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Canada's Health System Compared with Health Systems of Other Industrial Democracies

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College and university retirees are always interested in health care, and the recent political controversies in the United States may have increased our own interest in discovering how our system compares with the systems in the US and other countries.

One of the frustrating aspects of many of the discussions about health care is the frequency with which individual anecdotes are used as evidence of some larger truth. Anecdotes are highly idiosyncratic and are no substitute for actual data. Another frustration in comparing health care systems can arise from just ploughing through detailed descriptions of the way each system operates because that still does not provide any information about the actual effectiveness of the systems on health. To remedy the problems arising from dependence on random anecdotes and detailed comparisons of system procedures, I decided to focus on actual data related to health, using international comparisons.

This article provides a quick review of core data comparing health care operations in six countries including Canada. Health care information can be found in large data sets available online from a number of international and national agencies, including the World Health Organization (WHO) Statistical Information Service, the Organization for Economic Co-operation and Development (OECD), United Nations International Children's Emergency Fund (UNICEF), the Human Development Index reports, and in reports from statistical and health agencies within national governments. I have studied these to provide information in four broad classes related to health care systems: costs, physical and human resources, preventative health behaviours, and actual health status. I chose data from countries that seem most relevant to comparisons with Canada. While all are modern industrialized democracies and share important features with Canada, they differ in providing health services in varying ways. Many of these differences affect the demands made on health care services and their effectiveness.

As with Canada, Australia has a vast land-base and a small population that includes aboriginals and a highly heterogeneous, heavily-immigrant population. Unlike Canada, it has a more forgiving climate compared with Canada's vast cold north which affects access to health care. The US has a huge geography similar to Canada's and also large immigrant and significant aboriginal populations. Its population differs because its immigrants (9% of population) are proportionately only half the proportion in Canada (17%), and its aboriginal population is also smaller proportionately. Its method of delivering health care relies much more on private insurance from insurance companies, although the American government does provides public care for selected groups through three large programs: Medicaid for poor children, Medicare for seniors, and Veterans care. However, a significant number recent estimates are 46 million - are not covered by any private or public health care system.

The United Kingdom, France, and Germany are all effective modern industrial democracies with established public health systems, and they are similar to Canada because they have prominent public funding to ensure universal health care. They differ from Canada in a number of ways that have significance for the delivery of health care. First, they are much smaller geographically, and this helps them provide quicker access to health services for rural people because service delivery is easier, quicker, and thus cheaper. They also have higher, more dense, and much more culturally homogeneous populations, although this is changing. Finally, they have a smaller proportion of first-generation immigrants, and being more culturally homogeneous, all human service delivery systems easier.

I did not include Scandinavian countries or Japan because of their very small geographical sizes and high cultural homogeneities. These factors are significantly different from Canada's situation, and make it much easier and cheaper to provide health care. In combination with strong public health policies, these countries show evidence of effective spending and excellent health across most indicators.

The countries I have included are all in a position to provide good health care and most of them do this effectively, although the variations are interesting and in some cases very significant. The indicators selected are at the heart of the issue; there are literally hundreds more that relate to more specific features of health. In every case I used the most recent data available, typically from 2006 on, varying with the topic.

A. Health System Spending

Canada's health expenditures as a percentage of GDP are in the low mid-range at 10%, with the UK the lowest at 8.4% and the highest rate in the US at 15.3% (OECD 2008)

Australia	Canada	France	Germany	UK	US
8.7	10	11.1	10.4	8.4	15.3

The proportion of health expenditures that come from public spending shows Canada in the mid-range at 70.4%, compared to the US low of 45.8% and the UK's high at 87.4 (WHO 2009).

Australia	Canada	France	Germany	UK	US
67.2	70.4	79.7	76.6	87.4	45.8

Expenditures on public health as a percentage of all government expenses show Canada in the high-range at 17.9%, with the UK the lowest at 16.5% of government spending followed by France 16.7, Australia 17.2, Germany 17.9; the US is the highest at 19.1% of government spending (WHO 2009).

Australia	Canada	France	Germany	UK	US
17.2	17.9	16.7	17.6	16.5	19.1

The final spending comparison considers the absolute amount of US dollars spent on health care per capita in each country, a figure that combines both public and private expenditures. Canada is marginally above the mid-range at US$2,585 per capita spending, with Australia the lowest at US$2,097, and the US the greatest spender at US $3,074 per capita (WHO 2009).

Australia	Canada	France	Germany	UK	US
US$2,097	US$2,585	US$2,833	US$2,545	US$2,434	US$3,074

B. Health Care Human and Physical Resources

The actual human and physical resources that are available to populations from the health care spending provide hints of how a country uses its health-related money. Canada has the fewest doctors per 100,000 population while France and Germany have the most with ratios of 337 (HDR 2007/8).

Australia	Canada	France	Germany	UK	US
247	214	337	337	230	256

The US has the fewest hospital beds available per 10,000 population at 32, while France and Germany have the most, at 73 and 83 respectively; Canada at 34 is close to the lowest ratio (WHO 2009).

Australia	Canada	France	Germany	UK	US
40	34	73	83	39	32

MRI units available per million population show the greatest range across the six countries, with Australia lowest at 5.1, followed by France with 5.7, then Canada at 6.7, Germany and the UK at 8.2, and topped by the US at 25.9 (OECD 2009).

Australia	Canada	France	Germany	UK	US
5.1	6.6	5.7	8.2	8.2	25.9

The apparent oversupply in the US has triggered aggressive direct-to-consumer marketing campaigns to healthy individuals and probably reflects the very active role of private MRI companies operating independently of hospitals.

C. Preventative Health Behaviours

Health status is not only a function of spending and resources, in long-life prosperous countries it is increasingly affected by the behaviours of individuals in living in a healthful manner, and in the use of system spending on preventative measures.

Immunization and mammography screening are probably the two key features of public health prevention and surveillance. Three immunizations by age one via the core DTP 'shot' are achieved at quite high levels in all the countries, with Canada in the mid-range at 94% coverage while France was best at 98% (World Health Organization 2009).

Australia	Canada	France	Germany	UK	US
92	94	98	97	92	96

OECD studied a wide range of health and safety factors affecting children and combined them into an overall index for the 21 OECD countries (all modern developed democracies). Compared to the mean, standardized to 100, the US had the worst score at 81, followed a long distance later by Canada (97), UK 98, Australia 98.5, Germany 100.5, and topped by France 105.5 (UNICEF 2007).

Australia	Canada	France	Germany	UK	US
98.5	97	105.5	100.5	98	81

Mammography rates as a percentage among women find Canada in the mid-range at 71% (WHO 2009). The lowest rates are 57%, and France is best at 78%.

Australia	Canada	France	Germany	UK	US
57	71	78	57	75	n/a

No data are available from the US on this measure although on a related measure, "breast cancer screening rates" vs. OECD standardized lowest score set at 100, the US scored at 111 while Canada and Australia were better at 116, 117 (Hussey, Anderson et al. 2004).

Australia	Canada	France	Germany	UK	US
117	116	n/a	n/a	106	111

Risky individual behaviours can affect health status and are often the targets of public health campaigns. Teenage pregnancies represent a preventable health risk that strongly predict future problems in the wellbeing of the young mother and her child.

Fertility rates per 1000 girls 15-19 show that Canada is in the lower part of the range with 14 and the US has the worst rate at 41 (World Health Organization 2009).

Australia	Canada	France	Germany	UK	US
15	14	8	10	26	41

Tobacco use as a percentage of the population smoking daily finds Canada in the lowest range at 21.6% and the UK worst at 35.7% (World Health Organization 2009).

Australia	Canada	France	Germany	UK	US
24.8	21.6	31.7	31.6	35.7	23.9

Alcohol use contributes to serious liver and other disease, and in term of liters consumed per capita, Canada has the best rate at 7.8%. Germany is the worst at 11.99% (World Health Organization 2009).

Australia	Canada	France	Germany	UK	US
9.02	7.8	11.4	11.99	11.75	8.61

Obesity is the most extreme end of the overweight category, and it is associated with significant needs for medical services. Rates are generally higher in women. Canada is in the lower range, which is topped by the US at 33.2% (WHO 2009).

Australia	Canada	France	Germany	UK	US
n/a	13.9	n/a	12.3	23	33.2

D. Health Outcomes

The true data of importance to knowing the actual health of a population, relate to very basic statistics about life expectancy, infant and maternal mortality, and related detailed health indicators.

Life expectancy at birth in Canada is in the top range at 81 and the US is the lowest at 78 (WHO 2009).

Australia	Canada	France	Germany	UK	US
82	82	81	80	79	78

In 2006 infant mortality rates per 1,000 live births show Canada in the mid-range at 5, while the US has the worst at 7 (WHO 2009).

Australia	Canada	France	Germany	UK	US
5	5	4	4	5	7

One year later Canada improved to 4.6, tied with Australia, and the US improved somewhat to 6.4, but still the worst (U.S. Census Bureau 2007).

Australia	Canada	France	Germany	UK	US
4.6	4.6	4.2	4.1	5	6.4

The probability of dying by age five is the standard measure of children's health, and Canada is tied in the middle with Australia and the UK, while the US is the worst at 8, with a child mortality rate double that of the Europeans (WHO 2009).

Australia	Canada	France	Germany	UK	US
6	6	4	4	6	8

Canada is in the mid-range on maternal mortality with 7 deaths per 100,000 live births, and the US is worst with 11 (HDR 2007/8).

Australia	Canada	France	Germany	UK	US
4	7	8	4	8	11

Moving up the age range, Canada is second to lowest in adult mortality rates (the probability of dying between the ages of 15-60) and the US is worst at 109 (WHO 2009).

Australia	Canada	France	Germany	UK	US
65	72	91	81	80	109

For Canadian seniors, life expectancy at age 65 for men (the more vulnerable sex) at 17.9 more years is close to the longest in Australia, and Germany has the worst rate at 16.9 (OECD 2009).

Australia	Canada	France	Germany	UK	US
18.1	17.9	17.7	16.9	17	17.2

Death rates per 100,000 before age 75 that would have been amenable to health care, show Canada in the mid-range. France is best for such 'unnecessary' deaths and the US is worst at 110 (Commonwealth Fund 2008).

Australia	Canada	France	Germany	UK	US
71	77	65	90	103	110

When specific disease death rates are examined, cardiovascular death rates agestandardized per 100,000 population show Canada in the mid-range, France lowest and Germany is highest and worst at 211 (WHO 2009).

Australia	Canada	France	Germany	UK	US
140	141	118	211	182	188

Heart disease death rates per 100,000 for men, the most vulnerable sex. The Canadian rate is close to the lowest, and the US is worst at 907 (American Heart Association 2008).

Australia	Canada	France	Germany	UK	US
649	741	896	846	811	907

Cancer deaths age-standardized per 100,000: Canada is in the mid-range, Australia has lowest rates while the UK is worst at 143 (WHO 2009).

Australia	Canada	France	Germany	UK	US
127	138	142	141	143	134

Injury deaths age-standardized per 100,000: These typically involve motor vehicle accidents, poisonings (including suicides), and in the US, firearms deaths. Canada is in the mid-range and France has the highest death rate from injuries (WHO 2009).

Australia	Canada	France	Germany	UK	US
35	43	48	29	26	47

Suicide is the more lethal death route for men than women. The rate in Canada is midrange and France is the worst at 26.4 (WHO 2008).

Australia	Canada	France	Germany	UK	US
17.1	17.3	26.4	19.7	10.4	17.7

The suicide death rate per 100,000 women shows Canada is mid-range, the UK is the lowest and France the worst at 9.2 (WHO 2008).

Australia	Canada	France	Germany	UK	US
4.7	5.4	9.2	6.6	3.2	4.5

Finally, tuberculosis is a disease that has risen as a problem with the introduction of HIV, and with the increasing movement of diseased migrants into these developed nations. Canada's rate is in the low end at 4 per 100,000 population, the US is the lowest at 3, followed by Germany at 4, Australia at 7, with France next at 11 and the UK worst at 12 (WHO 2009).

Australia	Canada	France	Germany	UK	US
7	4	11	5	12	3

Health Status Comparisons of Canada and the United States

In the specific comparisons with US health status, the data show that across virtually all the major indicators of health, Canadians are considerably better off. In a 1997 international comparison by *The Economist Intelligence Unit*, Canada ranked 4th in general health among 27 developed countries, compared to 13th for the US.

Canadians have better physical and mental health than Americans (Kessler, Frank et al. 1997), and in particular, poor Canadians have better health than poor Americans (Ross, Wolfson et al. 2000). Significantly, in Canada mortality is not correlated with income inequalities as it is in the U.S. (Wolfson, Kaplan et al. 1999), and cancer survival rates are correlated with income in the U.S. but not in Canada (Gorey, Holowary et al. 1997). The better health of Canadians relates to the significant national

difference: the use of taxes for universal health care, which has been in effect since 1970. Health care is rationed by medical judgments and system funding. Poor Canadians increased their use of health services after universality (McDonald, McDonald et al. 1974), and now use physician services more than rich Canadians (Johansen and Millar 1999). The costs of the two health care systems also differ significantly. Canadian costs are relatively stable at about 10% of GDP while U.S. costs are about 50% higher and represent more than 15% of GDP. The editor of the most prestigious American medical journal NEJM, concluded, "The American health care system is at once the most expensive and the most inadequate system in the developed world…" (Angell 1999).

CURAC thanks Dr. Bowman for making this article available. Any enquiries should be addressed to her at the email address shown on page 1.

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