



# Treatment of Preventable Dental Cavities in Preschoolers: A Focus on Day Surgery Under General Anesthesia

Presentation by Adam Sherk at CAHSPR 2014



# Expert Advisory Panel

- Dr. Robert Barsky
  - Fellow in Pediatric Dentistry, Royal College of Dentists of Canada
- Dr. Carlos Quiñonez
  - Assistant Professor and Program Director, Dental Public Health, Faculty of Dentistry, University of Toronto
- Dr. Bob Schroth
  - Assistant Professor, Department of Preventive Dental Science (Faculty of Dentistry) and Department of Pediatrics and Child Health (Faculty of Medicine), University of Manitoba; and Research Scientist, Manitoba Institute of Child Health
- Dr. Luke Shwart
  - Provincial Dental Public Health Officer, Alberta Health Services

# What are Early Childhood Caries?



- **Infectious disease**
- **Primary teeth**
- **Preventable and Reversible**



# Progression of Early Childhood Caries



**Early stage: affects only the enamel**

**Decay progresses and reaches the dentin**



**Decay progresses into the pulp: more intensive treatment such as extractions and fillings are needed**

Treated in the community

Treated in hospital *OR* in the community

# Sources

## **Canadian Institute for Health Information**

FY2010/11 & FY2011/12:

- Discharge Abstract Database (DAD)
- National Ambulatory Care Reporting System (NACRS)
- Canadian MIS (Management Information System) Database (CMDB)
- National Physician Database (NPDB)

# Methods

## **Inclusions:**

- All day surgery records from DAD & NACRS with **both** a diagnosis of dental caries and a dental intervention
- Children 1 to 4 years of age

## **Exclusions:**

- Dental trauma
- Quebec elected to not participate

## **Population-based crude rates:**

- Created using Statistics Canada's population estimates (2011 census) at the national, provincial and health region levels
- Based on child's postal code of residence

# Study Limitations

## Organization of Care:

- Dental procedures generally not covered under the Canada Health Act
- Jurisdictional differences in who qualifies for care
- Care can occur in hospitals or in dental clinics/offices

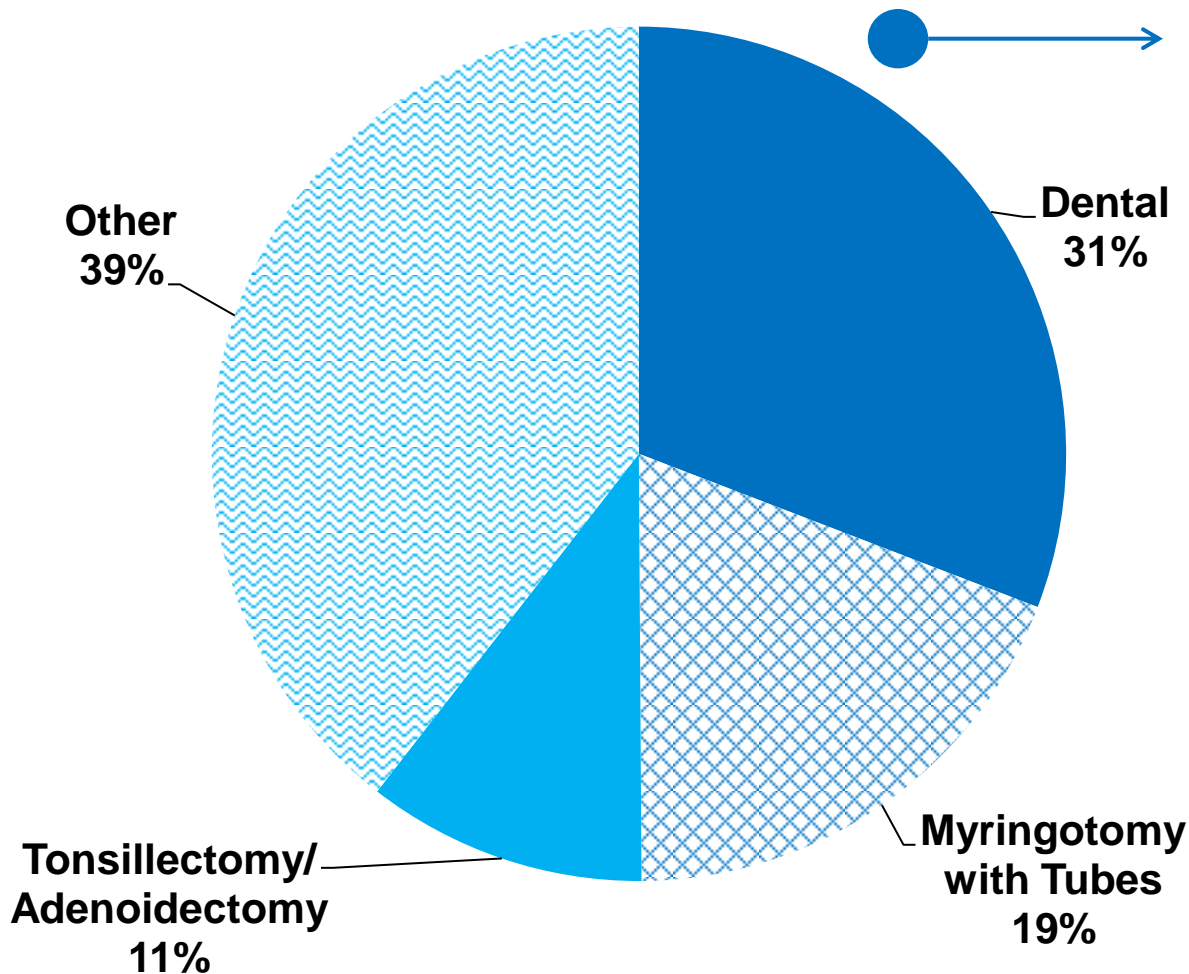
Only the “**tip of the iceberg**” when it comes to estimating the prevalence of Early Childhood Caries



# Highlights of the Report:

- Magnitude of the problem
- Population-based rates for day surgery for ECC
  - Rates by province/territory and health region
- Populations at higher risk
- Travel time
- Cost associated with:
  - Hospital care
  - Anesthesia

# How Often Does Day Surgery for ECC Occur?

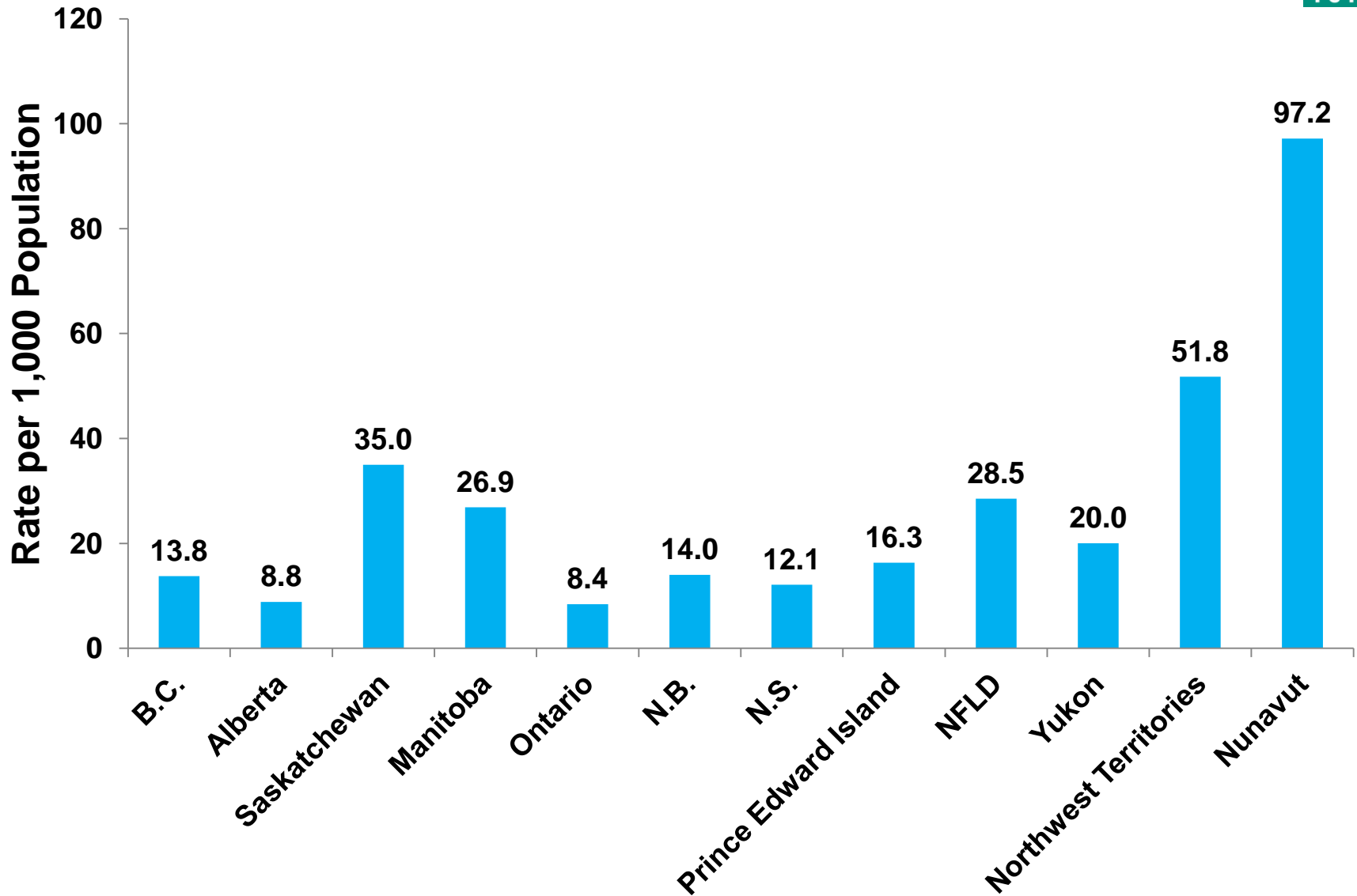


**31%** of day surgery for preschoolers

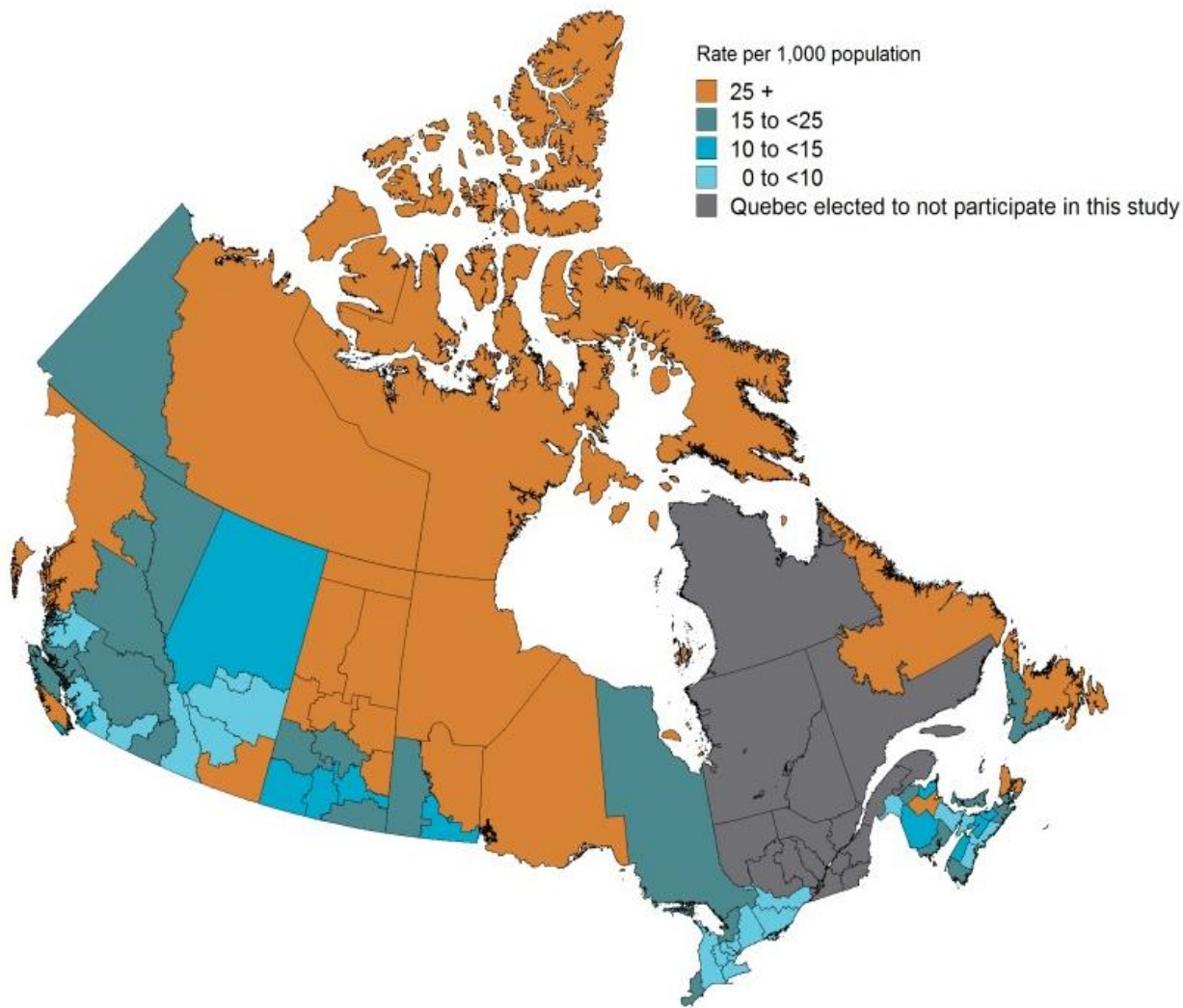
Leading cause of day surgery for children this age

**19,000** day surgeries per year

# Rates of Day Surgery for ECC



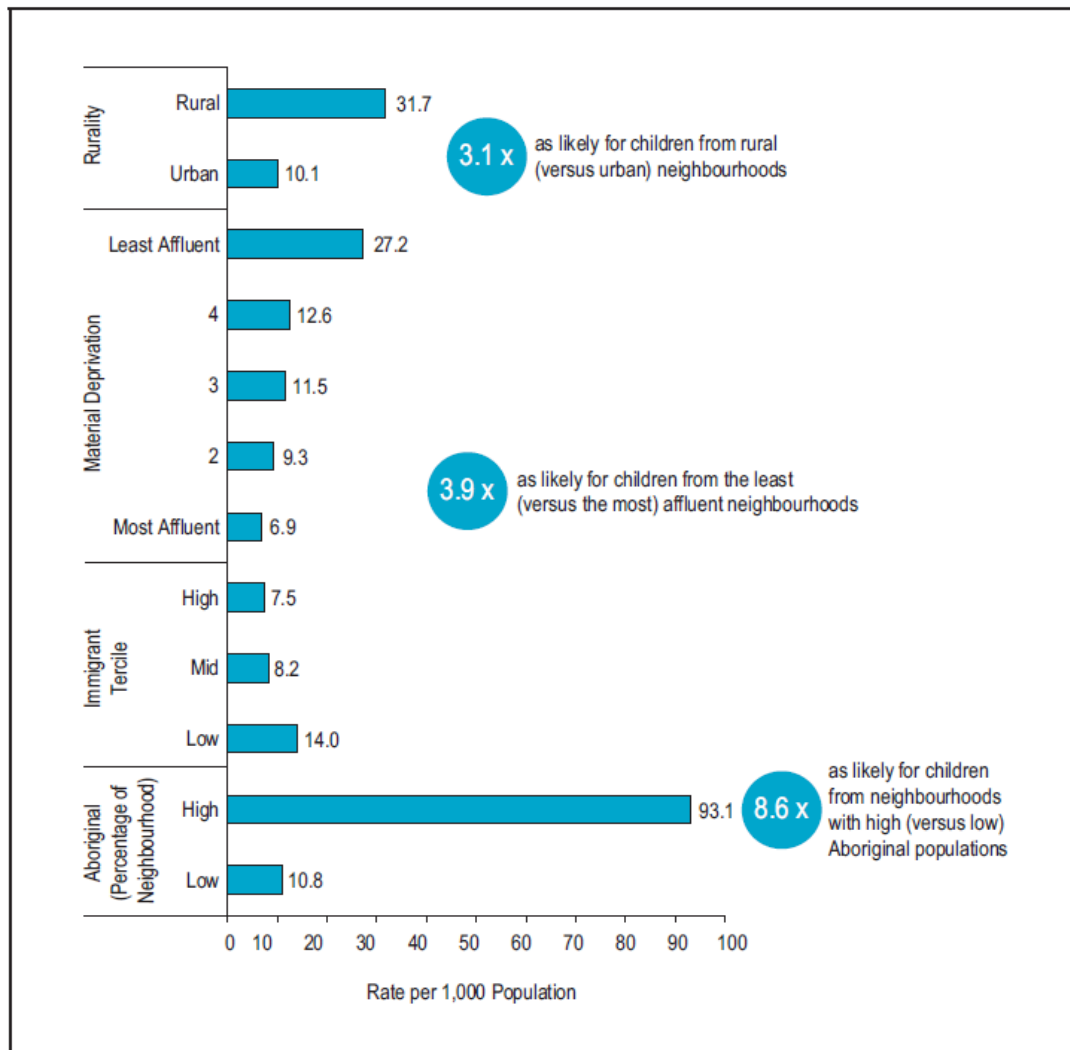
# Rates by Health Region



Regions with rates higher than 1 day surgery for every 10 preschoolers:

- **227.4 per 1,000** in Athabasca, Sask.
- **132.9 per 1,000** in Mamawetan Churchill River, Sask.
- **115.8 per 1,000** in Northern, Man.

# Populations at Higher Risk



Neighbourhoods at higher risk include those which:

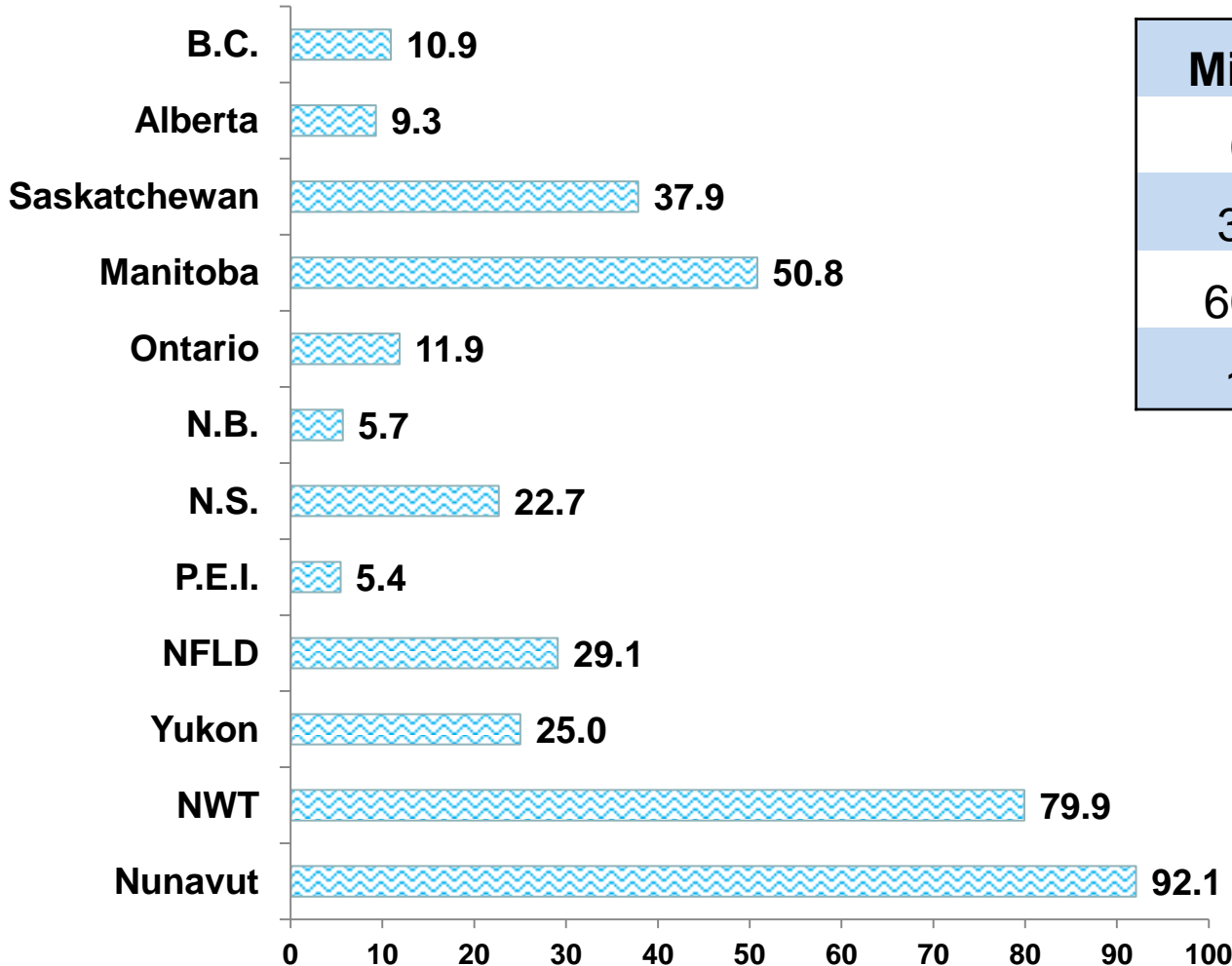
- Have **higher Aboriginal** populations
- Are **more rural**
- Are **more deprived**

Sources  
 Discharge Abstract Database and National Ambulatory Care Reporting System,  
 2010–2011 and 2011–2012, Canadian Institute for Health Information.

# Travel Time to Care



## Percent traveling two hours or more

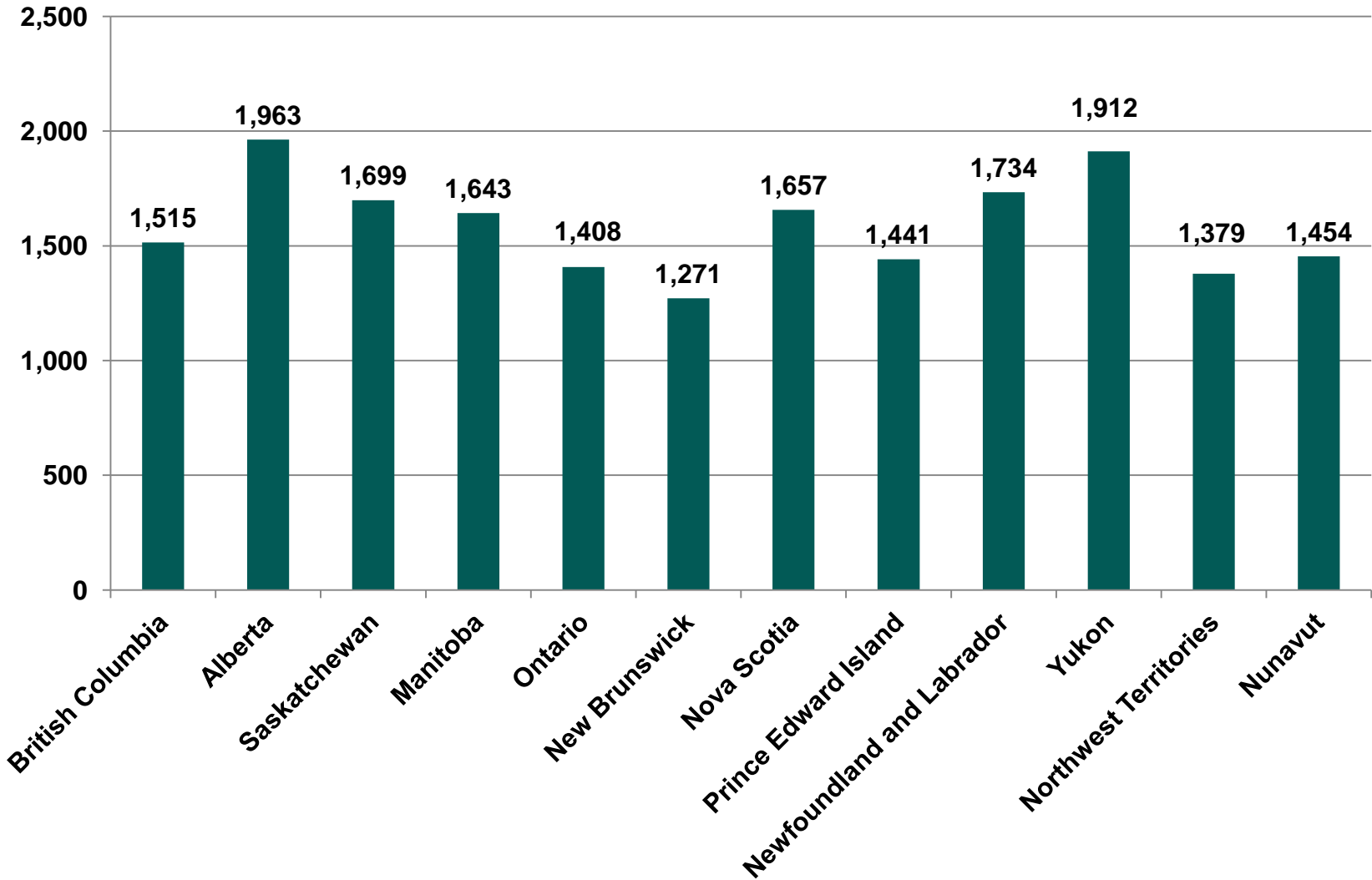


## One-way travel times

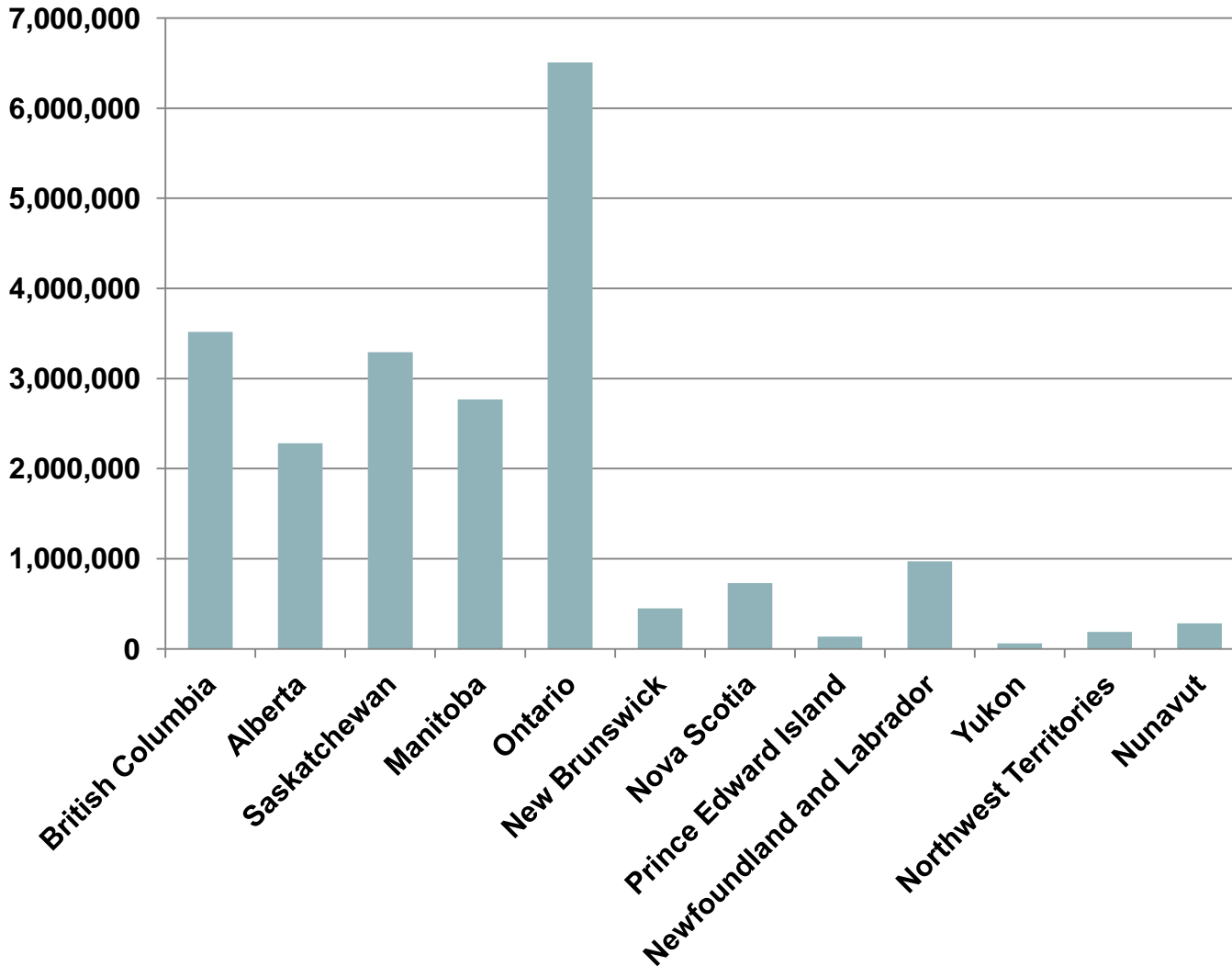
Minutes	% Population
0-30	47.7
30-60	17.5
60-120	12.5
120+	22.3

- F/P/T travel policies may help offset costs

# Average Hospital Cost per Day Surgery



# Annual Hospital Cost



- Total annual cost is **\$21.2 million**



# Cost: Anesthesia Providers

	Average Cost per Day Surgery (\$)
B.C.	267
Alberta	329
Saskatchewan	361
Manitoba	240



Available at  
[www.cihi.ca](http://www.cihi.ca)

- > Report
- > Excel tables for all results, including
  - Province/territory/health region volumes and rates
- > Summary PowerPoint
- > Infosheet

# The National

- Spot aired after the release of the report:

<http://www.cbc.ca/player/News/TV+Shows/The+National/ID/2413295877/?page=3>