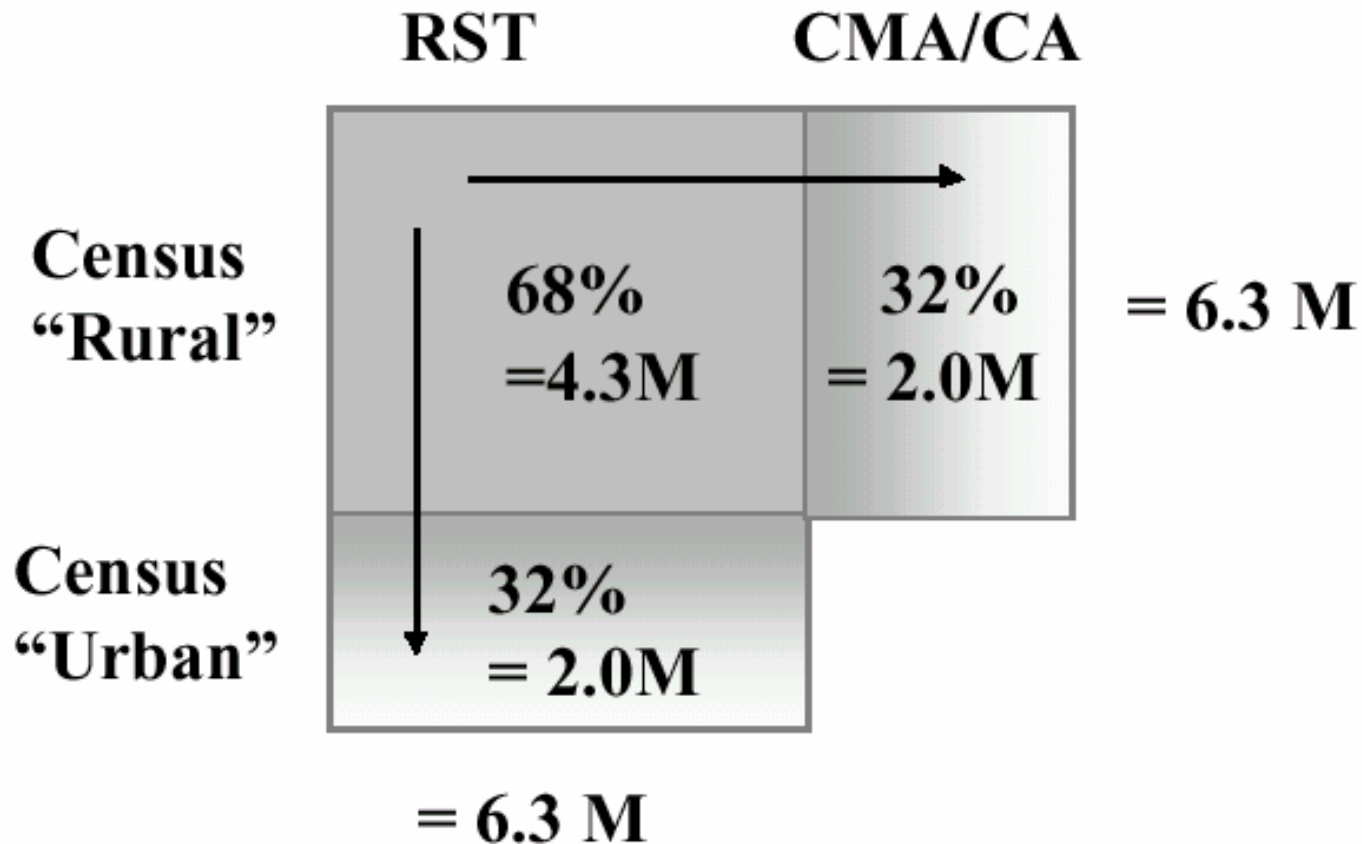
Yes

- 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?



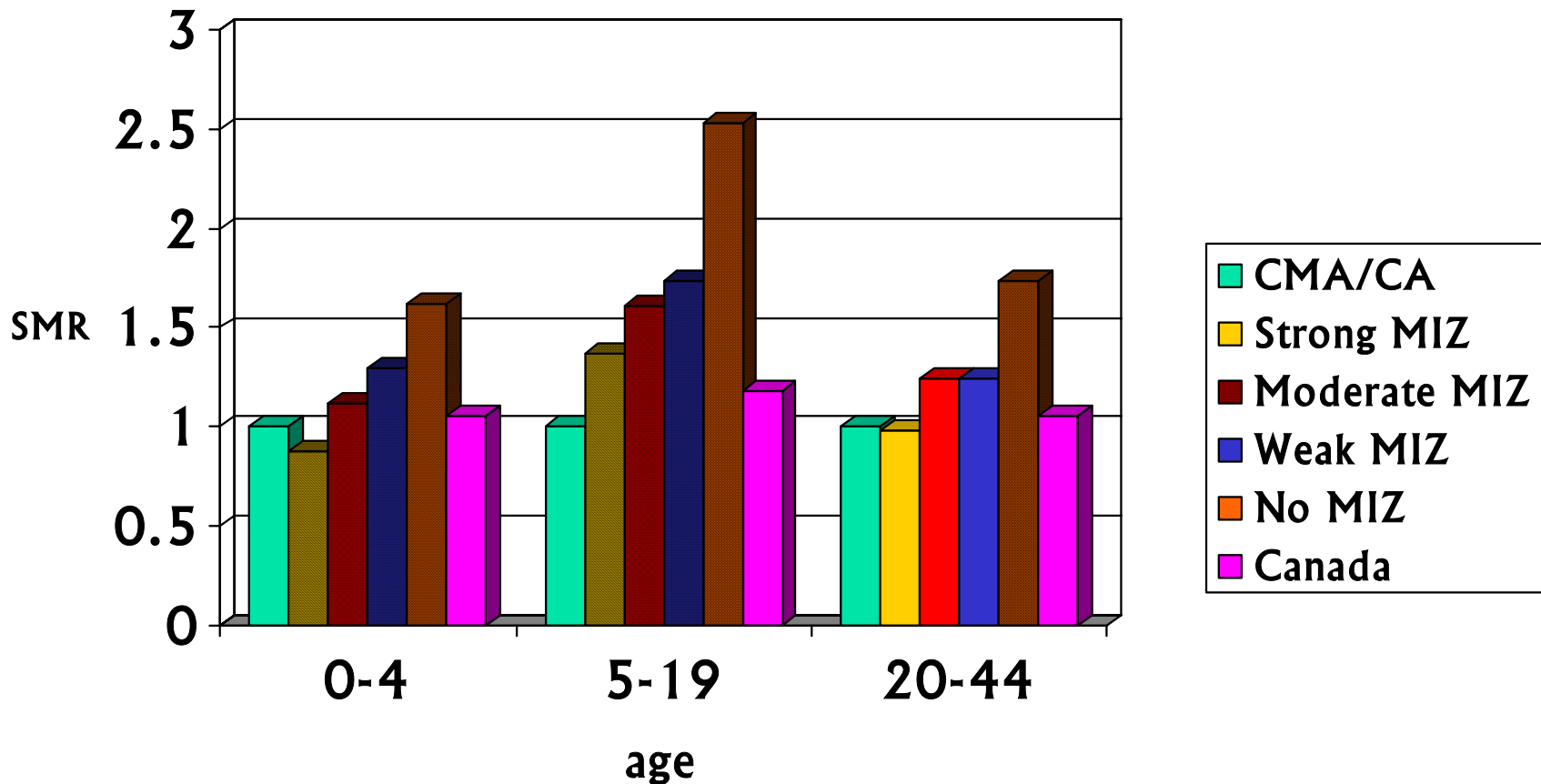
- Agriculture Division, Statscan: *defining “rural”*
- Population Health Assessment Section, Health Canada: *rural mortality and morbidity*
- Rural Development Institute, Brandon University: *“Determinants of Health of Rural Populations and Communities”*
- CRaNHR, Laurentian University:
 - *“Assessing 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

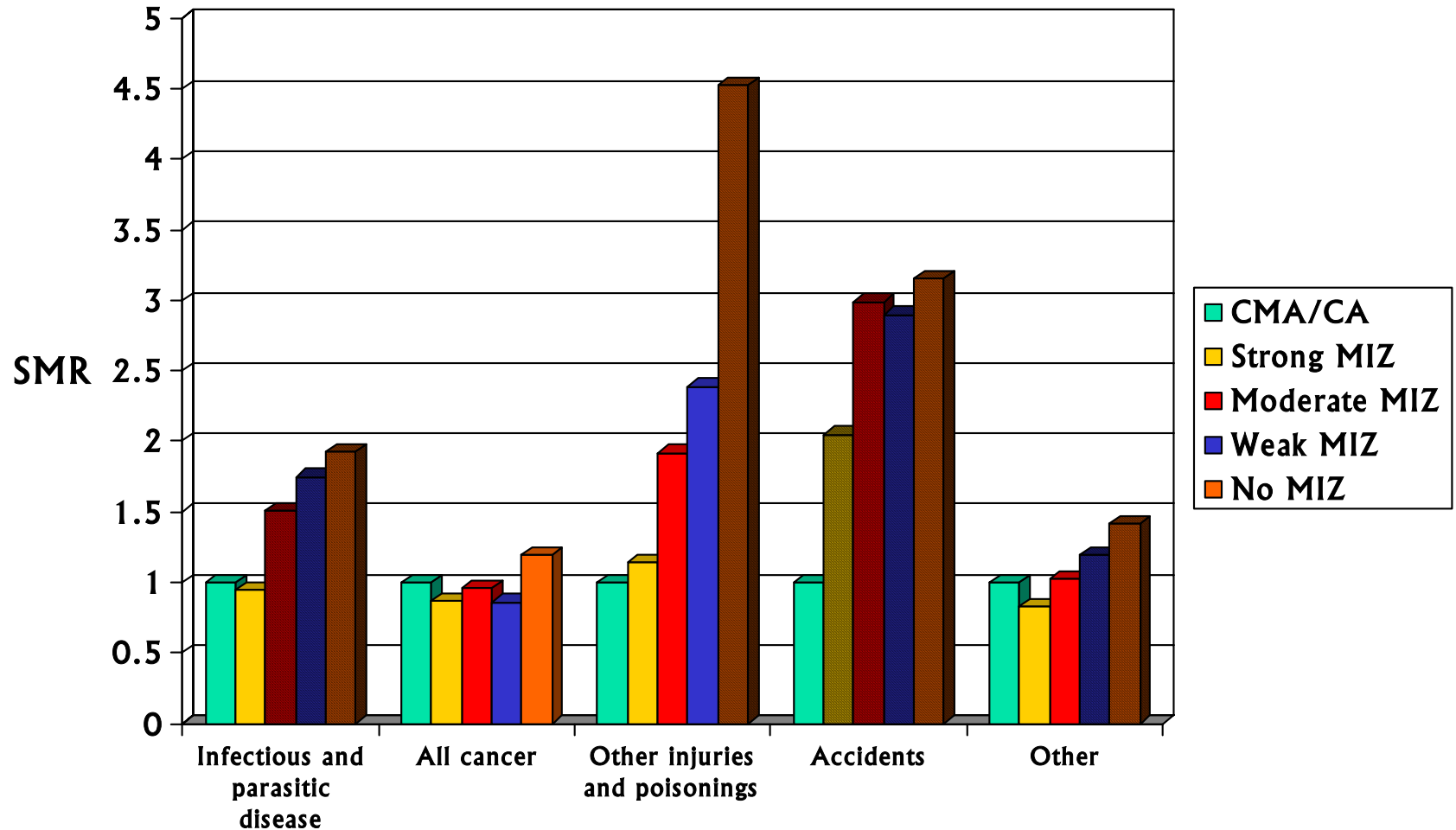
Standardized mortality ratios by age and MIZ, all-cause mortality, Canada 1986-1996



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

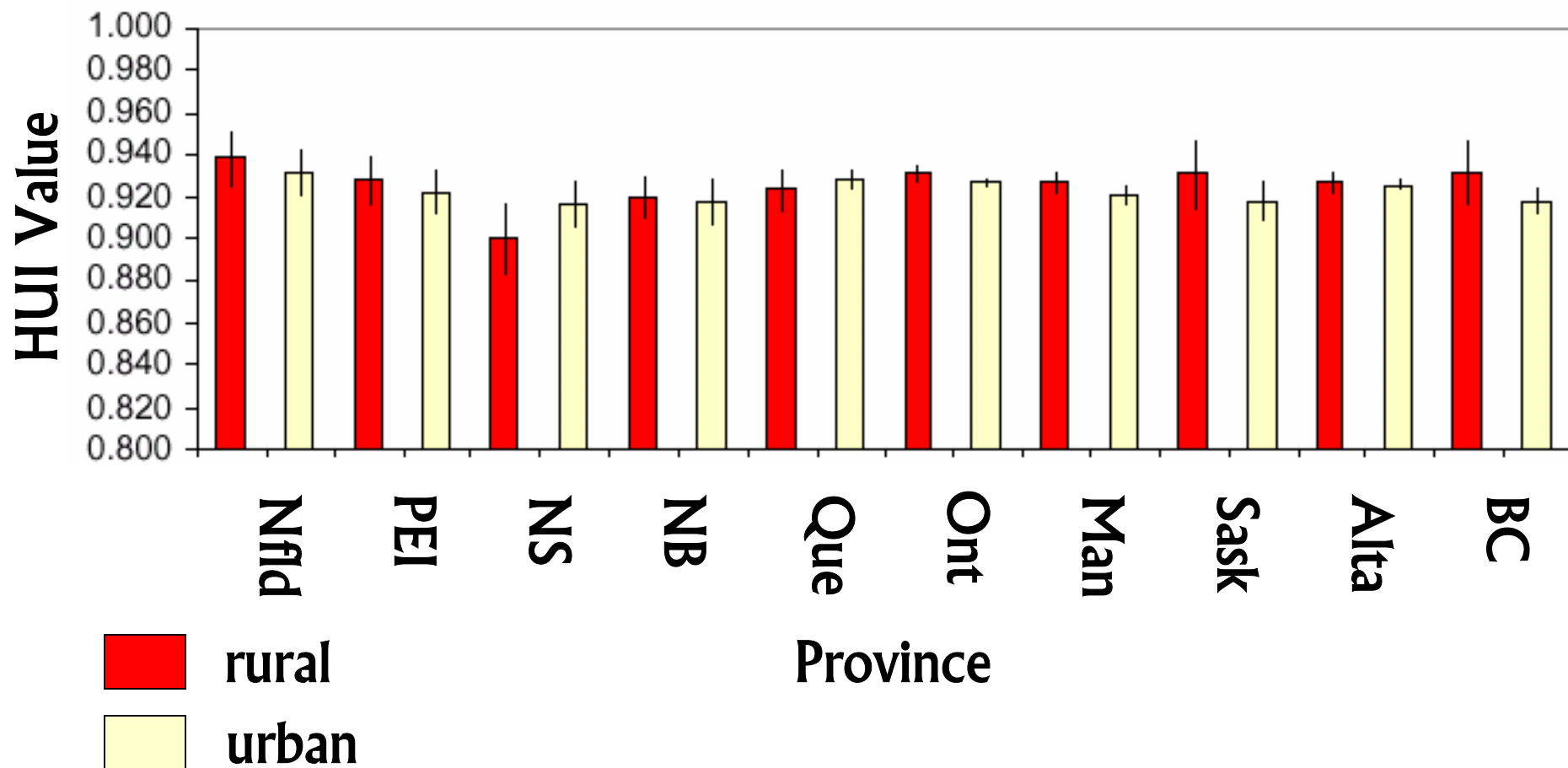
Percentage of low birth weight by Rural/Urban by Age Groups

Statscan Definition	All	< 20	20-39	40+
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

OECD Definition	All	< 20	20-39	40+
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

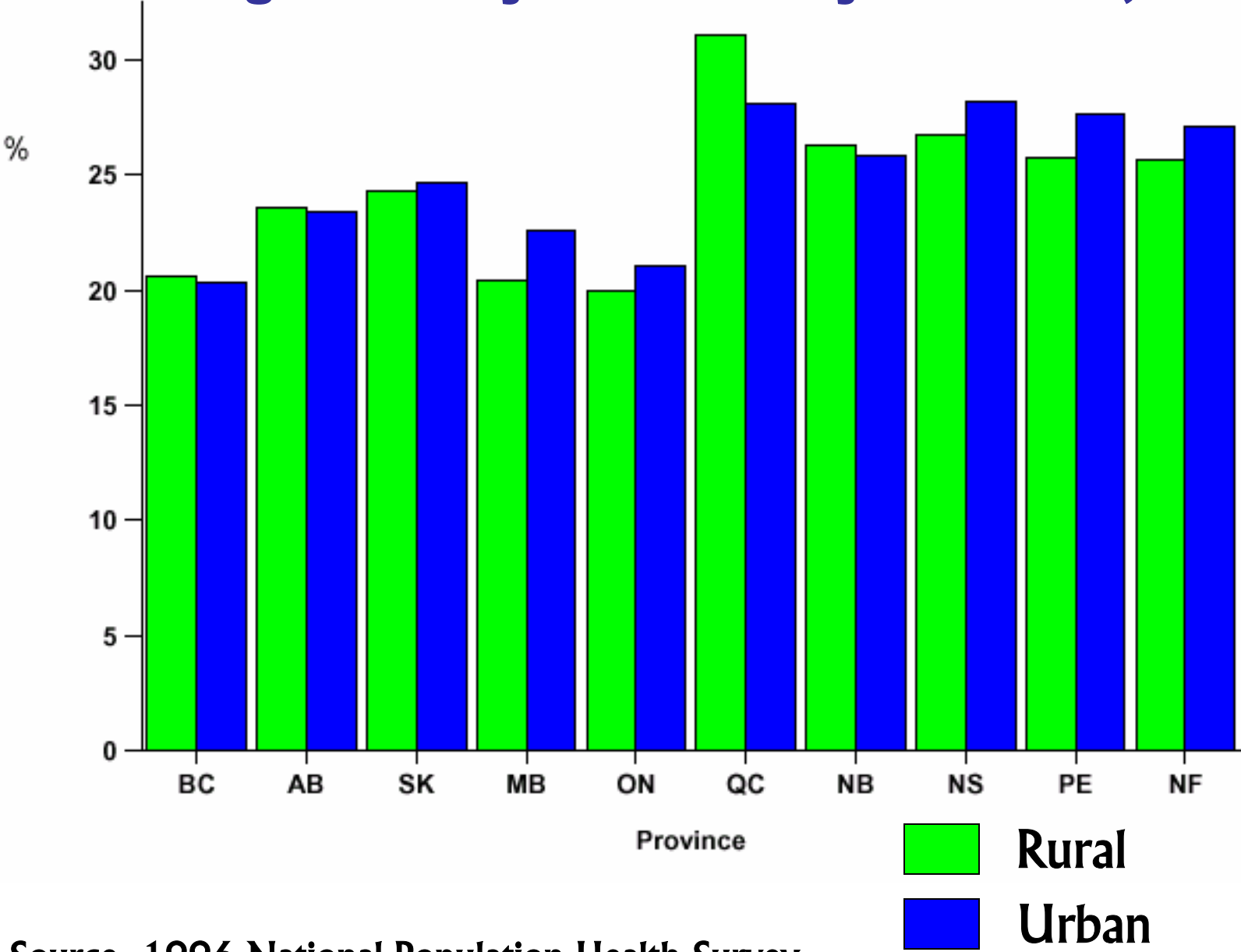
Source: R. Pitblado, R.W. Pong et al. (1999). *Assessing Rural Health: Toward Developing Health Indicators for Rural Canada*. Sudbury, Ontario: Centre for Rural and Northern Health Research, Laurentian University.

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



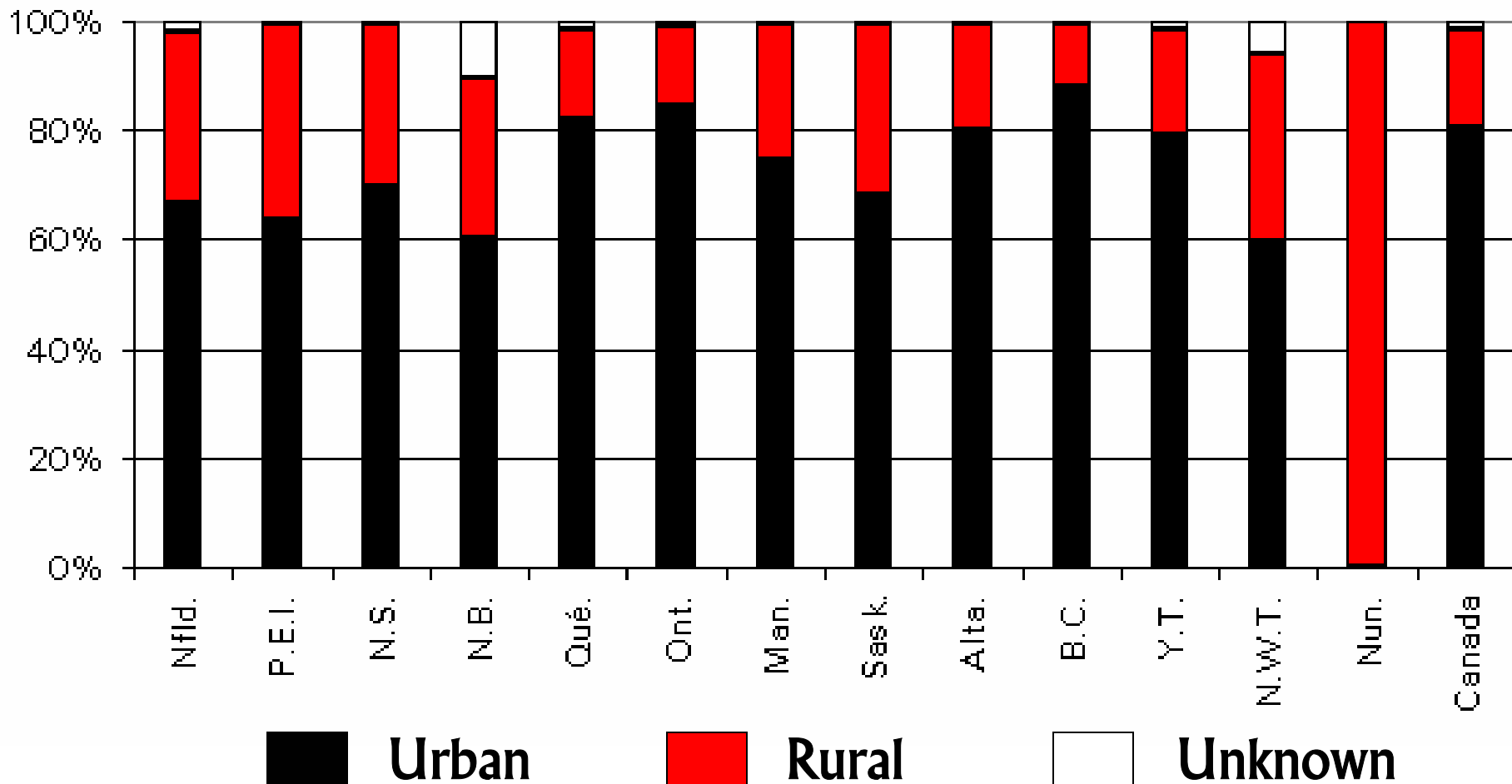
Source: 1996 National Population Health Survey

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

	1991		1996	
	Urban	Rural	Urban	Rural
Physicians	85.1	14.9	90.3	9.8
Population	70.8	29.2	77.8	22.2

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.

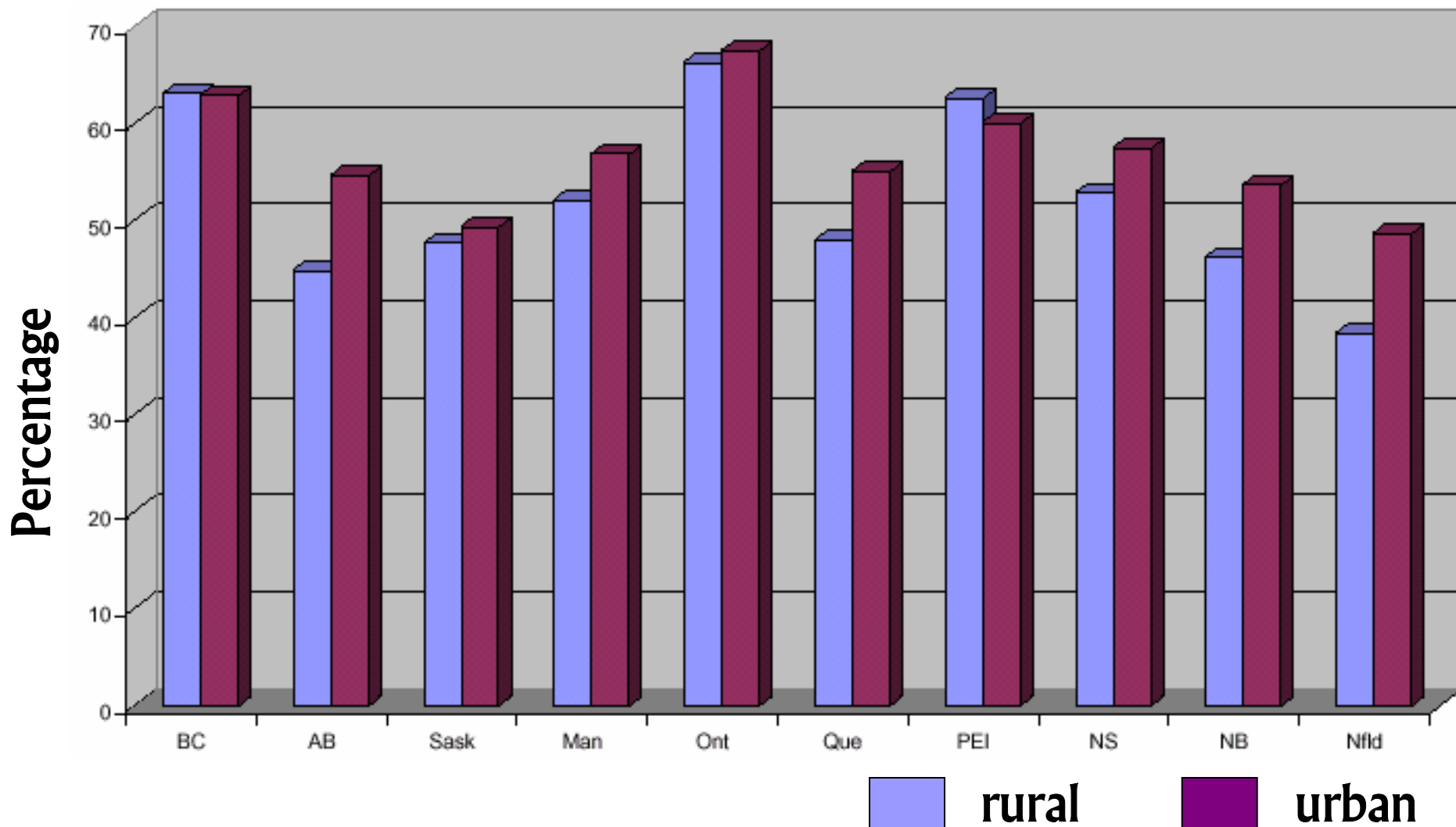
Ottawa: CIHI.

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

	OECD Definition of Rural	Statscan Definition of Rural
Predominantly urban	6.6	6.4
Intermediate	6.2	6.4
Predominantly rural	6.1	6.0

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

- 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

- 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