Session 117 PD, Canadian vs. U.S. Health Care

Presenters:
Stuart D. Rachlin, FSA, MAAA
Ella Eileen Young

SOA Antitrust Disclaimer
SOA Presentation Disclaimer
Overview of the United States Healthcare System

SOA Health Meeting
Session 117

Stuart D. Rachlin, F.S.A., M.A.A.A.
Principal and Consulting Actuary
June 14, 2017
How it all started

- The earliest years of employer sponsored health care comes in the 1800s from railroad and mining industries providing company doctors to their workers.

- Then, during WWII when wage freezes were in place, health care offerings were considered “fringe benefits” and were less restricted. Employers also received tax breaks for offerings such as these.⁴
Employer Sponsored Health Insurance Cont…

Today, receiving health insurance through your employer is the most common means of obtaining such coverage in the U.S. There are 2 main ways that employers handle healthcare benefits:

- **Fully Insured:** Employers provide employees with benefits through a contract with a health insurance company. The employer will pay a portion of the premium and the employee will pay the remainder to the insurance company. The company provides for all services, cost containment and strives for effective delivery of health care services.

- **Self Insured (ASO):** Typically these will be large employers. They provide health insurance coverage to employees through their own company funds, and will typically have a health insurance company or other third party administrator provide the health care services. The level of effective delivery of health care is not typically impacted by the funding mechanism.
Individual Health Insurance Market

Currently guided by the *Patient Protection and Affordable Care Act enacted May, 2010* (also known as “ACA,” or “ObamaCare”):

- **“ObamaCare”**
  - 4 metallic levels of actuarial value from 60%-90%
  - Essential health benefits (“EHB”s)
  - No cost sharing on preventive
  - Guaranteed issue and renewability. –
    - No preexisting conditions exclusions
- Highly subsidized market
  - Cost sharing subsidies
  - Premium subsidies
Individual Health Insurance Market (Cont)

“Obamacare” marketplaces/exchanges
- State exchanges or Federally run exchanges
  - 28 Federally-facilitated Marketplaces
  - 23 State-based Marketplaces

Other Individual health policies
- Grandfathered policies
- Supplemental policies
- Short term policies

Other ACA impacts
- Small group policies requiring metal levels as well.
- Large group policies – minimum coverage levels (60% AV)
In 2017, the cost of healthcare for a typical American family of four covered by an average employer-sponsored preferred provider organization (PPO) plan is $26,944.5

As of 2015, National Health Expenditures made up 17.8% of GDP2
Commercial Claims Trend

**FIGURE 2: ANNUAL CHANGES IN THE MILLIMAN MEDICAL INDEX**
Polling Question #3
The U.S. health care system features: (Choose one)

1. More socialist tendencies than the Canadian system, especially while “Obamacare” is still in place
2. Lower per capita spending on health care than Canada
3. Employer funding rather than public funding as the focal point of financial support for health insurance
4. No public funding whatsoever
Traditional Medicare

Origin
- A single-payer, national social insurance program administered by the US federal government since 1966.

Who is Eligible?
- US resident's ages 65+, or nonelderly people with disabilities/ESRD

What is covered?
- Part A – Inpatient hospital stays, care in a skilled nursing facility, hospice care, and some home health care.
- Part B – Certain doctors' services, outpatient care, medical supplies, and preventive services.

Who pays?
- Government covers cost of Part A premiums and all medical costs outside of outlined cost share with taxpayer dollars
- Members pay Part B (and D if they choose) premium monthly, a deductible set by CMS, and then 20% of the medical cost share thereafter.
- Use of Medicare Supplement policies to enhance traditional coverage
Medicare Enrollment April 2017

Hospital / Medical Enrollment
- Original Medicare: 37,905,846
- Medicare Advantage & Other Health Plans ("MAPD"): 20,053,732
- Total Hospital/Medical Enrollment: 57,959,578

Prescription Drug Enrollment
- Prescription Drug Plans ("PDP"): 25,147,743
- Medicare Advantage Prescription Drug: 17,367,088
- Total Prescription Drug Enrollment: 42,514,831

- Continued large growth in to MAPD and PDPs over recent years
Medicare Advantage

Who Administers?
- Private health plans contracted with the government

Who is Eligible?
- US resident’s ages 65+, or nonelderly people with disabilities/ESRD

What is covered?
- At minimum, these payers are required to provide the same level of coverage outlined in Medicare Parts A and B, and typically they provide Medicare Part D prescription drug coverage, as well.7

Who pays?
- Government covers the cost of standard Medicare benefits based on county-level benchmarks, as well as a rebate that the payer can use to add supplemental benefits or buy-down premium. These rebates are determined largely based on quality metrics where each payer is given a “star rating”.
- Members pay additional premium for richer benefits in many cases, as well as any applicable cost sharing based on the plan of their choosing.
Medicaid

- Social Security Amendments of 1965 created Medicaid by adding Title XIX to the Social Security Act.
- A social health care program for families and individuals with limited resources.
- Administered on a state level, but funded jointly by State and Federal Governments.
- Traditionally, Medicaid was administered through a Fee-for-Service payment model, where providers were paid directly for each service.
- Managed Care models, which financially incent health improvements, quality and management of care over volume of care, have become the most common payment models over fee-for-service.
  - 55 million Medicaid enrollees were enrolled in Managed Care as of 2014 (77% of total enrollment)\(^8\)
  - Managed Care models push more of the financial risk of health costs onto the provider and private health plan, through various contracting. Often times, health plans will contract with the state to provide Medicaid benefits for a specified per-member-per-month capitated amount.\(^9\)
- In 2014, the ACA expanded Medicaid eligibility, which has grown by approximately 30% since.\(^{10}\)
  - With transition of power in the Federal Government and proposed changes to the ACA, this expansion is currently being challenged and the future of Medicaid is slightly less clear.
PMPM Math – The Basics

Annual Utilization per 1,000 Members
\[ \times \]
Average Charge per Service
\[ \div \]
12,000
\[ = \]

*Per Member per Month* Expected Claims Cost
# Milliman Illustrative Health Cost Guidelines

## Benefits Breakdown

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Admissions Per 1,000</th>
<th>Length of Stay</th>
<th>Utilization Per 1,000</th>
<th>Average Allowed per Service</th>
<th>Per Member Per Month Claim Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical/Surgical</td>
<td>34.26 admits</td>
<td>8.28 days</td>
<td>141.75 days</td>
<td>$6,474.19</td>
<td>$36.69</td>
</tr>
<tr>
<td>Maternity</td>
<td>23.39 admits</td>
<td>18.21 days</td>
<td>73.95 days</td>
<td>$7,411.62</td>
<td>$8.48</td>
</tr>
<tr>
<td>IP Other</td>
<td>4.77 admits</td>
<td>61.41 days</td>
<td>43.74 days</td>
<td>$2,564.31</td>
<td>$2.91</td>
</tr>
<tr>
<td>Skilled Nursing Facility</td>
<td>1.42 admits</td>
<td>20.59 days</td>
<td>29.24 days</td>
<td>$537.62</td>
<td>$1.31</td>
</tr>
<tr>
<td>Inpatient Facility – Subtotal</td>
<td>63.84 admits</td>
<td>4.52 days</td>
<td>288.68 days</td>
<td></td>
<td>$49.39</td>
</tr>
<tr>
<td>Outpatient Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ER/Observation</td>
<td>178.20 visits</td>
<td></td>
<td></td>
<td>$1,770.23</td>
<td>$7.62</td>
</tr>
<tr>
<td>Surgery</td>
<td>113.01 visits</td>
<td></td>
<td></td>
<td>$2,261.75</td>
<td>$21.30</td>
</tr>
<tr>
<td>OP Other</td>
<td>1,520.32 visits</td>
<td></td>
<td></td>
<td>$2,649.37</td>
<td>$23.48</td>
</tr>
<tr>
<td>Outpatient Facility – Subtotal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$52.40</td>
</tr>
<tr>
<td>Professional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCP</td>
<td>3,180.23 proced</td>
<td></td>
<td></td>
<td>$443.93</td>
<td>$20.89</td>
</tr>
<tr>
<td>Specialist</td>
<td>11,989.61 proced</td>
<td></td>
<td></td>
<td>$4,775.94</td>
<td>$73.08</td>
</tr>
<tr>
<td>Professional – Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$93.97</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prescription Drugs</td>
<td>11,566.26 scripts</td>
<td></td>
<td></td>
<td>$127.83</td>
<td>$123.21</td>
</tr>
<tr>
<td>Other</td>
<td>702.38 visits</td>
<td></td>
<td></td>
<td>$1,838.27</td>
<td>$10.10</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$329.07</td>
</tr>
</tbody>
</table>
Polling Question #4
The key difference between the U.S. and Canadian health care system is: (Choose one)

1. The U.S. system is driven by a profit motive, whereas the Canadian system is driven by the public good
2. Pharmaceutical companies dominate television advertising in the U.S., but are nowhere to be seen on Canadian television
3. Many more people “fall through the cracks” of coverage in the U.S. than in Canada
4. Canadians trust their government(s) to administer health care, but Americans do not
5. U.S. health care may be more expensive, but it features the top available services in the world
Sources

1 Health Insurance Coverage of the Total Population: http://kff.org/other/state-indicator/total-population/?dataView=0&currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D


6 https://www.medicare.gov


8 Total Medicaid Managed Care Enrollment: http://kff.org/medicaid/state-indicator/total-medicaid-mc-enrollment/?currentTimeframe=0&sortModel=%7B%22colId%22:%22%22Location%22,%22sort%22:%22asc%22%7D


10 Total Monthly Medicaid and CHIP Enrollment: http://kff.org/health-reform/state-indicator/total-monthly-medicaid-and-chip-enrollment/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Pre-ACA%20Average%20Monthly%20Enrollment%22,%22sort%22:%22desc%22%7D

Thank you!

Stuart Rachlin
Principal and Consulting Actuary
Milliman, Inc.
Tampa, Florida
Stuart.Rachlin@Milliman.com
Thank you for your interest

Questions and Discussions
Session 117 Panel Discussion: Canadian vs. U.S. Health Care

PRESENTERS:
ELLA EILEEN YOUNG
Director, Care Continuum and Actuarial Analytics for Vancouver Coastal Health

STUART D. RACHLIN, FSA, MAAA
Principal and Consulting Actuary, Milliman

MODERATOR:
BEN MARSHALL, FSA, FCIA, CERA
Staff Fellow, Canadian Membership, SOA

Wednesday, June 14, 2017
Healthcare in Canada

2017 SOA Health Meeting

Ella Young
Decision Support
Vancouver Coastal Health
The provinces and territories of Canada combine to make up the world’s second-largest country by area – a confederation of 10 provinces and 3 territories. The main difference between a province and a territory: provinces receive their power and authority from the Constitution Act of 1867. Territories derive their mandates and powers from the federal government. Provinces are considered to be co-sovereign, each with its own “Crown” represented by the lieutenant-governor. Territories are not sovereign, but have a federal commissioner.
History of Canadian Healthcare

• From the birth of Canada with the Constitution in 1867, healthcare has been integral:
  – S. 91.11 sets out that healthcare is ultimately under the power of the federal Parliament
  – Quarantine issues and establish marine hospitals

• Provinces/territories have some exclusive powers (s. 92.7)
  – Thus, 14 health systems – distinct, but similar
  – Establish/maintain/manage: hospitals, asylums, charities, and institutions in/for the province except for marine hospitals
  – Set policy, regulate health professions

• Canada Health Act, 1984
US Healthcare System Breakdown

United States – 2015 Population of 319 billion

a) Private programs

10 Health Insurance through an Employer – 49%
   - Fully Insured
   - Self Funded

10 Non-group/Individual private coverage – 7%
   - Healthcare Marketplace – ACA
   - Off marketplace
   - Other Individual
US Healthcare System Breakdown

b) Government programs

10 Medicaid – 20%
   - Fee for Service (FFS)
   - Managed Care

10 Medicare – 14%
   - Traditional (Part A & B)
   - Medicare Advantage
   - Medicare Supplement
   - Part D Prescription Drug

10 Other Public Programs – 2%

10 Uninsured – 9%
United States Healthcare System – The Dollars

THE NATION’S HEALTH DOLLAR ($3.2 TRILLION), CALENDAR YEAR 2015:
WHERE IT CAME FROM

Private Health Insurance, 33%
Medicare, 20%
Medicaid (Title XIX) Federal, 11%
Medicaid (Title XIX) State and Local, 6%
VA, DOD, and CHIP (Titles XIX and Title XXI), 4%
Other Third Party Payers and Programs, 8%
Out of Pocket, 11%
Health Insurance, 74%
Government Public Health Activities, 3%
Investment, 5%

1 Includes worksite health care, other private revenues, Indian Health Service, workers’ compensation, general assistance, maternal and child health, vocational rehabilitation, Substance Abuse and Mental Health Services Administration, school health, and other federal and state local programs.
2 Includes co-payments, deductibles, and any amounts not covered by health insurance.

Note: Sum of pieces may not equal 100% due to rounding.

Polling Question #1 - Canada’s health care system can best be described as: (Choose one)

A. Socialist
B. Communist
C. Fascist
D. Publicly funded, privately delivered

- A: 43%
- B: 3%
- C: 0%
- D: 53%
Canada’s Healthcare System

- How do Canadians Access Health Care?
  - Apply for a provincial health card.
  - Once card is assigned it is used whenever visiting a physician or health care provider.
  - After obtaining health care coverage one can register with primary care physician.

- How do Canadians Pay for Health Care?
  - Funded by both Federal and Provincial levels.
  - By taxation both from personal and corporate income taxes
  - Sales tax and lottery proceeds
  - There are no deductibles.
5 criteria from Canada Health Act

1. Public Administration
   All administration of provincial health insurance must be carried out by a public authority on a non-profit basis.

2. Comprehensiveness
   All necessary health services, including hospitals, physicians and surgical dentists, must be insured.

3. Universality
   All insured residents are entitled to the same level of health care.

4. Portability
   A resident that moves to a different province or territory is still entitled to coverage from their home province.

5. Accessibility
   All insured persons have reasonable access to health care facilities.
Funding

• Central taxation for ‘insured services’
  – Hospitals / physicians

• NOT for
  – Health services insured elsewhere, e.g. workers’ compensation
  – Or for: drugs, devices, eye/dental/physio, home care, LTC

• Health Canada is main funder
  – $ allocated to provinces based on age/gender/acuity basis

Publicly funded, privately delivered…
<table>
<thead>
<tr>
<th>Delivery</th>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>- Hospitals</td>
<td>- Charitable foundations</td>
</tr>
<tr>
<td></td>
<td>- Rehab</td>
<td>- Cosmetic surgery</td>
</tr>
<tr>
<td>Private</td>
<td>- Drs.</td>
<td>- Drugs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Dental</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Physio/chiro</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Home care</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LTC</td>
</tr>
<tr>
<td>INDICATOR</td>
<td>CANADA</td>
<td>US</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Total Health Expenditures as a % of GDP (32)</strong></td>
<td>10.4 (6\textsuperscript{th})</td>
<td>16.0 (1\textsuperscript{st})</td>
</tr>
<tr>
<td><strong>Total Health Expenditures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Per Capita US $ (27)</strong></td>
<td>$4,079 (5\textsuperscript{th})</td>
<td>$7,538 (1\textsuperscript{st})</td>
</tr>
<tr>
<td><strong>Public % of Total Health Expenditures (31)</strong></td>
<td>70.2</td>
<td>46.5</td>
</tr>
</tbody>
</table>

Source: OECD Health Data 2010. (latest data 2008)
Polling Question #2 - Advantages of the Canadian health care system include: (Choose one)

A. All citizens are universally covered for insured services.
B. All health services are covered by public funding.
C. Wait times for service are the shortest in the world.
D. Catastrophic drug costs are covered by all provinces.

88%
Canada: A Single-Payer System?

<table>
<thead>
<tr>
<th>Selected Category</th>
<th>% Public Funding 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals</td>
<td>90.8</td>
</tr>
<tr>
<td>Other Institutions</td>
<td>71.5</td>
</tr>
<tr>
<td>Physicians</td>
<td>98.9</td>
</tr>
<tr>
<td>Other Professionals</td>
<td>7.0</td>
</tr>
<tr>
<td>Prescription Drugs</td>
<td>45.0</td>
</tr>
<tr>
<td>Capital</td>
<td>83.0</td>
</tr>
<tr>
<td><strong>Total Health Spending</strong></td>
<td><strong>70.2</strong></td>
</tr>
</tbody>
</table>

Source: CIHI National Health Expenditure Trends 1975 to 2009
The effect of key cost drivers on health spending growth: - Synthesis of Canadian studies

Healthcare spending and cost drivers

Millions of dollars


Vancouver Coastal Health
Promoting wellness. Ensuring care.
<table>
<thead>
<tr>
<th>+</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice of provider</td>
<td>Wait times</td>
</tr>
<tr>
<td>No charges for insured services</td>
<td>Coverage is narrow and deep</td>
</tr>
<tr>
<td>Portable – coverage across the country</td>
<td>Most do not have coverage for catastrophic drug costs</td>
</tr>
<tr>
<td>Universal – all citizens are covered</td>
<td>Some areas not covered are concerning e.g. home care, LTC</td>
</tr>
</tbody>
</table>
Where Ella Lives/Works...

...for context....
$16 B Public health insurer
  • Non-profit/Universal
Data rich - many decades on almost all citizens (approx. 18 M lives)
Analysis skill-set variation
Traditional BI tools
BC Healthcare Premiums

- Note: BC has among the highest rates in the country
- It was recently announced that these rates will be eliminated by 2020… that is – healthcare will be paid for through other means
- Basic Premium Rates Effective Jan. 1, 2017
  - No premiums for children under the age of 19.
  - No premiums for dependent post-secondary students enrolled in full-time studies
  - MSP premium rates will be determined by the number of adults on an MSP account:

<table>
<thead>
<tr>
<th>Adjusted Net Income</th>
<th>One Adult</th>
<th>Two Adults in a Family</th>
<th>Annual for Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0 - $24,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>$24,001 - $26,000</td>
<td>$11</td>
<td>$22</td>
<td>$264</td>
</tr>
<tr>
<td>$26,001 - $28,000</td>
<td>$23</td>
<td>$46</td>
<td>$552</td>
</tr>
<tr>
<td>$28,001 - $30,000</td>
<td>$35</td>
<td>$70</td>
<td>$840</td>
</tr>
<tr>
<td>$30,001 - $34,000</td>
<td>$46</td>
<td>$92</td>
<td>$1,104</td>
</tr>
<tr>
<td>$34,001 - $38,000</td>
<td>$56</td>
<td>$112</td>
<td>$1,344</td>
</tr>
<tr>
<td>$38,001 - $42,000</td>
<td>$65</td>
<td>$130</td>
<td>$1,560</td>
</tr>
<tr>
<td>Over $42,000</td>
<td>$75</td>
<td>$150</td>
<td>$1,800</td>
</tr>
</tbody>
</table>
Case in Point...

Ontario will give free prescription drugs to people under 25 — will BC?

By Sophie Sutcliffe  May 12, 2017  2 min read

At the end of April, the government of Ontario announced that, starting in 2018, people under the age of 25 living in the province will get free prescription drugs. The plan, which was outlined as part of the Ontario Liberal government’s 2017 budget, will cover 4,400 types of drugs, and will have no deductible or co-payment.

Dr. Steve Morgan, a professor at UBC’s school of population and public health, said that the policy was long overdue. He also noted that the fact that the Minister of Health in Ontario is a very vocal advocate of universal pharmaceutical coverage played a role.

“I think that this is a pragmatic start when expanding drug coverage for a government that wants the federal [government] to work with them to create a truly national system,” said Morgan. “People under the age of 25 are relatively healthy on average … [and therefore] it’s the most affordable segment of the population for the government to expand the drug benefit to.”

Morgan also noted that the choice to provide these benefits for young people is also a smart strategic choice.
BC Health Geography

- Capital city: Victoria on Vancouver Island
- Population: 4.5 million (Vancouver - 2.3M, Victoria – 370k)
- Canada's 3rd most populated province (after Ontario/Quebec)
- Only province - "West Coast special" – ski/golf on same day
- History: Entered Canadian confederation in 1871
- Total Area: 944,735km²/364,764mi² – double Texas

Health Authorities
1. Interior
2. Fraser
3. Vancouver Coastal
4. Vancouver Island
5. Northern
6. Provincial Health Service

[Map of BC with health authorities and regions labeled]
VCH - Where we are
VCH - Who we serve

- 25% of BC’s population (> 1 M)
- 22,000 staff, 2,500 physicians and 5,000 volunteers
- 556 locations including:
  - 13 hospitals
  - 3 diagnostic/treatment centres
  - 15 community health centres
- 46% of all inpatient specialized care in BC
- 58,560 km² (22,610 mi²) including:
  - 12 municipalities, 4 regional districts and 14 Aboriginal communities
- We operate:
  - 8,936 acute, rehabilitation and residential beds
  - 421 community residential care beds
  - 621 assisted living beds/units
  - 1,430 mental health supported housing units
  - 2,447 mental health beds
  - 1,312 addictions beds