



SOCIETY OF
ACTUARIES®

2019 **ANNUAL
MEETING**
& EXHIBIT

October 27-30
Toronto, Canada

Session 079: Canadian vs. U.S. Health Care: A Study in Contrasts

[SOA Antitrust Compliance Guidelines](#)

[SOA Presentation Disclaimer](#)

2019 Annual Meeting

KAREN SHELTON

Session 79, Canadian vs. U.S. Health Care Systems

October 29, 2019



SOCIETY OF ACTUARIES

Antitrust Compliance Guidelines

Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants.

The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

There is no safe harbor under the antitrust law for professional association activities. Therefore, association meeting participants should refrain from discussing any activity that could potentially be construed as having an anti-competitive effect. Discussions relating to product or service pricing, market allocations, membership restrictions, product standardization or other conditions on trade could arguably be perceived as a restraint on trade and may expose the SOA and its members to antitrust enforcement procedures.

While participating in all SOA in person meetings, webinars, teleconferences or side discussions, you should avoid discussing competitively sensitive information with competitors and follow these guidelines:

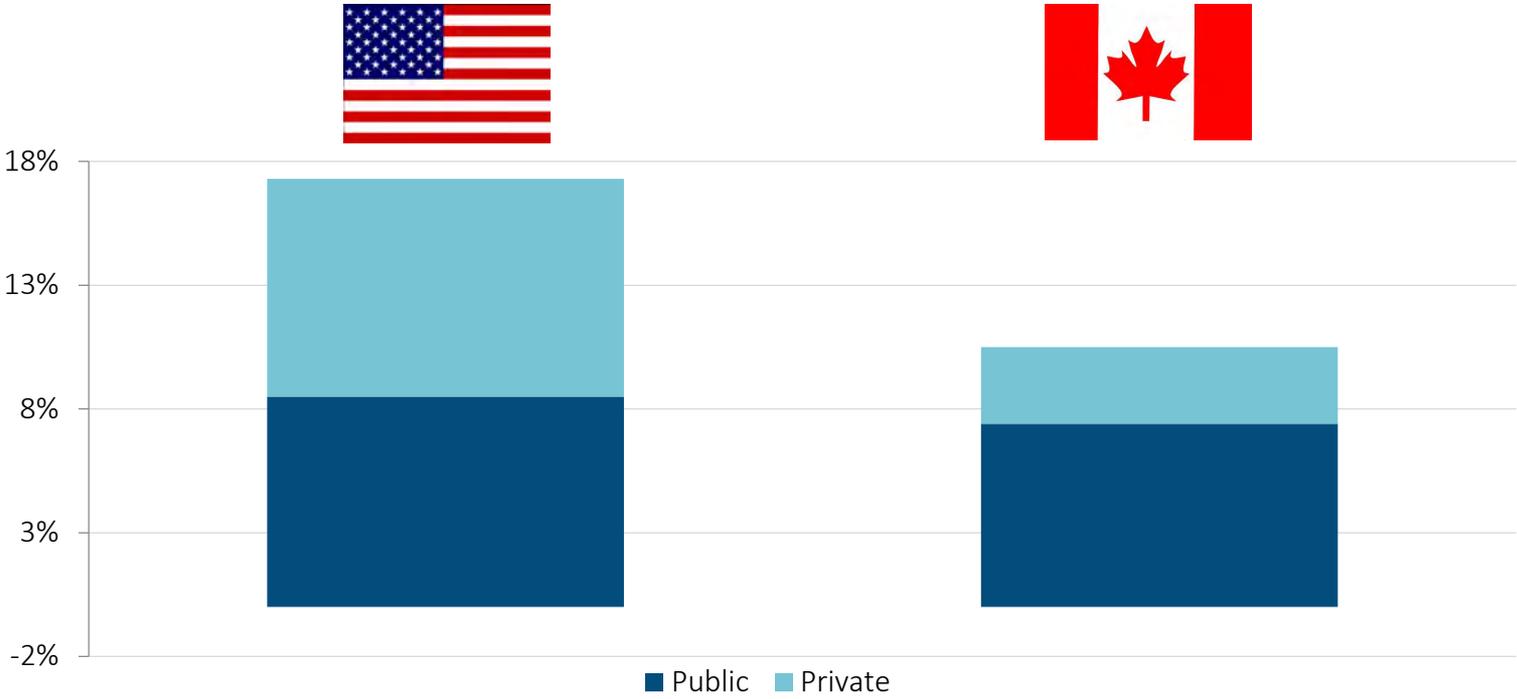
- **Do not** discuss prices for services or products or anything else that might affect prices
- **Do not** discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- **Do not** speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- **Do** leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- **Do** alert SOA staff and/or legal counsel to any concerning discussions
- **Do** consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior which might be so construed. These guidelines only provide an overview of prohibited activities. SOA legal counsel reviews meeting agenda and materials as deemed appropriate and any discussion that departs from the formal agenda should be scrutinized carefully. Antitrust compliance is everyone's responsibility; however, please seek legal counsel if you have any questions or concerns.

Presentation Disclaimer

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Total Health Expenditures as Percent of GDP by Public vs. Private Spending, 2016



Source: Kaiser Family Foundation analysis of OECD data (Kaiser-Peterson Health System Tracker)

Kurt Wrobel
Geisinger Health Plan



Ella Young
Provincial Health
Services Authority

What to Expect

- Canadian System Overview
- U.S. System Overview
- Moderated Q & A
session attendees are welcome to participate



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U.S. Health Care Background

Kurt J. Wrobel, FSA, MAAA

Key U.S. Healthcare Highlights

- Significant Government Involvement
 - Explicit: Medicare and Medicaid
 - Implicit: Tax advantaged spending for commercial plans; patent and regulatory protection for pharmaceuticals
- Significant non-profit presence
- Choice among competing health plans
 - Higher administrative costs

Key U.S. Healthcare Highlights

- Several different programs provide insurance protection depending on age, income, and employment
 - Complexity
- System encourages greater resource allocation toward health care services
 - Fee-for-service still important
 - 3rd party payment encourages greater utilization
 - Cultural willingness to spend money on premiums and cost sharing

Summary of Government Programs

- Medicare – Over 65; Financed by the federal government
 - Choice of the fee-for-service (FFS) government run program and competing health plans
 - Health plans bid below a FFS benchmark and use the difference to provide additional benefits to members
 - Premiums and cost sharing
- Medicaid – Income and condition based criteria; financed by the federal government and states
 - Choice of competing health plans (in most states)
 - Limited cost sharing

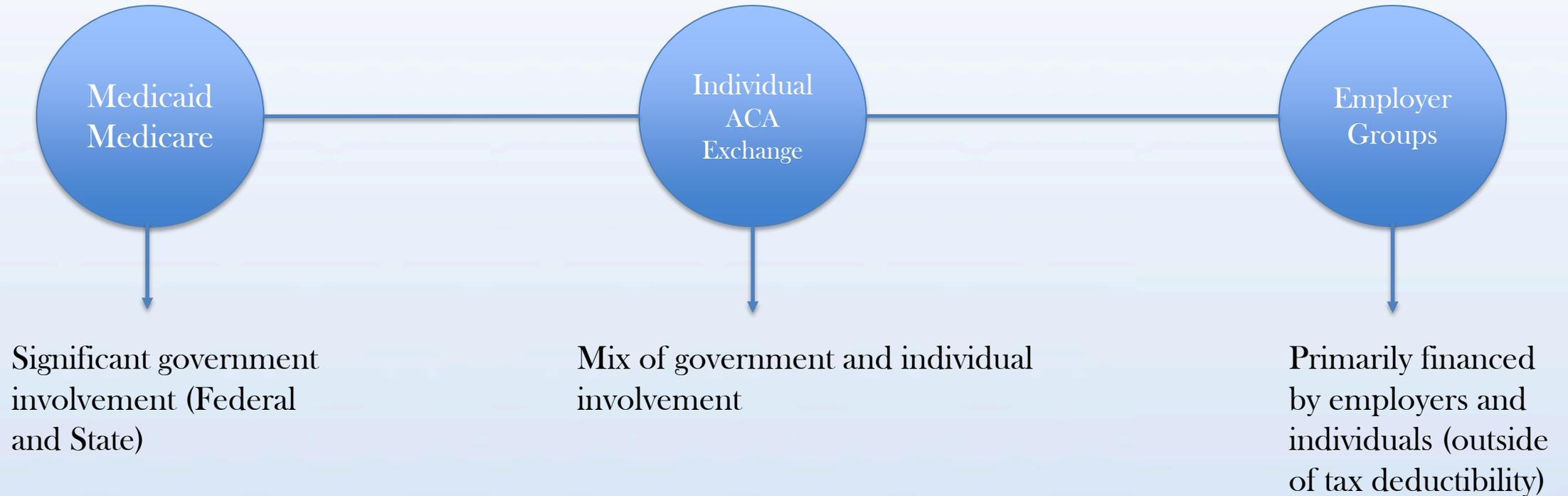
Summary of Private Programs

- Large Employer - obtain health care through employment status
 - Employers choose the health plan and offer multiple plan options with different employee contributions
 - Health care premiums are provided tax free to the individual
 - Premiums match the medical cost of the group or are self funded by the employer
- Small Group - similar to large group except fully insured premiums do not vary based on health status (risk adjustment used instead)

ACA Individual Market

- Guaranteed Issue
- Income based subsidy up to 400% of the federal poverty level
- Premiums are not adjusted based on health status
- Complex risk adjustment process

U.S. Health Care System Insurance Programs



Summary of Key Data

| U.S. Health Care System | Data | Source |
|---|--|-------------------------------------|
| Members enrolled by major insurance program (2017) | Employer (49%), Non Group (7%), Medicaid (24%), Medicare (14%), Other (1%), Uninsured (9%) | Kaiser Family Foundation |
| U.S. Spend by Major Programs | Medicare (28%); Medicaid (24%); Private (48%) | CMS |
| U.S. Administrative Cost Relative to Canada | U.S (8.3%); Canada (2.7%) | Center for American Progress |
| Value of Tax Deductibility of employer sponsored coverage | \$280 Billion (24% of total spend) | Urban Institute Brookings Institute |
| Percentage of Non-Profit Hospitals (2017) | 58% Registered Hospitals are non-profit , 21% for profit, 20% State Owned | American Hospital Association |

Summary of Key Data

| U.S. Health Care System | Data | Source |
|---|---|-----------------------------------|
| Rx Patent Protection | Average length: 12-14 years; 72% of drug spend is on branded drugs; Price reduction of 38%-48% after going off patent | National Bureau Economic Research |
| Number of states with Medicaid expansion | 37 states | Kaiser Family Foundation |
| Medicaid MCO use of payment to promote access to care | 66% | Kaiser Family Foundation |
| Self Funded v. Fully Insured financing for large groups | 61% of workers are in a plan that is full or partially funded | Kaiser Family Foundation |
| Medicare Advantage Plans participation | 34% of all enrollees | Kaiser Family Foundation |
| Uninsured Rate | 44M (2013) to 27M (2017); Income composition of the uninsured: 400% of FDL (18%); 200% -399% (35%); 100%-199% (29%); <100% (18%); 25% non-citizen | Kaiser Family Foundation |

The ACA Market and Complexity

Individual ACA subsidies

- 2nd lowest silver plan determines subsidy

| ACA component | Plan 1 | Plan 2 | Plan 3 |
|--|--------|--------|--------|
| Full premium | \$300 | \$325 | \$350 |
| Subsidy amount (based on the second-lowest silver plan) | \$268 | \$268 | \$268 |
| Monthly net premium (150% of Federal Poverty Level) | \$32 | \$57 | \$82 |
| % of income | 2.2% | 4.0% | 5.7% |



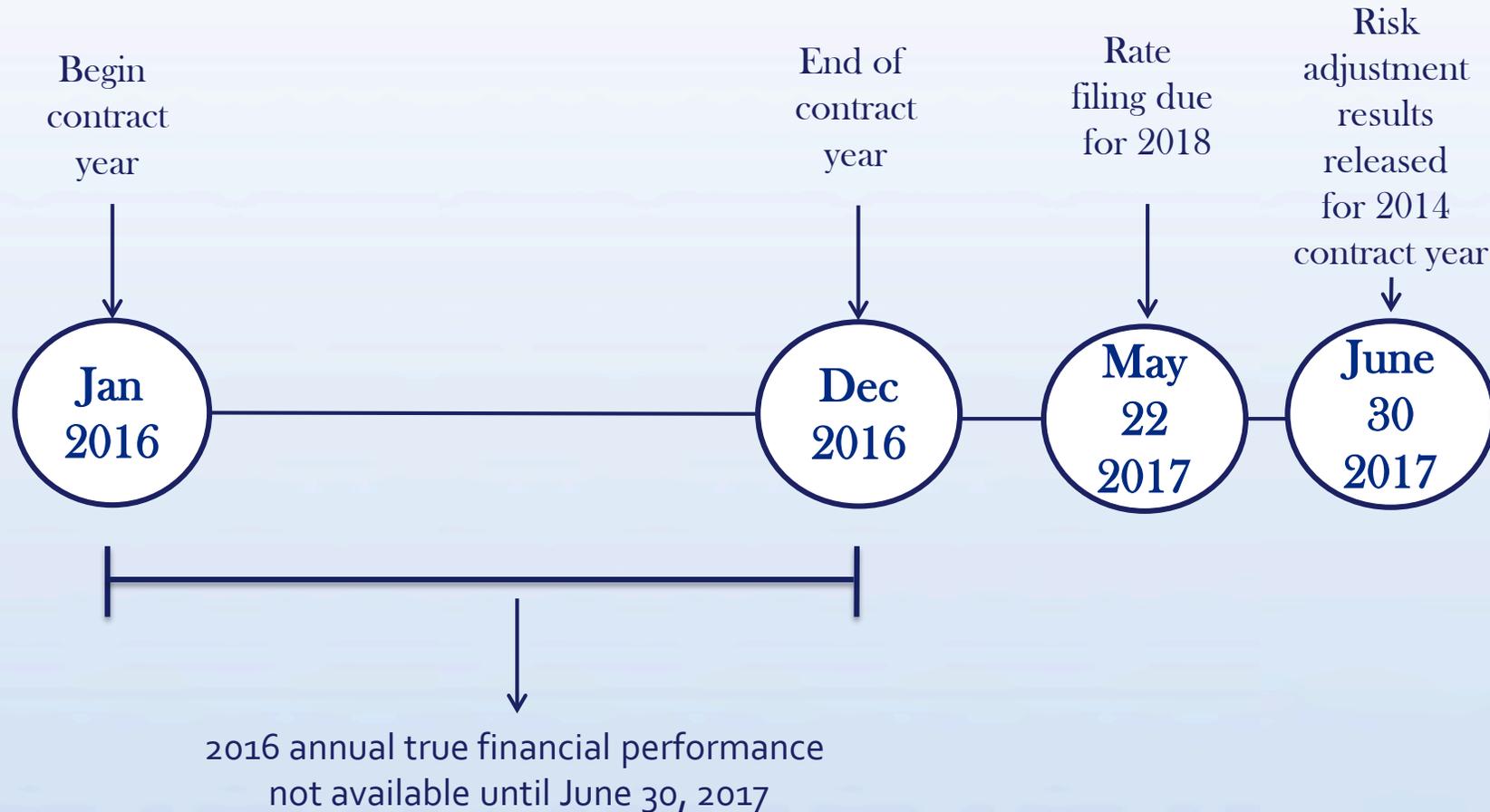
Benchmark plan

Individual ACA subsidies

| ACA component | Plan 1 | Plan 2 | Plan 3 |
|--|--------|--------|--------|
| Full premium | \$320 | \$325 | \$295 |
| Percentage change from 2014/Rate increase | 7% | 0% | -16% |
| Subsidy amount (based on second-lowest silver plan) | \$263 | \$263 | \$263 |
| 2015 net premium | \$57 | \$62 | \$32 |
| 2014 Monthly net premium (150% of FPL) | \$32 | \$57 | \$82 |
| % Net premium change from 2014 | 78% | 9.0% | -61% |

↑
Impact of subsidy change

ACA Risk adjustment



Analytic Analysis

Building Blocks for good analytic decision making and research



Accurate and sufficient data necessary to answer the research question



Objective analysis free from bias.
Opportunity to constantly refine analysis (limits confirmation bias)
Technically sound



Rational decision-making based on objective data analysis. Effective presentation of data.

Cross Country Health Care Research



Control Variables for the U.S. Population

- Homicides
- Suicides
- High speed vehicle accidents
- Obesity (Diet)
- Infertility Treatment

Average Life Expectancy by Country

| OECD Nations | Actual Mean Life Expectancy at Birth, 1980-1999 |
|----------------------|---|
| Japan | 78.7 |
| Iceland | 78.0 |
| Sweden | 77.7 |
| Switzerland | 77.6 |
| Canada | 77.3 |
| Spain | 77.3 |
| Greece | 77.1 |
| Netherlands | 77.0 |
| Norway | 77.0 |
| Australia | 76.8 |
| Italy | 76.6 |
| France | 76.6 |
| Belgium | 75.7 |
| United Kingdom | 75.6 |
| Germany | 75.4 |
| Finland | 75.4 |
| New Zealand | 75.4 |
| Austria | 75.3 |
| United States | 75.3 |
| Denmark | 75.1 |
| Ireland | 74.8 |
| Portugal | 73.9 |
| Czech Republic | 72.2 |
| Slovak Republic | 71.6 |
| Poland | 71.5 |
| Korea | 71.1 |
| Mexico | 70.9 |
| Hungary | 69.7 |
| Turkey | 64.4 |

| OECD Nations | Standardized Mean Life Expectancy at Birth, 1980-1999 (accounting for fatal injuries) |
|----------------------|---|
| United States | 76.9 |
| Switzerland | 76.6 |
| Norway | 76.3 |
| Canada | 76.2 |
| Iceland | 76.1 |
| Sweden | 76.1 |
| Germany | 76.1 |
| Denmark | 76.1 |
| Japan | 76.0 |
| Australia | 76.0 |
| France | 76.0 |
| Belgium | 76.0 |
| Austria | 76.0 |
| Netherlands | 75.9 |
| Italy | 75.7 |
| United Kingdom | 75.8 |
| Finland | 75.7 |
| New Zealand | 75.4 |
| Czech Republic | 75.1 |
| Ireland | 75.0 |
| Spain | 74.9 |
| Slovak Republic | 74.4 |
| Greece | 74.4 |
| Portugal | 74.3 |
| Hungary | 74.3 |
| Korea | 73.3 |
| Poland | 73.2 |
| Mexico | 72.8 |
| Turkey | 72.0 |

Quality Metrics

- Survival Rates
- Preventive Treatments
- Access and wait times
- Access to new technology and pharmaceuticals

Canada and USA Healthcare Systems

SOA Annual Meeting, 2019, Toronto

A Canadian Health Care System?

Canada has 15 different health care systems



Plus

Aboriginal
Healthcare

Veteran health care

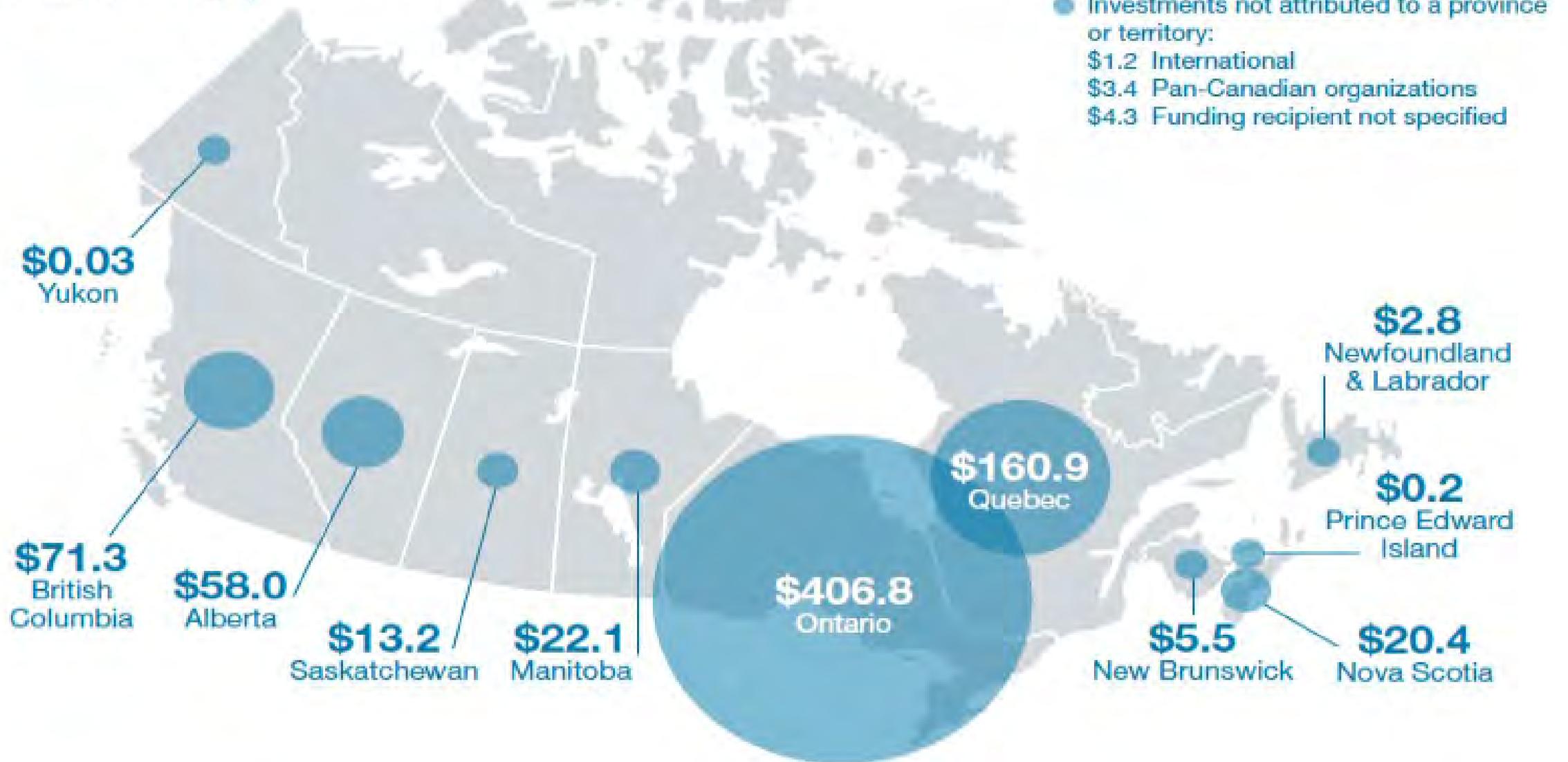
Provinces and territories of Canada

How Healthcare Evolved in Canada

- The Constitution Act of 1867 (formerly called the British North America Act) did not give either the federal or provincial governments responsibility for healthcare, as it was then a minor concern. However, the Act did give the provinces responsibility for regulating hospitals, and the provinces claimed that their general responsibility for local and private matters encompassed healthcare
- The federal government felt that the health of the population fell under the *'Peace, Order and Good Government'* part of its responsibilities. This led to several decades of debate over jurisdiction that were not resolved until the 1930s. Eventually, it was decided that the administration and delivery of healthcare was a provincial concern, but that the federal government also had the responsibility of protecting the health and well-being of the population
- Finally, all provinces were required to meet the general guidelines laid out in the federal Canada Health Act of 1984
- The federal government directly administers health to groups such as the military, inmates of federal prisons, and some care to the RCMP and veterans

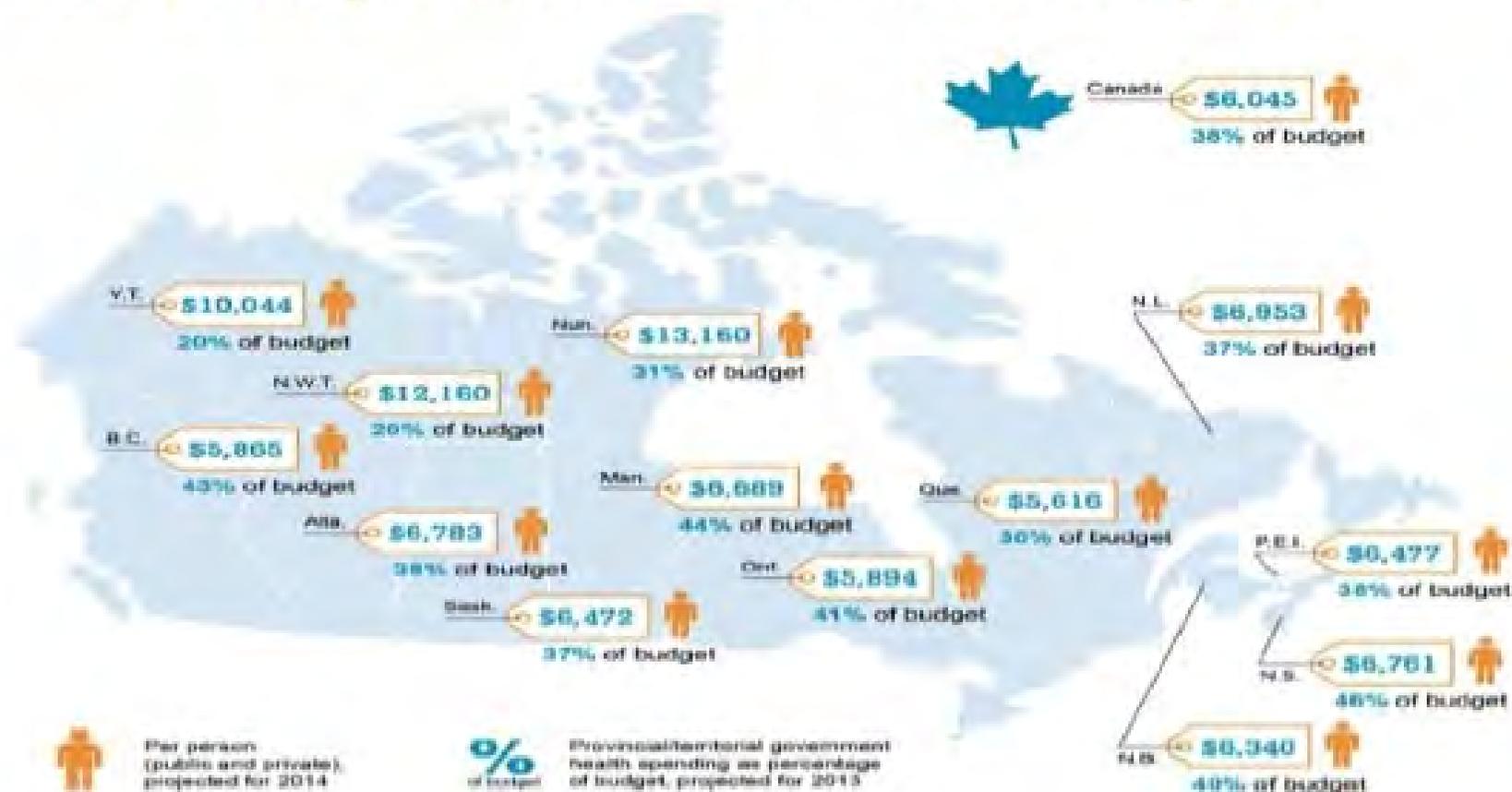
CANADIAN OVERVIEW

Total invested: **\$770 million**
(in millions of dollars)



Per Capita Health Spending in Canada in 2014

How do the provinces and territories compare?

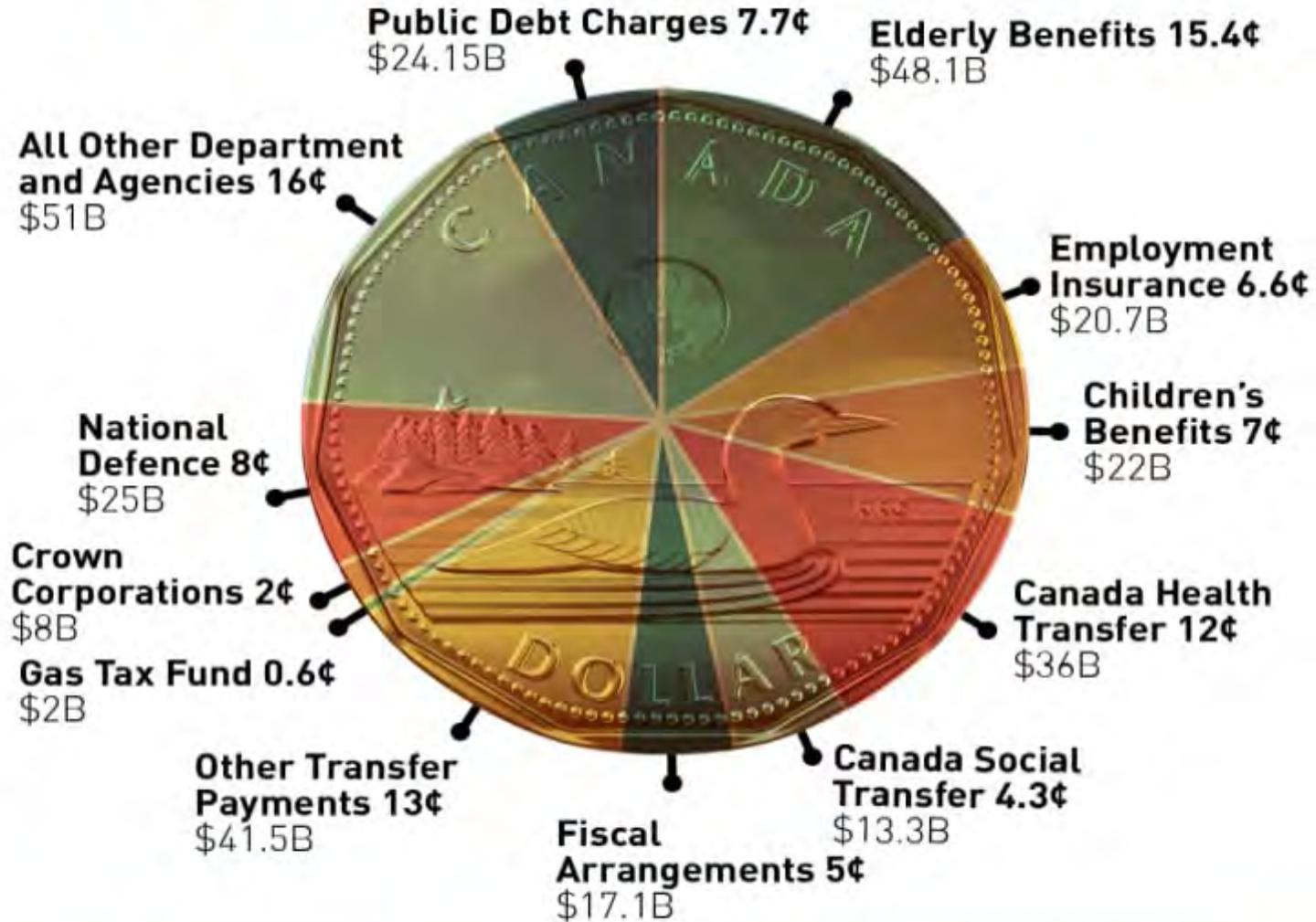


Source: Canadian Institute for Health Information, *National Health Expenditure Trends, 1975 to 2014*

Cost Sharing – ‘Universal-esque’

- Taxation – 70%
 - Hospitals
 - *Physicians*
- Out of pocket /private insurance – 30%:
 - Pharmacy
 - LTC
 - Home Care
 - Private Rooms
 - Dental Care

WHERE YOUR TAX DOLLAR GOES 2016-17



CBCnews.ca

source: Department of Finance Canada

How does Canada compare internationally?

2015

(year of most recent available data)



Per person (\$CA PPP)



Public

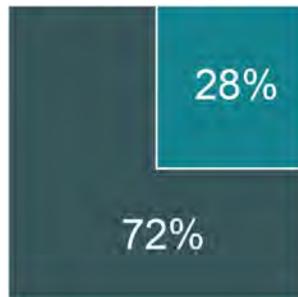


Private

OECD average

8.9% of GDP

\$4,826



United States

16.9% of GDP

\$11,916



France

11.1% of GDP

\$5,677



Germany

11.2% of GDP

\$6,709



Sweden

11.0% of GDP

\$6,601



Canada

10.4% of GDP

\$5,782



Netherlands

10.7% of GDP

\$6,639



Australia

9.4% of GDP

\$5,631



New Zealand

9.3% of GDP

\$4,443



United Kingdom

9.9% of GDP

\$5,170



© Canadian Institute for Health Information, 2017

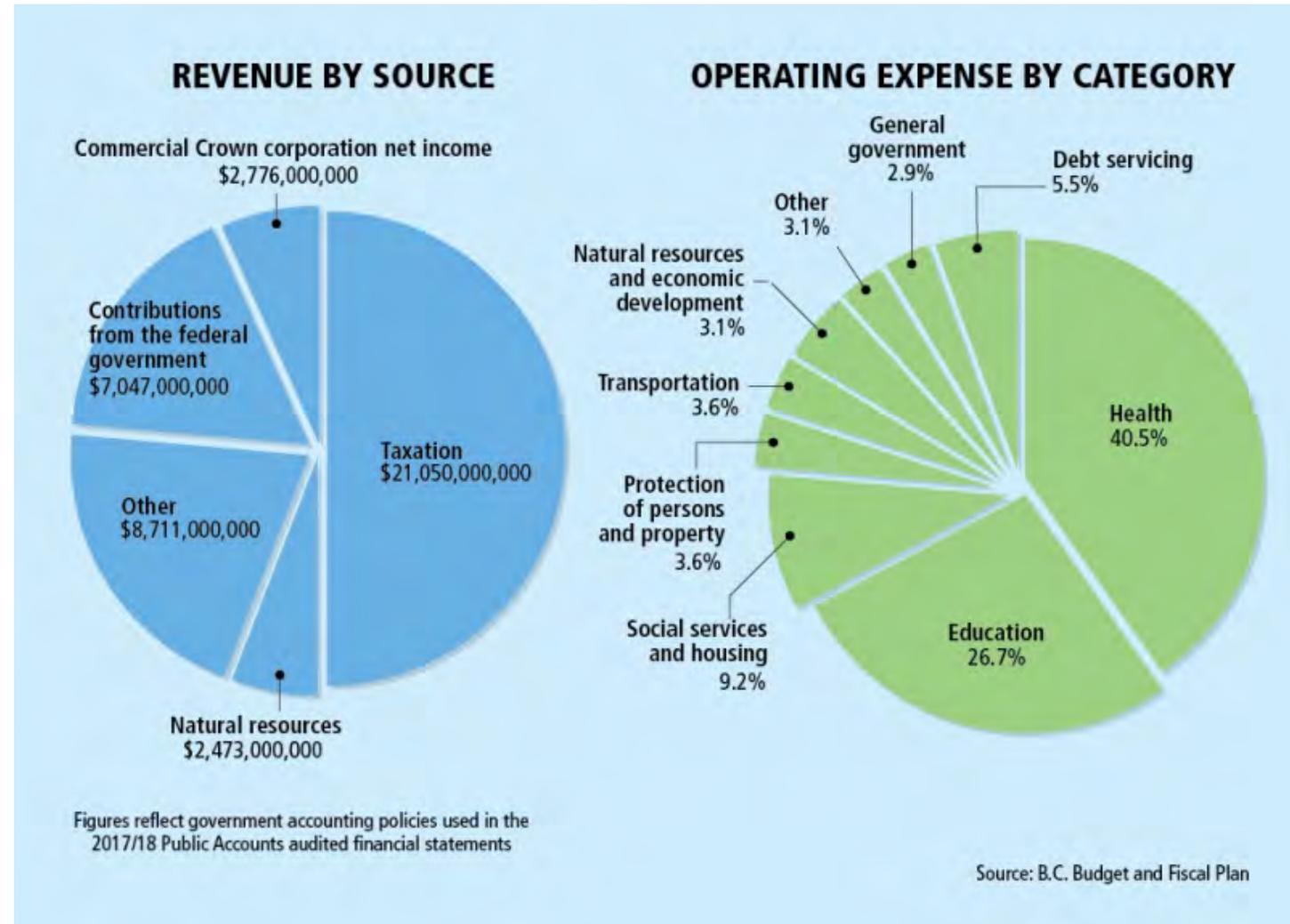
Notes

\$CA PPP: Purchasing power parity in Canadian currency.
Total current expenditure (capital excluded).

Source

Organisation for Economic Co-operation and Development. [OECD Health Statistics 2017](#). 2017.

BC Taxation



Health Care in BC...



- So...
 - One big incentive in Canada is to reduce costs for health systems ... which means reducing utilization ... which means trying to keep people healthy so they don't need services
 - Whereas providers bill FFS ...



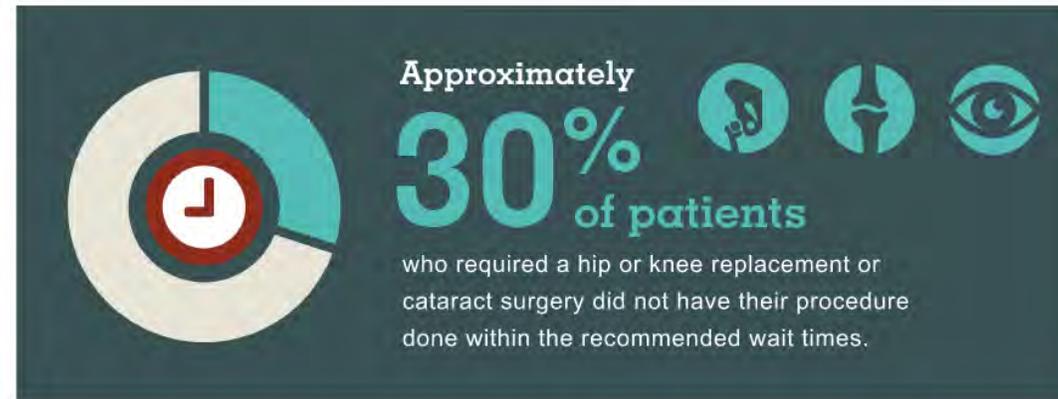
OECD Wait Time Data...

| Wait Times for Common Procedures (Mean Days) | | | | |
|---|----------|-----|------|---------|
| Country/ Province | Cataract | Hip | Knee | Cardiac |
|  Britain | 74 | 104 | 110 | 65 |
|  Ontario | 95 | 118 | 129 | 29 |
|  Nova Scotia | 79 | 154 | 196 | 21 |
|  British Columbia | 63 | 112 | 126 | 10 |
|  Saskatchewan | 38 | 163 | 168 | 4 |

Wait Times...



Wait times for priority procedures in Canada



March 28, 2019 — How long do you have to wait for a joint replacement or cataract surgery in Canada? Learn how many patients received care within medically recommended wait times for priority procedures in our Wait Times tool.

Key findings

- Approximately 30% of patients who required a hip or knee replacement or cataract surgery did not have their procedure done within the recommended wait times.
- Most Canadians continue to receive timely access to urgent procedures such as hip fracture repair and radiation therapy.
- Wait times for cancer surgery are generally stable, with results varying by body site.
- Wait times for diagnostic imaging have generally improved, although wait times for magnetic resonance imaging (MRI) scans continue to be longer than for computed tomography (CT) scans.

Tool: Wait Times

Media release: [Wait times for joint replacements and cataract surgery growing in much of Canada](#)

Media contact: Corinne Ton That

media@cihi.ca

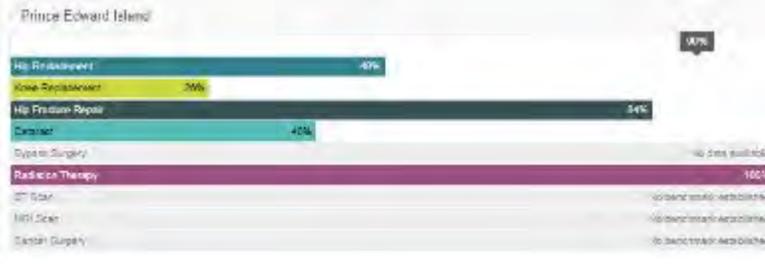
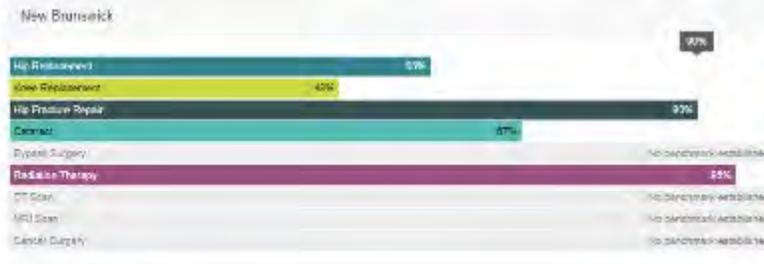
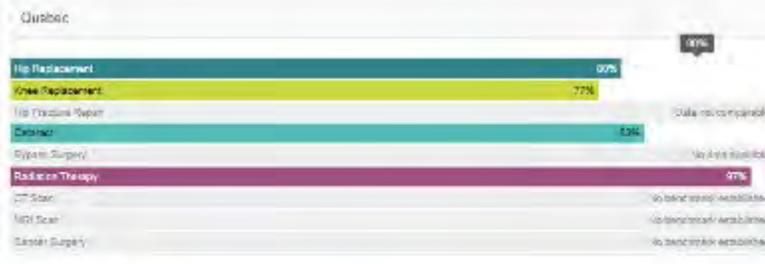
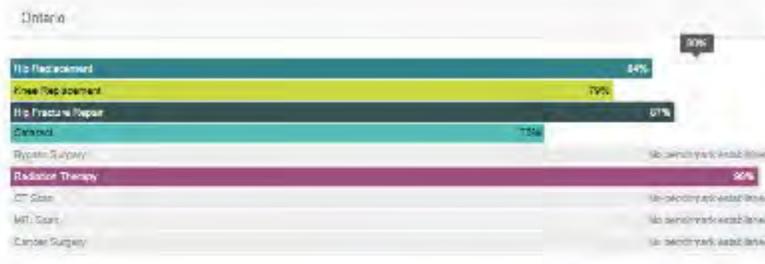
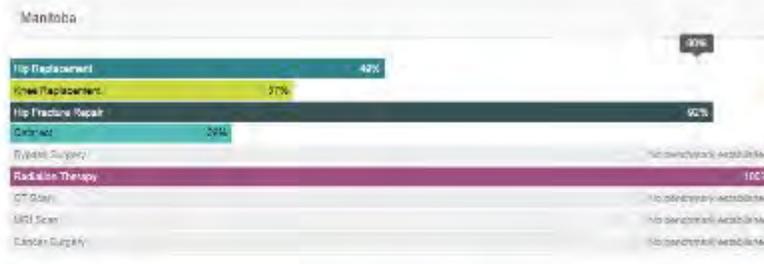
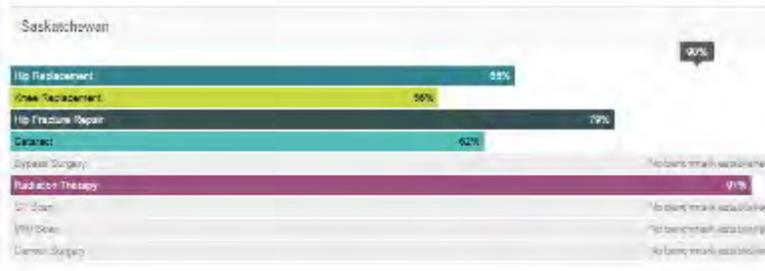
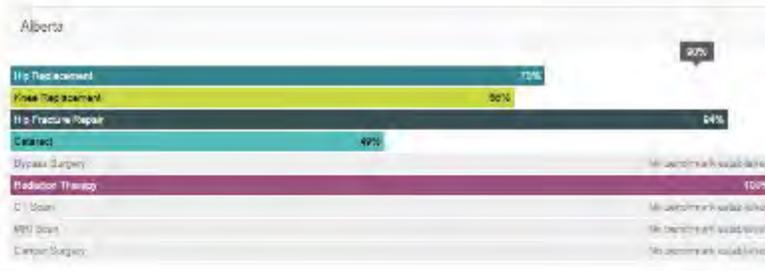
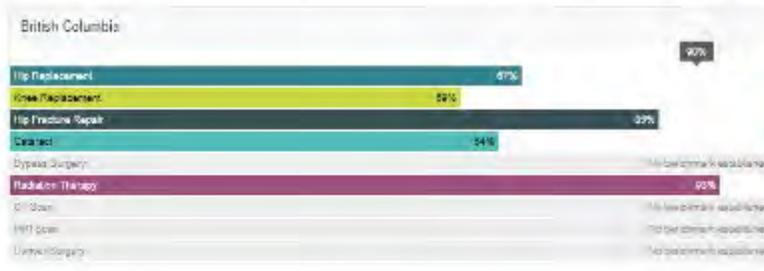
[416-549-5490](tel:416-549-5490)

Wait Times...

Control and filters sidebar:

- Select Year: 2018
- Select Province: All Provinces
- Select Procedure: All Procedures
- Select Metric: All Metrics
- View by: List
- Export All Data

Benchmarks for treatment and wait time trending across Canada





HEALTH & HEALTHCARE NEWS

DESPERATE FOR LIFESAVING INSULIN, AMERICANS HEAD TO CANADA: ANDRÉ PICARD



Quick Finder

2019-06-18 from theglobeandmail.com

There's a new kind of drug runner in town – American mothers of children with Type 1 diabetes who cross into Canada in minivans to buy life-saving insulin at a fraction of the cost they would pay at home.

In The Washington Post, reporter [Emily Rauhala](#) tells the surreal tale of a caravan of Minnesota moms who travelled to Fort Frances, Ont., where they purchased \$1,200 worth of insulin at a local pharmacy, a stash that would have cost them \$12,000 in the United States. (Humalog, a popular product, sells for \$34 in Ontario, without a prescription. In the U.S., the same vial costs as much as \$300.)

The journey was loaded with symbolism, recalling the caravan of migrants headed to the U.S. from Latin America, which was turned back, in part, because President Donald Trump said it was harbouring drug smugglers.

But the insulin moms primarily want to draw attention to the perversity of U.S. drug prices, the absurdity of patent laws and the failings of the insurance system.

Insulin was discovered almost a century ago by researchers [affiliated with the University of Toronto](#). It was one of the great medical discoveries of all time, a drug that has saved millions of lives. The pioneering scientists involved wanted patients with diabetes to receive insulin at little or no cost, so they sold their patent for \$1 to the university.

In a rational world, insulin, a drug that is as essential to survival as water for some, would cost next to nothing.

Yet, in the wealthiest country in the world, patients with Type 1 diabetes ration insulin, and even die, because it is unaffordable.

Read more [here](#)

The reason insulin is cheaper in Canada than in the United States is because Canada regulates drug prices. And Canadians don't die for lack of insulin because our drug-insurance system is a little less ridiculous than the one south of the border.

The solution to the problem is not for Americans to do drug runs to Canada, or for the U.S. to start importing drugs from Canada, as some federal and state legislators are proposing. The only viable solution is for the U.S. to legislate a cap on drug prices and to provide decent prescription-drug coverage to those who can't otherwise afford their care, as every other Western country does.

Q / A

