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Improving access to oral health care for vulnerable people living in Canada

A Canadian Academy of Health Sciences Report

A Presentation for Public Health Ontario
January 2015
Presentation outline

• Background – what is the CAHS?
• Methods – brief overview of how we obtained data
• Presentation of results
  – Inequalities in oral health status
  – Inequalities in access to dental care
  – Overview of dental care in Canada
• Conclusions and recommendations of report
The Canadian Academy of Health Sciences (CAHS) provides timely, informed and unbiased assessments of urgent issues affecting the health of Canadians. These assessments, which are based on evidence reviews and leading expert opinion, provide conclusions and recommendations in the name of CAHS. (www.cahs-acss.ca)
Charge to the panel

- What is the current state of oral health in Canada?

- What is the current state of Canada’s oral health care system(s)?

- What factors determine the oral health of individuals and communities?

- What are the impacts of poor oral health on individuals and on Canadian society? Are there any identifiable groups among whom these impacts are more severe?

- What measures could be taken to improve the oral health of Canadians?
Special thanks to the panelists

- **Dr. Jim Lund**, former Dean, Faculty of Dentistry, McGill University, who initiated this process but suddenly died and so was not able to complete it.
- **Dr. T. Bailey**, BA, LLB, Health Senior Team Lead, Barrister and Solicitor, Alberta Health Legal and Legislative Services, Justice and Attorney General
- **Dr. L. Beattie**, MD, FRCPC, Professor Emeritus, Division of Geriatric Medicine, Department of Medicine, University of British Columbia
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- **Dr. V. Ravaghi**, BDS, PhD, Postdoctoral Fellow, Faculty of Dentistry, McGill University
- **Dr. J. Steele**, CBE, BDS, PhD, FDS RCPS, FDS Rest dent, Chair of Oral Health Services Research, School of Dental Sciences and Centre for Oral Health Research, Newcastle University, UK
- **Dr. F. Power** MSc, DDS, Assistant Professor, Faculty of Dentistry, McGill University

Canadian Health Measures Survey data
Acknowledgements

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- Canadian Association of Dental Research
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- Faculté de médecine dentaire, Université de Montréal
- Faculty of Dentistry, Dalhousie University
- Faculty of Dentistry, McGill University
- Faculty of Dentistry, University of British Columbia
- Faculty of Dentistry, University of Toronto
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- Institute of Musculoskeletal Health and Arthritis, Canadian Institutes of Health Research
- Nova Scotia Health Research Foundation
- Ordre des dentistes du Québec
- Réseau de recherche en santé buccodentaire et osseuse
- Sunstar GUM
- 3M ESPE
Canadian Health Measures Survey (2007-09)

Collected key information relevant to the health of Canadians in two phases:

1\textsuperscript{st} - household questionnaire
2\textsuperscript{nd} - direct measurements

\textbf{Objectives}

\begin{itemize}
  \item Estimate the numbers of individuals in Canada with selected health conditions, characteristics, exposures
  \item Estimate the distribution and distributional patterns of selected diseases, risk factors and protective characteristics
  \item Monitor trends based on available historical data
  \item Ascertain relationships among risk factors, protection practices, and health status
  \item Explore emerging public health issues
  \item Determine validity of self / proxy data
\end{itemize}
Canadian Health Measures Survey (2007-09)

- Sample size: approximately 5,600 respondents
- 5 Age groups: 6-11, 12-19, 20-39, 40-59, 60-79
- 2 year collection (March 2007 – February 2009)
- 15 sites (350 to 375 respondents per site)
- 1 collection team (various team members)
- Department of National Defence linkages
- First Nations/Inuit Involvement in sub group studies
Canadian Health Measures Survey (2007-09)

• Self / Proxy
  ▪ Health Status
  ▪ Nutrition and Food Consumption
  ▪ Medication Use
  ▪ Health Behaviours
  ▪ Childhood Development
  ▪ Environmental Factors
  ▪ Socio-Economic Information

• Physical
  ▪ Anthropometry
  ▪ Cardio-respiratory Fitness
  ▪ Musculoskeletal Fitness
  ▪ Physical Activity
  ▪ Oral Health Exam
  ▪ Biological Sample collection
Canadian Health Measures Survey (2007-09)

- QUESTIONS;
- DIRECT PHYSICAL MEASURES;
- BIOPHYSICAL ANALYTES;
- ENVIRONMENT CANADA WEATHER/POLLUTION INDICATORS;
- CONSENT TO LINK WITH PROVINCIAL HEALTH RECORDS.
Overall *oral health status* indicators:

- 6.4% have no teeth
- 19.7% of Canadian adults (aged 20-79yrs) have untreated dental decay
- 20% of Canadian adults have gum disease
- 11.6% reported dental or oral pain in the past 12 mths
- 12.2% reported avoiding certain foods in the past 12 mths because of problems with their teeth or mouth
CHMS 2007-09 Results

Overall *access to dental care* indicators:

- 74.5% of Canadians visited a dentist in the previous year
- 62% of Canadians have private dental insurance
- 6% have public insurance
- 32% have no insurance i.e. they pay for dental care out of pocket
- 17.3% of Canadians have avoided visiting the dentist because of cost
CHMS 2007-09 Results

• These findings are a great improvement in oral health status compared to the 1972 survey.

• They are also comparable with oral health elsewhere in the western world.

• But they mask strong inequalities in both oral health and oral health care.
Principal findings: significant inequalities in child oral health status

Percentage of children and adolescents living in Canada experiencing dental pain in the past 12 mths

- Highest income: 5%
- Upper middle income: 7%
- Middle income: 11%
- Lower middle/lowest income: 15%
Principal findings: significant inequalities in child oral health status

Percentage of children and adolescents living in Canada experiencing dental pain in past 12 mths

- Lives in owned household: 7%
- Lives in non-owned household: 12%

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Principal findings: significant inequalities in adult oral health status.

**Principal findings:**

#### Significant inequalities in adult oral health status

<table>
<thead>
<tr>
<th></th>
<th>Lowest income quintile</th>
<th>2nd quintile</th>
<th>3rd quintile</th>
<th>4th quintile</th>
<th>Highest income quintile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental pain</td>
<td>17%</td>
<td>11%</td>
<td>10%</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Having difficulty eating food</td>
<td>23%</td>
<td>21%</td>
<td>20%</td>
<td>18%</td>
<td>16%</td>
</tr>
</tbody>
</table>

**Legend:**
- Lowest income quintile
- 2nd quintile
- 3rd quintile
- 4th quintile
- Highest income quintile
Principal findings: significant inequalities in adult oral health status

Decayed teeth

- Lowest income quintile: 1.0
- 2nd quintile: 0.5
- 3rd quintile: 0.4
- 4th quintile: 0.3
- Highest income quintile: 0.4

Missing teeth

- Lowest income quintile: 2.2
- 2nd quintile: 1.8
- 3rd quintile: 1.5
- 4th quintile: 1.5
- Highest income quintile: 1.6
Principal findings: inequality in access to dental care

- Percentage avoiding dentist because of cost:
  - Highest income: 10%
  - Upper middle income: 24%
  - Middle income: 43%
  - Lower middle/lowest income: 43%

- Percentage with emergency pattern of dental visit:
  - Highest income: 9%
  - Upper middle income: 19%
  - Middle income: 30%
  - Lower middle/lowest income: 28%

- Percentage not visiting dentist in past year:
  - Highest income: 17%
  - Upper middle income: 35%
  - Middle income: 50%
  - Lower middle/lowest income: 42%

- Percentage with no insurance:
  - Highest income: 18%
  - Upper middle income: 35%
  - Middle income: 49%
  - Lower middle/lowest income: 45%

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Principal findings: inequality in dental insurance

Those *without dental insurance* by age group and family income level

- **6-11yrs**: 21.3%
- **12-19yrs**: 22.3%
- **20-39yrs**: 29.8%
- **40-59yrs**: 28.6%
- **60-79yrs**: 53.2%

- **higher income**: 19.8%
- **middle income**: 36.5%
- **lower income**: 49.8%
Concentration Index

Cumulative % of population, ranked from poorest to richest

Decayed teeth

Line of equality

Cumulative % of outcome variable
Concentration index & oral health

- Decayed teeth
  - Male: -0.206
  - Female: -0.365
  - Total population: -0.264

- Missing teeth
  - Male: -0.095
  - Female: -0.21
  - Total population: -0.157

- Filled teeth
  - Male: 0.092
  - Female: 0.085
  - Total population: 0.085

- Oral pain
  - Male: -0.041
  - Female: -0.158
  - Total population: -0.121

- Periodontal disease
  - Male: -0.12
  - Female: -0.107
  - Total population: -0.1-0.107
## Oral health inequality distribution

<table>
<thead>
<tr>
<th>Equivalized household income</th>
<th>Mean</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Decayed teeth</td>
<td>Missing teeth</td>
</tr>
<tr>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Lowest income</td>
<td>1.14</td>
<td>1.74</td>
</tr>
<tr>
<td>2nd quintile</td>
<td>0.66</td>
<td>1.60</td>
</tr>
<tr>
<td>3rd quintile</td>
<td>0.53</td>
<td>1.46</td>
</tr>
<tr>
<td>4th quintile</td>
<td>0.29</td>
<td>1.22</td>
</tr>
<tr>
<td>Highest income</td>
<td>0.47</td>
<td>1.79</td>
</tr>
<tr>
<td>Range</td>
<td>0.67</td>
<td>0.05</td>
</tr>
<tr>
<td>Multiple</td>
<td>2.4</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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**Note:**
- Equivalized household income categories reflect income quintiles, with the highest income at the bottom and the lowest income at the top.
- The table presents data for both males and females across different income quintiles, with mean values for decayed teeth, missing teeth, and dental pain, along with their respective proportions.
Concentration Index: oral and general health

<table>
<thead>
<tr>
<th>General health indicators</th>
<th>Health Indicator</th>
<th>Concentration Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obesity</td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td>High blood pressure</td>
<td>-0.04</td>
<td></td>
</tr>
<tr>
<td>Oral health indicators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decayed teeth</td>
<td>-0.26</td>
<td></td>
</tr>
<tr>
<td>Missing teeth</td>
<td>-0.15</td>
<td></td>
</tr>
</tbody>
</table>
### Determinants of inequalities in oral health and disease: decomposition analysis

<table>
<thead>
<tr>
<th></th>
<th>Socioeconomic status</th>
<th>Access to oral health care</th>
<th>Oral health behaviours</th>
<th>Total Inequality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decayed teeth</strong></td>
<td>-0.075 (30.2%)</td>
<td>-0.146 (58.9%)</td>
<td>-0.027 (10.9%)</td>
<td>-0.248</td>
</tr>
<tr>
<td><strong>Missing teeth</strong></td>
<td>-0.077 (48.7%)</td>
<td>-0.016 (7.6%)</td>
<td>-0.012 (7.6%)</td>
<td>-0.158</td>
</tr>
<tr>
<td><strong>Dental pain</strong></td>
<td>-0.065 (49.6%)</td>
<td>-0.059 (45.0%)</td>
<td>-0.007 (5.3%)</td>
<td>-0.131</td>
</tr>
<tr>
<td><strong>Having difficulty eating food</strong></td>
<td>-0.021 (30.0%)</td>
<td>-0.044 (62.8%)</td>
<td>-0.005 (7.1%)</td>
<td>-0.070</td>
</tr>
</tbody>
</table>
Consultation with dentist or family physician by level of health, Canada, 2010

Sabbah et al, 2012
Total health and dental care expenditures, by source of finance, Canada, 2013 ($ Billions)

<table>
<thead>
<tr>
<th></th>
<th>Public sector</th>
<th>Private sector</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health care</td>
<td>148.2 (70%)</td>
<td>63.1 (30%)</td>
<td>211.2 (100%)</td>
</tr>
<tr>
<td>Dental care</td>
<td>0.8 (6%)</td>
<td>11.8 (94%)</td>
<td>12.6 (100%)</td>
</tr>
</tbody>
</table>

Source: National Health Expenditure Database, Canadian Institute for Health Information
Total private dental care expenditures, by source of finance, Canada, 2011 ($ Millions)

<table>
<thead>
<tr>
<th></th>
<th>Out-of-pocket</th>
<th>Insurance</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental care</td>
<td>4.6 (41%)</td>
<td>6.6 (59%)</td>
<td>11.2 (100%)</td>
</tr>
</tbody>
</table>

Source: National Health Expenditure Database, Canadian Institute for Health Information
# Dental care spending and the public share, select OECD nations, 2009

<table>
<thead>
<tr>
<th>Nation</th>
<th>Total spending on dental care per capita (US$ PPP)</th>
<th>Public spending as a percentage of total dental care spending (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>170.6</td>
<td>76.6</td>
</tr>
<tr>
<td>Sweden</td>
<td>275.8</td>
<td>41.0</td>
</tr>
<tr>
<td>Australia</td>
<td>241.1</td>
<td>24.6</td>
</tr>
<tr>
<td>United States</td>
<td>333.3</td>
<td>9.5</td>
</tr>
<tr>
<td>Canada</td>
<td>300.5</td>
<td>5.4</td>
</tr>
<tr>
<td>Spain</td>
<td>152.4</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Source: OECD.Stat
Determinants of oral health and disease

(Watt & Sheiham, 2010)
Conclusions: In Canada......

• There are significant inequalities in oral health
• There are significant inequalities in access to dental care
• Those with the greatest burden of disease (*the most vulnerable groups living in Canada*) have the greatest barriers to obtaining care
• The predominantly private dental care model does not work for these groups
Conclusions: In Canada......

- ........ tax legislation helps reduce the financial burden of dental care for those with private dental insurance. Those without such insurance do not have this benefit, yet these are the groups with the highest levels of disease and the greatest difficulty accessing dental care.
Conclusions: In Canada......

Although the affordability of oral health care is certainly an important barrier, it is not the only one. The CAHS investigation found evidence for other problems, including:

• The lack of integration of dental professionals into public institutions delivering other health and social services, with a lack of options and versatility in the workforce;

• The organization of dental and other health care professions, including their scope of practice, does not facilitate equitable access to oral health care; and

• The lack of national oral health care standards to ensure reasonable access to an agreed quality of oral health care for all people living in Canada, regardless of their situation.
Vision

The Panel envisions equity* in access to oral health care for all people living in Canada.

* By equity in access, the Panel means reasonable access, based on need for care, to agreed-upon standards of preventive and restorative oral health care (a concept from the Health Canada Act)

• Or put another way......
  – “let’s put the mouth back into the body”
Recommendations:

• Communicate with relevant stakeholders concerning the core problems raised in the report.

• Establish appropriate standards of preventive and restorative oral health care to which all people living in Canada should have reasonable access.

• Identify the health care delivery systems and the personnel necessary to provide these standards of oral health care.

• Identify how provision of these standards of preventive and restorative oral health care will be financed.

• Identify the research and evaluation systems that monitor the effects of putting these recommendations into place.
Thank you.

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