The Sustainability of the Ontario Health Care System

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1. Introduction

The Canadian health care system plays a major role in a Canadian citizen’s life\(^1\) and it is the core of an ongoing policy debate regarding the complex issues of its funding, structure and delivery of services\(^2\). The amount of money being invested in the system by the federal government and the provincial and territorial governments is immense and increases every year.

Rising costs of health care and questions as to the sustainability of the system have been the subject of extreme public attention and discussion for the last couple of decades. Every provincial and territorial government wants to and should take action, to control the growing health care costs as part of their struggle to return to stable budgets\(^3\).

One of the major cost drivers of health care is the compensation paid to health care providers. Higher demand has led to increased growth in the number of hospital workers and physicians, thus increases in compensation have contributed to higher spending during the last decade. Monitoring the cost of health professional services and changing scopes of practice from hospital to community settings have been priorities for provincial and territorial governments\(^4\).

Jean-Marie Berthelot, Vice President of Programs at the Canadian institute for health information (CIHI), explains that for some provincial and territorial governments compensation is one area of focus as they struggle with controlling their health costs. “Other initiatives, such as Lean projects to improve efficiencies in delivering care and changing generic drug pricing policies, are key to managing costs”\(^5\).

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\(^{1}\) Fierlbeck, p.X, 2011
\(^{2}\) Antunes, Brimacombe & McIntyre, 2001
\(^{3}\) Commission on the reform of Ontario’s public services, 2012, p.145
\(^{4}\) Canada's health care spending growth slows, 2013
\(^{5}\) Canada's health care spending growth slows, 2013
Even though Canadians do not pay out of their pocket for most health procedures, universal healthcare in Canada is not free and is financed through general government revenues. Most provinces are very close to spending half of their budget on healthcare and every Canadian contributes a generous share of their taxes to healthcare. Moreover, growths in healthcare costs are rising faster than any other basic necessity of life.

In Ontario, health care is the largest component in the budget. Ontarians are bothered by it, it causes the most intense and sentimental public policy debates, and it is the core of the most complex delivery system funded by the provincial government. For more than two decades Ontarians have been concerned about the quality and accessibility of the health care system. As health care costs have absorbed an increasing share of the provincial budget, the debate has gradually focused on the sustainability of the health care system.

Chapter 5 of the report of the Commission on the Reform of Ontario's Public Services (2012) argues that Ontario’s health care system is sustainable if Ontarians are willing to pay more taxes to support it. If they do not agree to do so, they must be willing to reduce spending on all other public services such as education at all levels, justice and social services in order to be prepared for increasing health care costs. Furthermore, it means they are willing relocate a significant portion of health care spending to individuals, regardless of their ability to pay. These options are unrealistic. Clearly, no one wants to pay more taxes, or decrease costs for other important social services.

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6 The True Cost of Healthcare, 2012  
7 Esmail & Palacios, 2012  
8 The True Cost of Healthcare, 2012  
9 Commission on the reform of Ontario’s public services, 2012, p.143  
10 Commission on the reform of Ontario’s public services, 2012, p.143  
11 Commission on the reform of Ontario’s public services, 2012, p.143  
12 Commission on the reform of Ontario’s public services, 2012, p.143
Health policy choices should be evaluated on the basis of value for money. For example, how accessible the services the health system delivers are and at what economic price. One way of measuring health systems is to examine the variety of other health systems in developed countries and their performance\textsuperscript{13}.

In order to see how sustainable the Canadian health care system is, specifically the Ontario health care system, this paper is a comparison paper between the health care systems of the province of Ontario in Canada, to that of the state of New South Wales (NSW) in Australia.

The paper is organized as follows, the next chapter covers why we compare Canada and Australia, Ontario and NSW, the similarities between the countries and the state/province and the main issues we are going to focus on. The background will describe three main factors in each health care system: demography as a major issue that influences health care costs, distribution of costs to show how money is spent in each state/province and, characteristics of the systems in order to show why the money is spent on the way it is, laws, policies and regulations that the systems are built on and how they affect the delivery of health services.

The study also compares health care costs between the two systems with regard to compensation for doctors, labor supply, infrastructure (use of facilities), information management, the private part of the health care system and efficiency. It will look at the Organization for Economic Co-operation and Development (OECD) reports, the Ontarian budget and the NSW budget from current and previous years and finally, the ten years plan of Ontario and NSW\textsuperscript{14}.

\footnotesize
\textsuperscript{13} Esmail, 2013, p.1

\textsuperscript{14} As the ten years plan of NSW will only be released at the end of June 2013, the paper will look at the previous State Health Plan towards 2010 and its companion document Future Directions for Health in NSW Towards 2025, that the new plan will replace
2. Methodology

This chapter examines why we compare Canada and Australia, Ontario and NSW, the similarities between the countries/states and how the two systems will be compared. The paper compares Canada with Australia and not to the U.S due to two major reasons. Firstly, much research has been done comparing Canada to the U.S. The size of the population is different and the U.S has more than 50 states, while Canada has only 13. More importantly though, there is no universal health insurance in the U.S and only specifically identified population groups and employed people (and not all) or people able to pay have health insurance coverage.

The second reason is because much of the research for this paper relies on information from the OECD. Their reports divide member states into six main groups who share similar institutions. Australia and Canada are in the same group, sharing similar health institutions, while the U.S is not in any group.

“Australians are Canadians’ distant cousins” wrote Simpson in 2012. Canada and Australia are two federal states with similar political systems, languages, historical experiences and issues related to immense territory, small populations and extraordinary resources. Both have large dead areas, Canada the frozen north and Australia the arid desert. In addition, both have endless coastlines and enormous distances between regions and cities and both countries are former British colonies with indigenous population. Lastly, both health care systems are funded primarily through general taxation.

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15 Simpson, 2012, p.300
16 Hawkins, 1989, p.1
17 Simpson, 2012, p.300-301
18 Esmail, 2012, p.vi
At a provincial level, both Ontario and NSW have huge territories, large populations and similar distributions of population by age. Both suffer from an aging population and have created ‘ten year plans’ to cope with increasing health care costs. In both places, most of the citizens live in urban centers while the rest live in rural areas. Ontario covers more than 1,000,000 square kilometers. Its population is more than 13.5 million people and about 2 in 5 Canadians live in Ontario and more than 85% live in urban centers, mostly in cities on the coastlines of the Great Lakes. Ontario’s ten years plan started in 2012.

NSW is the most populous state in Australia. It covers 801,600 square kilometers and in June 2012, the estimated resident population was 7.29 million people. Just over one-third of NSW residents live outside the Greater Sydney area. At the end of June 2013, a new ten years NSW State Health Plan, (2013-23) with a focus on the first three years, will be released. This would be only a draft of a new plan that will replace the previous ‘State Health Plan Towards 2010’ and its companion document ‘Future Directions for Health in NSW Towards 2025’.

The background describes three main factors in each health care system, demography, distribution of health care costs, and main characteristics of the two systems. These key points have been chosen since they have immense effect on health budgets and the distribution of costs. The size of the population and the distribution by age affects the size and delivery of services, labor force and infrastructure. As many countries all over the world are dealing with increasing aging population, it is a critical point to understand. Moreover, many people believe that aging is a key driver of rising health care costs. The paper shows that the reality is different.

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19 About Ontario, 2013
20 About NSW, 2013
21 Australian Demographic Statistics, 2013
22 NSW State Health Plan 2023, 2013
Laws, policies and regulations have a great impact on health systems. Every approach to health care relies on policies that determine how services are delivered, who pays for them, how health care providers and hospitals are being paid and so on. Universal health coverage is different from private coverage and not every country allows by law private health care. Moreover, laws and policies determine how the budget is distributed.

In Canada, the budget supports public health care and private services provided through private insurances or paid out of pocket. It is up to the individual whether they want to buy private insurance or not. In Australia, private health care is part of the federal and states health budget and the government encourages citizens to buy private insurance through tax benefits.

The paper compares the costs of the two systems with regard to physicians’ compensations, labor supply, infrastructure, information management, the private health care system and efficiency. Being aware of the laws, policies and regulations which guide these systems, the distribution of the population which shows what services are most needed and how the budget is spent, we are able to determine how the money spent is influenced by these areas.

Health systems are complex and cover many areas. These elements have been chosen as it is impossible to cover all the issues in one paper; also they play a major role in health budgets. The larger the society is, the more doctors it needs. More doctors need more help which leads to a greater labor force and more office spaces, labs, clinics and hospitals (infrastructure). Moreover, in both Ontario and NSW hospitals consume the biggest part of the budget. Lastly, using electronic data bases and the private sector of the Canadian health care system are two major issues that have been discussed in the last decade. It is important to discuss these issues as they may be the solution or a part of the solution to the increase in health care costs.
3. Background

This chapter examines the performance of the Ontario and NSW health care systems along three dimensions: demographics, distribution of health care costs and characteristics of the systems. These dimensions lay a foundation for the analysis as they describe the main features of the systems and help understand why the systems act in the way they do, their effectiveness and future implications.

3.1 Demographics

The following two sections look at the demographics of Ontario’s and NSW’s populations. The number of people in the province/state, main groups of age, how much the province/state grows, forecasts for the future and the size of the population in 2036. The next two tables show the similar distribution of Ontario’s and NSW populations and their forecast to 2015. Not only do Ontario and NSW have similar distributions, their forecasts to 2015 are similar as well.

Table 1.1: Estimated Resident Population, Age groups (a) —States and territories —at 30 June 6 2012 Ontario and NSW

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>New South Wales</th>
<th>New South Wales</th>
<th>Ontario</th>
<th>Ontario</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in numbers</td>
<td>In %</td>
<td>in numbers*</td>
<td>in %</td>
</tr>
<tr>
<td>0-14</td>
<td>1,367,952</td>
<td>18.7%</td>
<td>2,210,449</td>
<td>16.3%</td>
</tr>
<tr>
<td>15-65</td>
<td>4,837,600</td>
<td>66.3%</td>
<td>9,370,674</td>
<td>69.1%</td>
</tr>
<tr>
<td>65 and older</td>
<td>1,084,793</td>
<td>14.8%</td>
<td>1,979,911</td>
<td>14.6%</td>
</tr>
<tr>
<td>Total</td>
<td>7,290,345</td>
<td>100%</td>
<td>13,561,034</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Australian bureau of statistic, 2013 and Ontario Ministry of Finance.

* The calculations for Ontario were done by the author.
Table 1.2: International comparison (a) - Population age structure

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aged</td>
<td>Median Age</td>
<td>Aged</td>
<td>Median Age</td>
<td>Aged</td>
<td>Median Age</td>
</tr>
<tr>
<td></td>
<td>years</td>
<td></td>
<td>years and over</td>
<td></td>
<td>years and over</td>
<td>Total fertility rate(c)</td>
</tr>
<tr>
<td>Australia</td>
<td>18.9</td>
<td>67.5</td>
<td>13.6</td>
<td>36.9</td>
<td>17.6</td>
<td>66.0</td>
</tr>
<tr>
<td>Canada</td>
<td>16.3</td>
<td>69.6</td>
<td>14.1</td>
<td>39.9</td>
<td>15.8</td>
<td>68.2</td>
</tr>
</tbody>
</table>

Source: Australian Bureau of Statistics (3201.0 - Population by Age and Sex, Australian States and Territories, Jun 2010)

3.1.1 Ontario

In 2012, Ontario’s population grew by 122,227 residents which is 0.9%, lower than the growth of 143,653 residents during 2011\(^{23}\). Conversely, Ontario’s health care costs are rising every year (disproportionately to the negative grow of the population). In the fourth quarter of 2012, Ontario experienced a population growth lower than the national average, 0.1% as compared to 0.2\(^{24}\). At the beginning of January 1, 2013 Ontario’s population reached 13,561,034; this showed an increase of 14,922 residents in the fourth quarter of 2012 which was lower than the growth of 23,002 residents in the same quarter of the previous year\(^{25}\).

In 2012, 16.3% of Ontario’s population was in the age group of 0-14 years. 69.1% were in the age group of 15-64 and 14.6% were 65 years old and over \(^{26}\). By July 1, 2036 Ontario’s

\(^{23}\) Ontario Demographic Quarterly: Highlights of the Fourth Quarter 2012\(^{2}\)o Ministry of finance, 2012
\(^{24}\) Canada’s population estimates, first quarter, 2012, p.9
\(^{25}\) Ontario Demographic Quarterly: Highlights of the Fourth Quarter 2012
\(^{26}\) Ontario Demographic Quarterly: Highlights of the Fourth Quarter 2012. For more information about the distribution of age in Ontario and more demography facts such as births and deaths, international migration, interprovincial migration and so on, see appendix 7.3.
population is expected to rise by 28.6%, (3.9 million) to 17.7 million. The yearly ratio of growth is likely to slow gradually over the forecast period, from 1.2% in 2011-12 to 1% by 2035-36\textsuperscript{27}.

By 2036, the amount of seniors aged 65 years old and over is expected to more than double to 23.6%. This growth will increase over the 2011–2031 period as baby boomers turn 65. After 2031, this growth in seniors aged 65 years old and over will decrease considerably\textsuperscript{28}.

Over the next five years, the number of children 0-14 will be pretty constant around 2.2 million, before increasing more rapidly to over 2.8 million by 2036. The children’s share of the population is likely to fall to 16.2% in 2015, and to grow slightly to 16.6% over the 2015–2027 period as children of the baby boomers have their own children. After that, the share is expected to decline again, falling to 16% by 2036\textsuperscript{29}.

The number of people aged 15–64 is anticipated to grow to 10.7 million by 2036. This age group will likely decline as a share of the total population, falling to 60.4% by 2036. As baby boomers turn 65, the growth in population aged 15-64 will decrease until 2027–28 and then increase over the rest of the forecast\textsuperscript{30}.

\begin{table}[h]
\centering
\caption{Ontario population 1971-2036}
\begin{tabular}{|c|c|}
\hline
\textbf{Ontario population, 1971 to 2036} & \\
\hline
\textbf{Number of people (in millions)} & \\
\hline
\textbf{Historical} & \\
\hline
\textbf{Projected} & \\
\hline
\end{tabular}
\end{table}

3.1.2 New South Wales

Australia had a positive population growth in the year ending September 2012. In NSW the population grew by 1.2% and reached 7,314,000 million people. In 2012, 18.7% of the NSW population was in the age group of 0-14 years. 66.3% were in the age group of 15-64 and 14.8% were 65 years old and over. The NSW population is anticipated to grow to more than 9.5 million by 2036. The NSW population continues to age. The number of people of all ages will increase, but the number of people aged 65 years or older will more than double. In 2006,

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31 Australian Demographic Statistics, 2013
32 Australian Demographic Statistics, 2013
33 Fact sheet, 2013, p.1
one in seven people living in NSW were aged 65 years or older; by 2036 this may have increased to one in five”.

Table 1.5: The past and projected population of New South Wales, 1976-2036

Table 1.6: PROJECTED POPULATION, Age and sex structure (a), NSW

34 Fact sheet, 2013, p.1
3.2 Distribution of costs of health care

The next two sections cover the distribution of health care costs in Ontario and NSW. Each section examines how each province/state distributes their yearly health budget between the different functions of the health care system such as hospitals and compensations for physicians.

3.2.1 Ontario

Health care is given the biggest allocation in the Ontario government’s budget. During 2010–11, the province spent $44.77 billion on health, which was 40.3% of its total budget. Recent trends show that by 2017–18, this share is likely to increase to more than 44%\(^{35}\).

*Table 1.7: Major Components of Ontario Health Care Spending 2010-11*

\(^{35}\) Commission on the reform of Ontario’s public services, 2012, p.145
Even though healthcare is largely taxpayer-financed (about 70%), health services are also provided through the private sector (about 30%). Compared with other OECD countries, Canada spends less on public healthcare, well below countries such as the United Kingdom (87.3%), and Japan (81.3%), but more than the United States (45.8%) and close to Australia (67.7%)\(^\text{36}\).

Canada has one of the priciest health care systems in the world. In 2010, Canada spent close to $193 billion on health care, 11.9% of its GDP\(^\text{37}\). In Ontario, where total health spending was $75.5 billion, the share of GDP was 12.3%, slightly greater than the national average\(^\text{38}\).

\textit{Table 1.8: Health expenditure as a share of GDP, 2009}

\begin{center}
\includegraphics[width=\textwidth]{chart.png}
\end{center}


\begin{itemize}
\item \(^\text{36}\) OECD, 2008 as cited in Verma, Samis and Horne, 2012, p.1
\item \(^\text{38}\) Commission on the reform of Ontario’s public services, 2012 p.154
\end{itemize}
In 2009, health data from the OECD showed that from the 34 countries Canada had the sixth most expensive system. This places Canada in the group of developed nations with the costliest health care systems. While many other countries tackle higher numbers of aging populations than Canada, the Canadian health care system should be less expensive since health spending grows tight with the age of the population.

Aging is a significant cost driver yet its importance is overstated. Presently, the baby boomers rank in age from 45 to 65 years old; by 2018 they will be between 52 and 72. By that time, most of them will not yet have reached an age where medical costs begin to grow sharply. Ontario’s ‘Aging at Home Strategy’, launched in 2007, provides services for seniors and caregivers so they are able to remain in their homes. The OECD estimated that the total public and private costs of long-term care will more than double from an estimated 1.4% of GDP in 2006 to 3.3% by 2050.

Canadian Health Services Research Foundation (CHSRF) has reported that the “big three drivers” of public-sector healthcare spending from 1998 to 2008 were increased use of services (such as hospital services), compensation of healthcare providers and changes in the types of services delivered and used such as prescription drug.

The greatest proportion of expenditures was attributed to hospitals. In 2010, hospitals in Ontario took up $58.4 billion of the health budget (29.1%). However, their share has gradually decreased over time and is down from 44.7% in 1975. On the other hand, prescription and non-

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40 Commission on the reform of Ontario’s public services, 2012 p.154
41 Commission on the reform of Ontario’s public services, 2012 p.148
42 Commission on the reform of Ontario’s public services, 2012, p.167
43 CIHI 2011 as cited in Verma, Samis and Horne, 2013, p.3-4
44 CIHI 2011 as cited in Verma et al, 2012, p.3-4
prescription drug costs have increased rapidly and their portion nearly doubled from 8.5% in the mid-1970s to an estimated 16% ($32 billion) in 2011. The third-largest share of the budget was compensations to physicians which took up an estimated 14% or $28.1 billion in 2011\textsuperscript{45}.

Over the past decade, Ontario’s spending on health care has increased by an average of 6.9% per year, while its total revenue increased by only 4%. A 2010 report by TD Economics estimated that without significant reform, Ontario’s public health care costs would grow by 6.5% yearly over the next two decades\textsuperscript{46}.

\textit{Table 1.9: Average annual growth in health spending across OECD countries 2000-11. (Source: OECD health data)}

3.2.2 \textbf{New South Wales}

The health care budget for 2010/11 was $16.4 billion, an increase of 8.6% ($1.3 billion) from 2009/10. About 30% of the budget was invested in health services in rural and regional

\begin{footnotesize}
\footnotetext{45}{CIHI, 2011 as cited in Verma et al, 2012, p. 4}
\footnotetext{46}{Commission on the reform of Ontario’s public services, 2012, p.146}
\end{footnotesize}
areas. The increase is to support the aging and growing population and to improve the quality of health care\textsuperscript{47}.

\textit{Table 2: Total expenditure on health, NSW 2010-11}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure7.1.png}
\caption{Total expenditure on health, NSW, public vs private, 2010–11\textsuperscript{N}}
\end{figure}

\begin{table}[h]
\centering
\begin{tabular}{|l|c|}
\hline
\textbf{Healthcare Category} & \textbf{Total Expenditure (AUD millions)} \\
\hline
Hospitals & \textbf{8,500} \\
Medical services & \textbf{5,000} \\
Medications & \textbf{2,000} \\
Dental services & \textbf{1,500} \\
Capital & \textbf{1,000} \\
Community health & \textbf{750} \\
Other health practitioners & \textbf{500} \\
Research & \textbf{250} \\
Ads and appliances & \textbf{125} \\
Patient transport & \textbf{75} \\
Public health & \textbf{50} \\
Administration & \textbf{25} \\
\hline
\end{tabular}
\caption{Total expenditure on health, NSW 2010-11.}
\end{table}

Source: Health care in focus, 2012, p.73

“Australia’s health care system relies on a private, parallel health care sector”\textsuperscript{48}. Of total health expenditures, 68% is from NSW government sources, 20% from individuals (a minority of which is user charges for physician care and pharmaceutical benefits), 7% from private health insurance, and 5% from further sources\textsuperscript{49}.

Funding for health care derives mainly from general tax revenues. Furthermore, the Australian government gathers a 1.5% Medicare tax from citizens above a certain income level

\begin{flushleft}
\textsuperscript{47} NSW budget 2010-2011
\textsuperscript{48} Esmail, 2013, p.14
\textsuperscript{49} Healy et al., 2006 as cited at Esmail, 2013, p.16
\end{flushleft}
and enforces an additional 1% surcharge for high-income citizens who do not have private insurance cover. States get general support and health-specific funding from Australia government and impose taxes on property and payrolls\textsuperscript{50}. General support derives from a 100% sharing of federal goods and services tax (GST) revenue. Health-specific funding arises from the Australian Health Care Agreements, which give a lump grant to the states for their public hospitals\textsuperscript{51}.

The NSW Government launched ‘Ageing Strategy’ in July 2012. This plan aimed to influence all state government programs, policies and long-term planning and enable the aging population to stay “healthy, active and socially connected”\textsuperscript{52} across all stages of life\textsuperscript{53}. NSW sees the aging population as creating social and economic opportunities for the state. More healthy and active seniors mean a stronger economic force and a source of knowledge and expertise that can support social and economic development. At the same time, NSW will need to find ways to cope with the increasing demand for government services, mainly in the health system\textsuperscript{54}.

Hospitals are the biggest resource component of the NSW healthcare system\textsuperscript{55}. In the last five years approximately $3.5 billion has been invested in hospitals and health facilities. The Government has guaranteed that almost every major hospital and emergency department has been upgraded or rebuilt\textsuperscript{56}.

\textsuperscript{50} Esmail, 2013, p.16
\textsuperscript{51} Esmail, 2013, p.16
\textsuperscript{52} Easton, 2012
\textsuperscript{53} Easton, 2012
\textsuperscript{54} NSW aging strategy, 2012, p.4
\textsuperscript{55} Health care in Focus 2012, p.71
\textsuperscript{56} NSW budget 2010-2011
The 2010-11 budget offered $918 million to NSW health infrastructure this included investments in new and upgraded hospitals and equipment, expanding the Multi-Purpose Service and HealthOne programs in rural and regional areas and more\textsuperscript{57}.

A new agreement between the Council of Australian Governments (COAG) will benefit NSW with an additional $1.2 billion (over the next 4 years) for health care\textsuperscript{58}. Also, $2.1 million is dedicated to employ an additional 18 nurse practitioners in rural and regional areas and an extra $536 million to enable care for the aggregate number of acute patient admissions, bringing the total investment to $7.3 billion\textsuperscript{59}.

### 3.3 Characteristics of the health care system:

The next two sections examine the characteristics of the health care system in Ontario and NSW. Each section examines the principles that the systems relies on, the federal government part in the province/state health care system and the numbers of physicians and beds in hospitals. These issues have an enormous effect on the efficiency of the systems and their ability to provide better value for money.

#### 3.3.1 Ontario

The Canadian health care system was built on egalitarian principles by which all citizens receive all “medically necessary and hospital physician services”\textsuperscript{60}. Up to the present, the ten provinces and three territories of Canada have been financed to support a statewide health insurance program\textsuperscript{61}.

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\textsuperscript{57} NSW Budget 2010/11, p.3  
\textsuperscript{58} NSW Health Budget 2010/11, p.6  
\textsuperscript{59} NSW Health Budget 2010/11, p.7  
\textsuperscript{60} Kliff, 2012  
\textsuperscript{61} Kliff, 2012
In 2014, a 10-year agreement under which the federal government finances a portion of provincial government health care costs is due to expire. The federal government recently committed to grow the Canada Health Transfer (CHT) by 6% until 2016–17, after which it will grow in line with a three-year moving average of the GDP\textsuperscript{62}.

On a value-for-money basis Canada does not perform in a favorable place relative to other countries. In 2010, the Commonwealth Fund\textsuperscript{63} ranked the quality of the health care systems in Australia, Canada, Germany, the Netherlands, New Zealand, Britain and the United States. In the overall ranking and efficiency, Canada was second to last and last on the timeliness of care\textsuperscript{64}.

Several studies suggest that Canada does not have sufficient medical doctors. The CIHI determined that less physicians per capita in Canada “may lend insight into why Canadians continue to report difficulties in accessing health care when compared to other countries.”\textsuperscript{65} According to the World Health Organization, only Australia has fewer physicians per capita amongst the countries in the Commonwealth Fund report. Canada, with 19 physicians per 10,000 people, compares to the U.S with 27 physicians per 10,000 and to the European G7 countries where most are with 30s physicians per 10,000\textsuperscript{66}.

Canada is in the middle of the OECD group of countries when it comes to physicians per capita. However, in a 2008 report\textsuperscript{67} the Fraser Institute estimated (modifying the population age) Canada to be 23\textsuperscript{rd} out of 28 equivalent OECD countries on physicians per capita.

\textsuperscript{62} Commission on the reform of Ontario’s public services, 2012, p.145
\textsuperscript{64} Commission on the reform of Ontario’s public services, 2012, p.155
\textsuperscript{65} Canadian Institute for Health Information, “Health Care in Canada, 2010,” p. 85 as cited in Commission on the reform of Ontario’s public services, 2012 p.156
\textsuperscript{66} Commission on the reform of Ontario’s public services, 2012, p.156
\textsuperscript{67} Fraser Institute, “How Good is Canadian Health Care? 2008 Report,” p. 55, as cited in Commission on the reform of Ontario’s public services, 2012, p.156
capita. Canada appears to be falling behind: 24 OECD countries improved their physician-to-patient share by at least 10% from 1990 to 2008 while Canada improved by only 5%.

Moreover, 22% of Canadian physicians are over the age of 60 and close to retirement. Their effectiveness (and the effectiveness of all other physicians in Canada) is limited because of their inferior use of the electronic database. The Commonwealth Fund report found that only 37% of Canadian physicians used an electronic database. This is the lowest rate among the 11 countries studied in the 2008 report of the Fraser institute.

During the current decade, however, the number of health providers has grown. According to CIHI, the amount of doctors graduating from Canadian medical schools increased by almost 50% between 1999 and 2009. Between 2001 and 2008, there was a growth of 16% in registered physicians and 15% in registered nurses. Lastly, between 2004 and 2008, the number of nurse practitioners rose by 90%.

Many hospital beds are occupied by patients who no longer need acute care services. These patients (called be CIHI “alternate level of care”- ALC) could get better quality care at more feasible costs. In Ontario, 80% of all ALC bed days were used by these complex patients, spending an average of 72.9 days in hospital in 2006–07. In comparison, the average stay for a non-complex patient was 6.3 days over the same period. Over half of these complex patients also tend to be over 75 years old and one-third are dismissed from the hospital to another facility.

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68 Commission on the reform of Ontario’s public services, 2012, p.156
69 Ibid, p. 84. As cited in Commission on the reform of Ontario’s public services, 2012, p.156
70 Commission on the reform of Ontario’s public services, 2012, p.156
71 Ibid., pp. 82–84 as cited in Commission on the reform of Ontario’s public services, 2012, p.156
72 Commission on the reform of Ontario’s public services, 2012, p.159
(most likely a long-term care home). Another third are discharged to the community without care services.

Every health system should be designed to address the needs of the bulk of the population. However, less than 1% of Ontario’s population accounts for 49% of hospital and home care costs, and 10% of the Ontario’s population accounts for 95% of the same costs. The Institute for Clinical Evaluative Sciences (ICES) examined system-wide health care costs and found a comparable trend: 1% of the population accounts for 34% of costs and 10% accounts for 79% of costs.

The OECD, in its 2010 Survey of Canada, noted that Canadian generic drug prices were the highest among OECD countries. Ontario took action to decrease generic drug prices to 25% of brand prices. A study by the Canadian Centre for Policy Alternatives estimated that a national pharmacare plan would save 10% to 42% of total drug expenditures.

The Canadian health care system does not deliver great value for money when judged from a broader international perspective. The system is showing diverse signs of ill health today, even though the public is relatively satisfied. The Ontario health system was developed to deal with acute care. The focus is on “repairing” people after a health problem.

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73 Commission on the reform of Ontario’s public services, 2012, p.163
74 It should be noted that in this group it may have been the case that support services were not needed
75 according to a 2010 study by CHSRG, C. Preyra, “Realizing the Health Based Allocation Model,” PowerPoint deck provided by Mr. Preyra, 2010, p. 37, as cited in Commission on the reform of Ontario’s public services, 2012, p.161
76 excluding inpatient mental health and non-fee-for-service physician costs
77 Commission on the reform of Ontario’s public services 2012, p.161
78 Commission on the reform of Ontario’s public services, 2012, p.158
80 Commission on the reform of Ontario’s public services, 2012, p.161
81 Commission on the reform of Ontario’s public services, 2012, p.161
has occurred instead of having a strategy to avoid problems or at least diminish the effects. Moreover, the system is designed to bring the patient to the doctor, often in a hospital\(^82\).

Today, crucial health issues are shifting to chronic care areas as the population is aging and lifestyle problems such as obesity are causing particular health conditions. Home care is more effective and of better quality in many chronic care cases. However, though present and future recommendations of home care and long-term facilities for the aging population, there is no national intergovernmental approach. Nevertheless, there have been some provincial initiatives\(^83\).

### 3.3.2 New South Wales

Australia’s health care system is funded primarily through general taxation. The system depends on cost sharing to informed decision-making from those in need of health care. The federal government regulates the benefit rates that are paid for medical services and pay 100% for general practitioner services, 85% for other out-of-hospital services (including specialist consultations), and 75% for in hospital medical services for private patients in private and public hospitals\(^84\). The Australian government funds ambulatory and outpatient care through Medicare Australia and the state governments standardize health care providers and fund hospital care\(^85\).

In overall terms of value for money, Australia’s health care system compares favorably to Canadian’s health care system with regard to health outcomes versus money spent\(^86\). Moreover,

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\(^{82}\) Commission on the reform of Ontario’s public services, 2012, p.166  
\(^{83}\) Commission on the reform of Ontario’s public services, 2012, p.167  
\(^{84}\) Esmail, 2013, p.vi  
\(^{85}\) Esmail, 2013, p.14  
\(^{86}\) Simpson, 2012, p.302
Australia’s performance across measures of access and outcomes from the health care process are at lower costs compared to Canada\textsuperscript{87}.

The quantity of hospital beds in the Australian health care system is below the universal-access average in total (it is lower in Canada as well). In 2009, Australia had 4 curative care beds of a total of 4.4 hospital beds were present per 1,000 population\textsuperscript{88}.

\textit{Table 2.1: Hospital beds (public and private), per 1000 population, 2010}

The delivery of hospital care in Australia is through both public and private hospitals. Though the sector remains dominated by public providers, latest improvements have led to a greater share of the private sector in public hospital care through public-private partnerships for the construction and operation of public hospitals, and through contracts to treat patients from the public sector\textsuperscript{89}.

\textsuperscript{87} Esmail, 2013, p.13
\textsuperscript{88} Esmail, 2013, p.4 and p.6
\textsuperscript{89} Esmail, 2013, p.viii
Hospitals in Australia receive payments in two ways, by a case-mix or diagnosis-related-group (DRG) basis. DRG means that hospitals are funded by the type and mix of cases treated by them. A part of the funding is based on global budgets. State governments also procure hospital services from the private sector.\(^90\)

Australia is facing a shortage of physicians, despite the fact that it has 29% more physicians (GPs and specialists) per 1,000 population (age-adjusted) than Canada.\(^91\) Also, Australia is facing difficulties in rural and outlying areas for aboriginal populations.\(^92\) The NSW public health system employs almost 100,000 staff and is the largest health employer in Australia. The system is faced with a deficit of clinical staff across a range of disciplines. Since 2005, the number of doctors has increased by 26% and the number of nurses has increased by 10%.\(^93\)

The government of Australia runs a drug plan, the Pharmaceuticals Benefit Scheme (PBS). Unlike in Canada, where every province negotiates the price of the drug and the federal government is responsible for approving the drug, in Australia, the national government first determines if the drug is safe for use, clinically effective and cost effective compared to other treatments, and then negotiates the price with the pharmaceutical companies, for all the states.\(^94\)

After laying the foundation with the main characteristics of the systems, and show more similarities between Ontario and NSW, the next chapter analyzes six more key factors.

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\(^90\) Esmail, 2013, p.ix
\(^91\) OECD, 2011; calculations by author as cited in Esmail, 2013, p.19
\(^92\) Esmail, 2013, p.19
\(^93\) NSW health budget 2010-11, p.26-27
\(^94\) Simpson, 2012, p.304-305. For more information about health care performance in Canada and Australia, see appendix 7.2
4. Analysis

In Canada, health care expenditures are higher than in Australia or any other average state providing universal health coverage. In 2009, Canada’s health expenditures (age-adjusted, as older people require more care) were 26% higher than in Australia and the average universal-access state. Furthermore, Canada’s health expenditures, as an age-adjusted share of GDP, were highest out of all universal-access developed states\(^95\).

The government of Ontario released the budget for 2013 announcing that "the people of Ontario expect their government to provide high quality public services. They also expect the costs of these services not to lead to unsustainable debt levels and high interest costs for future generations"\(^96\). Similarly, “The people of NSW expect their healthcare system to have sufficient resources to provide high-quality, safe care to people who need it. They also expect value for money and efficient use of resources to ensure the system is affordable and sustainable”\(^97\).

The next chapter analyses the performances of Ontario’s health care system and NSW’s health care system across a wide range of key factors: information management, infrastructure, physicians’ compensation, private health care system, labor supply and efficiency. These key factors have been chosen because of their impact on the health care system, they consume large parts of the budget and they rise disproportionally to the population. Improving them can reduce costs and make the Ontario health care system more efficient with better value for money spent. Lastly, these key factors show how things are done differently in different systems.

\(^95\) Esmail, 2013, p.v
\(^96\) A prosperous and fair society, p.xvii, 2013
\(^97\) Healthcare in focus, 2012, p.71
4.1 Information management

The next two sections analyze how Ontario and NSW collect information about their patients and how they use that information.

4.1.1 Ontario

As mentioned above the effectiveness of physicians in Ontario is limited because of their low use of an electronic database\textsuperscript{98}. Currently, in many places in Ontario there is no connection between different parts of the health care system, partly because there is no use of electronic database. A case study presented to the Commission on the reform of Ontario’s public service\textsuperscript{99} describes a situation in which a 50 year old woman had a positive result in her mammogram\textsuperscript{100}.

The case study provides two scenarios which could happen in Ontario, as some places do use electronic data bases. The first scenario is when the family physician gets the results and makes all the necessary appointments for the patient. However, due to some difficulties there are delays in making appointments and the patient is “forgotten” in the process. The second scenario is when the patient is automatically referred to as “category 1” breast cancer and can make appointments when she is able to and within the time frame. Moreover, she has electronic access to her file and she gets information about what to expect from the appointments and all the necessary tests are taken at the same time in one place\textsuperscript{101}.

\textsuperscript{98} Commission on the reform of Ontario’s public services 2012, p.156
\textsuperscript{99} Public services for Ontarians: a path to sustainability and excellence, 2012, p.153
\textsuperscript{100} (Commission on the reform of Ontario’s public services, 2012, p.153
\textsuperscript{101} Commission on the reform of Ontario’s public services, 2012, p.153. For more information about the case studies please see appendix 1
The first scenario shows lack of co-ordination between the health providers and how the system un hinges, while losing focus of the patient’s experience as scheduling causes delays. “In the alternative outcome scenario, the patient has control of the scheduling and is at the center of a standardized process”\textsuperscript{102}. The biggest difference between the two scenarios is the use of an electronic database and its access by patients and doctors.

In 2008 Ontario established eHealth Ontario, an independent agency that enables all health care providers to establish and maintain electronic health records (EHRs). eHealth Ontario uses new information technology (IT) to improve both quality and access to health care and assists all health care providers to share patient information electronically\textsuperscript{103}. However, not all health care providers use electronic records in a way that lets diverse disciplines and services integrate their activities\textsuperscript{104}. Wide use of electronic records is the key to push Ontario’s health care system to better coordination, starting from local and regional records\textsuperscript{105}.

**4.1.2 New South Wales**

NSW started to use an electronic database in the health care setting in 2004\textsuperscript{106}. The benefits that the system brought were quick and easier diagnosis for physicians, preventative care, as all the patients’ history is available and stopped duplication of tests\textsuperscript{107}. Not only do health care providers have access to the system, but also the patients themselves. Apart from it being an

\textsuperscript{102} Commission on the reform of Ontario’s public services, 2012, p.153
\textsuperscript{103} eHealth Ontario, 2013
\textsuperscript{104} Commission on the reform of Ontario’s public services, 2012, p.171
\textsuperscript{105} Commission on the reform of Ontario’s public services, 2012, p.171
\textsuperscript{106} Gedda, 2004
\textsuperscript{107} Gedda, 2004
efficient move, it is also time saving and a money saver for the system and the patients themselves.

Health information has been described as "fragmented across many segments"\(^{108}\). When the electronic system started it was first implemented at physicians’ offices and private clinics, and then extended to include other services such as pharmacies\(^{109}\). In 2009, a new electronic system was introduced to include hospitals\(^{110}\).

The benefits for health professionals included the ability to record care where and when it was needed, better access to patient’s history, and having forewarnings about possible medical conditions. Patients’ benefits, among others, were a decrease in the potential for medical and administrative errors, reduced delays in retrieving clinical information, reduced duplication of orders for diagnostic tests and better availability of integrated patient information\(^{111}\).

The discussion about an electronic database is crucial, as it can save money and provide better value for money. Though there are several areas in Ontario with extensive electronic databases, not all doctors use one and Ontario only started to establish the system in 2008.

In Ontario, family care providers should be the first point of contact for patients. They help patients navigate the system, mainly patients with several complex conditions. When a patient is discharged from hospital, the family physician should be aware of this and be able to access information rapidly for a suitable follow-up. Family physicians need more time to

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\(^{108}\) Gedda, 2004  
\(^{109}\) Gedda, 2004  
\(^{110}\) Gedda, 2009  
\(^{111}\) Gedda, 2009
spend with their patients and less time on the phone searching for specialists. With the use of an electronic database this issue could be achieved.

Moreover, when all the required information about each patient is available to all physicians, when a patient visits a different clinic or is at a specialist’s office, they do not need to repeatedly describe allergies, medical history or results from previous procedures and tests. This would not only save time for the physician but will also give the patient more efficient treatment. It would prevent the patient from visiting the hospital due to allergies which they forgot to mention or other complications the physician was not aware of due to lack of information.

In places that use electronic records, money could be saved on duplicated tests, finding specialists for a patient and matching them with the right treatment. Access to information will be quick and easy and save time that could be used for spending more time with patients, for preventable care. Moreover, potential for administrative and medical errors will be reduced and patients will be at the center of the health system.

4.2 Infrastructure

The following two sections cover infrastructure in Ontario and NSW. Infrastructure is “the physical backbone of a community.” With regard to health care systems, infrastructure is the setting where patients get services and where research is conducted, places such as hospitals, clinics and hospitals’ parking’s. This section has a notable place in the costs of health care and holds a special place in the budget. Moreover, both in Ontario and NSW, hospitals are major cost drivers of the health care budgets.

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112 Ontario action plan, 2012, p.8
113 What is infrastructure?, 2013

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4.2.1 Ontario

Ontario's government believes that investment in health care infrastructure will help deliver excellence care and protect the health care system for future generations. The province plans to invest more than $3.5 billion in capital grants to hospitals, from 2013 and over the next three years. These investments will support 19 major hospitals’ projects which are under construction and more than 30 hospitals that are in different phases of development\textsuperscript{114}.

The province’s planned investments will support over 25,000 jobs on average, every year and for the next three years. In addition, investments in health care infrastructure could be the solution for the demographic needs of the province\textsuperscript{115}. New investments are dedicated to providing care in the community so that the aging population can stay at home longer. These investments would create better home care for the elderly\textsuperscript{116}.

The government is committed to giving all Ontarians access to the same high-quality health care services. Therefore, the focus is on applying measures that will help meet the health care requirements of patients including: investing $20 million yearly to help small and rural hospitals increase patient care and transform their organizations\textsuperscript{117}.

Ontario’s Action Plan for seniors provides better access to health care, excellence resources, and improved safety and security for the aging population. The Plan “Living Longer, Living Well,” has original and current programs to ensure elders and their caregivers have access

\textsuperscript{114} A prosperous and fair society, 2012-13, p.36
\textsuperscript{115} A prosperous and fair society 2012-13, p.36
\textsuperscript{116} A prosperous and fair society 2013, p.73
\textsuperscript{117} A prosperous and fair society 2013, p.74-75
to vital services, where and when they need them. These include new funds for long-term care homes and deliver a primary care provider to every patient who wishes for one\textsuperscript{118}.

Patients falling under ALC status in hospital beds could be better cared for at home or in their community given the right supports. Serving these patients well benefits the whole system, it releases hospital beds for those who need them, decreases pressure on emergency rooms and thereby saves money\textsuperscript{119}.

The goal is to expand Health Links across the province, thus encouraging more efficient delivery of services and treatments and moving routine processes from hospitals to specialized not-for-profit community clinics. These clinics could then serve more patients more rapidly and at a lower price, while attaining commendable outcomes\textsuperscript{120}.

4.2.2 New South Wales

NSW established the Health Infrastructure team in June 2007. Its role was to identify the delivery and management of main capital works projects, and projects of $10M and more\textsuperscript{121}. The team has an Executive Board who provides general strategic direction in the delivery of key health projects and reports to the NSW Ministry of Health Director General. Each of the Board Fellows offers specialized proficiency in the areas of health and infrastructure\textsuperscript{122}.

\textsuperscript{118} A prosperous and fair society, 2013, p.74-75
\textsuperscript{119} Ontario action plan, 2012, p.11
\textsuperscript{120} A prosperous and fair society 2013, p.119- 120
\textsuperscript{121} About us, 2013
\textsuperscript{122} Health Infrastructure brochure, p.1
The NSW public health system offers broad health services. This includes 251 hospitals servicing over 1.5 million patients every year and employs around 95,000 staff. The 2013/14 budget will provide $17.9 billion and, $1.2 billion for capital works\textsuperscript{123}.

“NSW Health Infrastructure is committed to timely and cost effective delivery in a fast paced, continually evolving environment”\textsuperscript{124}. The system is designed to work in a cooperative way that brings together the benefit of corporate knowledge and professional advice. “Creating a framework for communication and consultation is an essential element in all Health Infrastructure projects”\textsuperscript{125}. The greatest outcomes will be achieved through a shared understanding of the projects’ visions and objectives\textsuperscript{126}.

Ontario gives a valuable part to health infrastructure in its budget. It also sees infrastructure as one of the solutions for the aging population and its growing needs and has started to develop many programs to cope with infrastructure issues. However, the province still has many unconnected services working in different ways.

A solution for this is for the Ministry of Health and Long Term Services (MOHLTC) to work with its health care providers, administrators and stakeholders to co-ordinate roles, simplify the paths of care and develop the overall patient experience in the health care system\textsuperscript{127}. Also helpful would be to create a team responsible for overseeing the issues, a group consisting of a range of specialists including architects, engineers, builders and constructors who could work together to deliver the best and most affordable investments.

\textsuperscript{123} Health Infrastructure, 2013
\textsuperscript{124} About us, 2013
\textsuperscript{125} About us, 2013
\textsuperscript{126} About us, 2013
\textsuperscript{127} Public services for Ontarians: a path to sustainability and excellence, 2012, p.152
4.3 Physicians’ compensation

The next two sections cover compensation for physicians. They describe various ways of paying physicians and the methods used in Ontario and NSW. Physicians’ compensations are one of the most expensive parts of the Ontario health care budget and altering the scope of it can significantly reduce health care costs.

4.3.1 Ontario

“Physicians’ compensation accounts for about one-fifth of all Canadian healthcare spending”\textsuperscript{128}. Canada has an expensive health care labor force and its doctors are amongst the top paid in the world. In 2010, their salaries cost Canadians more than $27 billion, about $390,000 per doctor\textsuperscript{129}. “More people need more health care and any increases in compensation for the people who work in the health care system are cost drivers that affect all corners of the health care system”\textsuperscript{130}.

Generally, there are three types of payments made to physicians: salary or short-term contracts, fees for service and capitation. A fee for service is the most common method of payment and almost 40% of doctors are paid a fixed fee for each service they provide (from an approval list). About 25% doctors receive a salary, a fixed amount per unit of time and, only 1% off all Canadian doctors receive capitation which is a fixed amount per month for each patient registered with their practice\textsuperscript{131}.

In Ontario, 40% of doctors receive fee for service, 10% receive salary and about 3% receive capitation. 35% receive blended payments and about 12% receive other payments such as

\textsuperscript{128} Blomqvist and Busby, 2012, p.1
\textsuperscript{129} Simpson, 2012, p.313
\textsuperscript{130} Public services for Ontarians: a path to sustainability and excellence, 2012, p.147
\textsuperscript{131} Blomqvist and Busby, 2012, p.2-3
contracts and incentives\textsuperscript{132}. From 1993 to 2003, fee for service rose 2% a year. From 2009 to 2011 the fee rose more than 4% a year\textsuperscript{133}.

The government of Ontario thought that if professionals group together, their clinics could stay open longer hours and act as an alternative to emergency rooms, patients would be seen by the appropriate professional and it would reduce government’s costs from paying fees for service. Several kinds of family- health units were established and by the end of 2010, 7,500 physicians out of 12,000 were enrolled in this scheme\textsuperscript{134}.

Physicians were paid in several ways; in essence, they received a salary and a smaller amount of fee per service. This way, there was a fixed cost of a salary and an incentive to see more patients through fee for service. This model spread quickly and the number of patients increased by 24% to almost 10 million more patients\textsuperscript{135}.

Ultimately, physicians who enrolled in this model received more than 25% income than physicians who received fee per service. Moreover, a survey from 2010 revealed that 92% of clinics are not open more than the customary hours of 9a.m to 5p.m, as their agreement with the government specified. Another survey revealed that wait times did not change and patients were waiting the same amount of time for physicians enrolled in the new agreement and physicians who are paid by fee for service. Lastly, the Ontario auditor general found that the government was paying twice for the same patient due to the fact that doctors were paid for a patient even if the patient went to a different physician\textsuperscript{136}.

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\textsuperscript{132} Blomqvist and Busby, 2012, p. 3 \\
\textsuperscript{133} Simpson, 2012, p.315 \\
\textsuperscript{134} Simpson, 2012, p.325 \\
\textsuperscript{135} Simpson, 2012, p.325 \\
\textsuperscript{136} Simpson, 2012, p.326
\end{flushright}
4.3.2 New South Wales

In Australia, physicians are not guaranteed by a fixed fee and are free to charge any price for their services. When general practitioners are prepared to accept 100% of the scheduled fee and specialists are prepared to accept 85% of the scheduled fee as full payment for their services, they earn the ability to “bulk bill” the government for their services directly. If they refuse to accept these costs, patients are charged the fee for the service and must apply to Medicare for reimbursement of either 100% or 85% as appropriate. These boundaries apply to both payments (the difference between the scheduled fee and Medicare reimbursement) and for the total out of pocket payments\textsuperscript{137}.

General practitioners (GP’s) are mostly self-employed and manage their clinics as small businesses. Two third of the clinics are solo practice types however, only about one third of GPs work in such practices as most are employed in private groups or multi provider practices\textsuperscript{138}. GPs have a gate-keeping role when sending patients to specialists. This role is enforced through financial incentives and reimbursements are paid for only referred consultations. Primary care providers are paid on a fee-for-service basis, with fees set by the federal government. They may also receive payments under the Practice Incentives Program, which offers financial incentives for improving excellence and liability\textsuperscript{139}.

Australia also funds Divisions of General Practice, to improve quality of health care. This is done by encouraging physicians to update their skills and knowledge. Another federally funded initiative is ‘Medicare’ which encourages health care providers to synchronize primary care delivery, improve access to after-hours care and deal with service gaps. There are also

\textsuperscript{137} Esmail, 2013, p.vi
\textsuperscript{138} Esmail, 2013, p.vi
\textsuperscript{139} Esmail, 2013, p.viii
incentive programs that exist to encourage the employment of nurses in primary care and the establishment of multidisciplinary teams\textsuperscript{140}.

Specialists paid on a fee-for-service basis, where fees are set by the federal government but are not obligatory, can be considered as independent practitioners. Their compensation in public hospitals is determined at the state level, while fee-for-service payments for ambulatory care are determined by the federal government. Doctors providing in-hospital care can be paid in two ways. Several hospitals hire salaried physicians or medical officers who work full time in the hospital\textsuperscript{141}.

Visiting medical officers can work as independent freelancers for the hospital and can either be paid a fee-for-service per procedure or on a sessional basis for a specific amount of time per period. They may be allowed to see private patients in the public hospital, under conditions that fees are payable to the hospital\textsuperscript{142}.

Both Ontario and NSW pay their doctors by way of fee for service. The difference lies in who determines the fee and other incentives used, to have a group of efficient, knowledgeable and effective doctors. Unlike Canada who has 13 different health care systems whereby each province and territory determines the fees for service, in Australia the federal government determines the fee. The doctors can then decide to have higher fees, however this will lead to less privileges.

Doctors’ compensation is an integral part of Ontario’s health care system. After years of study and given the sensitivity of their job, it is understandable that they should be compensated

\textsuperscript{140} Esmail, 2013, p.viii
\textsuperscript{141} Esmail, 2013, p.ix
\textsuperscript{142} Esmail, 2013, p.ix
for it. However, their salary increases disproportionately to the inflation rate, along with the
decrease in the amount of hours of work and the negative increase in the population growth.
Moreover, doctors today, mainly family physicians deliver less direct services to their patients\textsuperscript{143} and get paid more.

The policies that determine doctors’ salaries are critical when creating a cost effective
healthcare system. The way doctors are paid can affect their behavior, the quality and quantity of
their services\textsuperscript{144}. Moreover, their decisions affect the entire system from prescription drugs to
health procedures, use of facilities and referrals\textsuperscript{145}. Dr. Frank argues that: “doctors make
decisions that drive 74\% of the system’s costs, but they are not evaluated for their own
efficiencies, their quality of medical practice and patients outcomes…”\textsuperscript{146}. This creates a great
challenge for Ontario’s government (and any government) to build a payment system that will be
a “win-win” situation for all.

Ontario’s government tried to change the traditional method of fee per service, but left
power in the doctors’ hands and did not create an incentive or put any mechanism in place to
control it. Patients can still see any doctor they wish to and doctors can choose which patients to
charge fee for services (the ones that requires many services) and which by capitation\textsuperscript{147}.

In NSW doctors have the power to refuse the scheduled fee that is set by the government
but doing this will limit their power. Furthermore, the government creates incentives and
programs to make doctors want to be more efficient, effective and knowledgeable. This is a win-
win situation for all, a situation Ontario could benefit from if embraced.

\textsuperscript{143} Blomqvist and Busby, 2012, p.1
\textsuperscript{144} Blomqvist and Busby, 2012, p.2
\textsuperscript{145} Blomqvist and Busby, 2012, p.1
\textsuperscript{146} Simpson, 2012, p.198
\textsuperscript{147} Blomqvist and Busby, 2012, p.10
4.4 Private health care systems

The next two sections cover the private aspect of the health care system. Governments cannot provide all necessities for their citizens and so some services have to be private. The sections will show the type of approach each system takes towards private health care, how it affects the services and just how public and private the systems are.

There are two types of private services that would be discussed in the section; private services that are either paid by insurance or out of pocket and private delivery of public services that are free like other public services and provided through private actors.

4.4.1 Ontario

“Private health care makes Canadian angry, nervous and confused”148. According to the Canada Health Act, patients should not be allowed to pay for medically necessary services. In reality however, private health care in Canada is growing slowly149 and the system is not as public as many Canadians think150. Many private services are delivered privately and without insurance, they are paid for out of pocket.

Polls suggest that the majority of Canadians do not support private health care since it offends the principle of equity, which is care based on need and not income151. Moreover, the word “private” for Canadians causes fear and confusion and they translate it to profit. “The whole ethos of medicare is that profit is bad, un-Canadian and a threat to Canadian values”152. Canadians are opposed both to private services that are being delivered privately and to public

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148 Simpson, 2012, p.224
149 Simpson, 2012, p.224
150 Commission on the reform of Ontario’s public services, 2012, P.154
151 Simpson, 2012, p.224
152 Simpson, 2012, p.227
services that are being delivered by private actors. Simpson (2012) describes examples of successful stories of private actors who delivered public services but, due to public pressure had their services canceled.

The system that many Canadians are proud of covers medically necessary hospital services (99% covered by the government), physician services (91% covered by the government), but not much more. The list of services not covered by Medicare is extensive from nursing, psychology and other counseling, out-of-hospital drugs, ambulance services, eye care and dental care, community mental health services, nutrition advice, addiction treatment to long-term care and more\textsuperscript{153}. These private services are delivered by private actors and are paid for out of pocket or by private insurance coverage (a fraction of it).

According to OECD data, in 2009, the public sector accounted for 70.6\% of all health care spending which is lower than the five G7 states, but higher than the U.S (47.7\%). From the 27 OECD states, Canadians spent an average of $636 (U.S.) in out-of-pocket health payments, the fifth highest of 27 countries measured\textsuperscript{154}.

\textbf{4.4.2 New South Wales}

As previously mentioned, Australia’s health care system relies to a large extent on a private, comparable health care system\textsuperscript{155}. In 2010-11 the budget for private health care was $13 billion\textsuperscript{156}. One of the goals of the budget was to guarantee the public system was complemented by a fair and affordable private sector which would bring more choice for everyone. The private

\textsuperscript{153} Commission on the reform of Ontario’s public services, 2012, P.155
\textsuperscript{154} Commission on the reform of Ontario’s public services, 2012, P.154
\textsuperscript{155} Esmail, 2013, p.viii
\textsuperscript{156} Healthcare in focus 2012, p.72
sector plays a large role in the delivery and financing of public health care services, mainly elective surgery\textsuperscript{157}.

The role of private insurance to finance physician services is limited to hospital care. Private insurers cannot cover any gap payments for outpatient GP or specialist care however, they can cover services such as optical care, dental care, physiotherapy, and prescribed drugs not covered by public insurance. In addition, they can develop favorite-provider networks and negotiate contracts with health care providers, including doctors and hospitals\textsuperscript{158}.

Australia’s government has policies to encourage citizens to purchase private insurance such as 1% income-tax for high income earners (AUS$80,000 individual or AUS$160,000 family) who do not have private insurance (enacted 1997) and, 30% rebates on private health-insurance premiums (enacted 1999) which was increased to 35% for people 65 to 69 and to 40% for people 70 and over, in 2005\textsuperscript{159}. Another policy is ‘lifetime community rating’ which imposes greater premiums on people who join a private health insurance after the age of 30. The increase is 2% for each year of age after 30 until the person has purchased private insurance (enacted 2000)\textsuperscript{160}.

Australia’s private health care sector shares medical resources with the public sector. Physicians can serve public and private hospital patients (a policy known as dual practice). Hospitals can also serve patients on a public or private basis\textsuperscript{161}. Under universal-access insurance public hospitals in NSW offer free-of-charge accommodation, medical, nursing, and other care to
all patients such as outpatient treatment. Large public hospitals also provide advanced treatments including major surgery, intensive care and organ transplants\textsuperscript{162}.

Private hospitals offer non-emergency care for private patients and focus on providing a substitute to elective surgery in public hospitals, which can suffer from long waiting lists. Their clinical capacity has been expanded in recent years due to accessible technology and new procedures like minimally invasive surgery\textsuperscript{163}.

Understandably health services should be provided on the basis of need and not income. However, no government can provide all the needs for all the citizens. Therefore, private delivery of public services is a must and proved during the past years (examples form Simpson book, 2012) to be efficient and effective. Private delivery of private services is an existing reality in Canada, but requires more understanding from the public as well as more incentives for the public to buy a private coverage.

NSW understands that it cannot provide all health services to its citizens and encourages them to provide a supplement private insurance. In order to control the private system and make sure that everyone can use its services, it is part of the health budget. Moreover, there are regulations that control the private system.

In Canada, most of the public is against private health care. This requires the government first to educate the public and “share” the hard truth of rising health care costs and how the future will look like if there are no changes. Not all the public is aware of the current situation of its health system. Waiting lists and difficulty accessing the system for some or other reason has not made the public question the system.

\textsuperscript{162} Esmail, 2013, p.viii  
\textsuperscript{163} Esmail, 2013, p.viii
### 4.5 Labor Supply

#### 4.5.1 Ontario

Canada performs relatively poorly compared to both the universal-access average and Australia with respect to physicians. In 2009, Canada had 2.6 physicians per 1,000 population (age-adjusted) compared to an OECD average of 3.3 and Australia’s 3.4 per 1,000 population. Canada’s share of nurses to population is better and both Canada (10.3) and Australia (11.6) have more nurses per 1,000 population (age-adjusted) than the average universal access nation (9.6)\(^{164}\).

Though the statistics mentioned in the background section suggest that Canada has fewer doctors than elsewhere, reality can be different. It may be that Canada does not make efficient use of doctors’ time. Nurses could give vaccinations instead of doctors, pharmacists could play a greater role in issuing prescriptions and all doctors could use electronic records. These and other changes can give physicians’ more time to be with their patients, have more patients and reduce, if not eliminate, any scarcity of doctors\(^ {165}\).

Since 2003 Ontario added 4,000 additional doctors. Moreover, since 2006, Ontario has added more physicians than the national average. Over 15,000 extra nurses have been working in Ontario since 2003. Ontario has also more than doubled the number of primary care Nurse Practitioner education spaces from 75 to 200. In 2013, there are 1,874 nurse practitioners in Ontario compared to 729 in 2007\(^ {166}\). However, they represent only 0.7% from the total registered

\(^{164}\) Esmail, 2013, p.4  
\(^{165}\) Commission on the reform of Ontario’s public services, 2012, p.156  
\(^{166}\) Progress report, 2012
nursing population\textsuperscript{167}. Since 2004, Ontario has added 260 more places in medical schools, an increase of 38%. The province has more than doubled the number of spaces for international medical graduates from 90 to 200 each year and by 2013 will have increasing number of family medicine residency positions by 160% to 326 spaces\textsuperscript{168}.

In 2010, the province introduced ‘HealthForceOntario’ and Northern and Rural Recruitment and Retention Initiative to attract more physicians to rural and northern communities. Since the program began, the province has added 72 medical specialists and 120 family physicians\textsuperscript{169}.

\textbf{Table 2.2: Physicians and nurses per 1000 population in Canada, Australia and the OECD.}

\begin{table}[h]
\centering
\includegraphics[width=\textwidth]{chart2.png}
\caption{Physicians per 1,000 population, age-adjusted, 2009 or nearest year}
\end{table}

\begin{table}[h]
\centering
\includegraphics[width=\textwidth]{chart3.png}
\caption{Nurses per 1,000 population, age-adjusted, 2009 or nearest year}
\end{table}

\textsuperscript{167}Simpson, 2012, p.317
\textsuperscript{168}Progress report, 2012
\textsuperscript{169}Progress report, 2012
4.5.2 New South Wales

In 2009, New South Wales had 21,992 doctors. Still, the number of doctors per 100,000 population was the lowest, with 309 doctors\textsuperscript{170}. Unlike in Canada, where every province is responsible for the education of doctors, in Australia the national government is responsible for higher education, including medical programs. Medical school intakes have been expanding since 2000 and the number of medical students doubled from 1,660 in 2000 to 3,469 in 2010\textsuperscript{171}.

In 2010, NSW’s state health plan was to have a sustainable work force to address the shortfall in the supply of health professionals. The state worked together with the Commonwealth, universities and colleges to raise the number of all health care providers from doctors and nurses to dentists and midwives, population health and allied health workers through a mixture of recruitment, retention, education and training strategies\textsuperscript{172}. NSW launched marketing strategies to promote health careers in universities and colleges and recruited overseas trained workers to meet the long term goal of having a properly skilled workforce\textsuperscript{173}.

In regional, rural and remote areas which face workforce shortages, new programs have been implemented, including a recruitment and retention toolkit, to hire supplementary clinical staff. Service delivery has been improved by expanding medical training networks to raise the supply of medical officers to rural communities and employing strategies to recruit and retain nurses and allied health professionals\textsuperscript{174}.

Both Ontario and NSW face the same scarcity of labor supply, specifically in rural areas. Moreover, both have the same goal that is, to have a sustainable workforce. Ontario did and is

\textsuperscript{170} Doctors in focus, 2012, p.18
\textsuperscript{171} Doctors in focus, 2012, p.29
\textsuperscript{172} NSW state plan, 2010, p.30
\textsuperscript{173} NSW state plan, 2010, p.30
\textsuperscript{174} NSW state plan, 2010, p.31
still doing a lot of work to meet the needs of the system however; it seems that the things that are being done, are only for the near future, and not for the long term. Moreover, different parts of the system seem not to be linked to each other.

In Canada, every province and territory is responsible for the education of its health providers. Not only does this have a great effect on immigrant doctors, who need to choose where to immigrate, since every province has different requirements, it also has an effect on students studying in Canada and working in a different province. Instead of making it easier for doctors and nurses to move between places, to fill up shortages immediately, this process causes delays.

4.6 Efficiency

The current health system in Ontario (and Canada) is not efficient. This starts from the traditional way of paying physicians to the way hospitals are financed. The next two sections analyze the inefficiency of each system and show how Ontario’s healthcare system could be efficient.

4.6.1 Ontario

OECD researchers measured inefficiency costs in health care systems and came to a surprising conclusion about Canada. They found that if Canada became as efficient as the best-performing countries, in 2017 there would be a projected saving in public health care costs of 2.5% of GDP\textsuperscript{175}. Reaching such efficiency would not permanently lower the growth of health

care costs, but could do so over the transition period\textsuperscript{176}. Furthermore, the OECD proposed that Canada disuse $40.6 billion of the $136.9 billion that the public sector spent on health in 2010; In Ontario, as long as the 2.5\% figure holds true for the province, the surplus would be $13.4 billion out of $47.8 billion in total public spending\textsuperscript{177}.

If Ontario can find efficiencies that reduce the high costs in a small groups of the population by 10\% (1\% of Ontario’s population accounts for 49\% of hospital and home care costs, and 10\% of the Ontario’s population accounts for 95\% of the same costs), this percentages could amount to at least $1.5 billion a year in savings, a share of which could be achieved through superior co-ordination of services\textsuperscript{178}. In 2011, analysis by the Bridge Point Health and Boston Consulting Group suggests that the savings achieved through superior co-ordination of care in Ontario could be even larger, $4 billion to $6 billion per year\textsuperscript{179}.

Simpson (2012) devotes an entire chapter in his book to efficiency, and asks the question “can efficiencies save medicare?”\textsuperscript{180} The chapter does not talk directly about Ontario’s health care system, but the examples he uses and the people he interviews show how inefficient the Canadian healthcare system is and how much money could be saved by making small changes. For example, though the health system contains a lot of data and research, Dr. Frank argues that it is not the right data. It is not reliable and timely enough to help with decision making. The current data measures the overall system and not individuals’

\begin{itemize}
\item \textsuperscript{176} Commission on the reform of Ontario’s public services, 2012 p.160
\item \textsuperscript{177} Calculations based on CIHI, “National Health Expenditure Trends, 1975–2011,” as cited in Public services for Ontarians: a path to sustainability and excellence, 2012, p.160. Please note that measuring inefficiency, mainly when comparing different international systems, can be problematic, therefore, caution should be used when interpreting the OECD figures. Furthermore, it may not be possible to eliminate or even reduce the figures. Nevertheless, one could still safely presume that if as little as 10\% of this inefficiency, over the next 10 years period is removed, public health care spending could be controlled to a low growth rate over that period (Commission on the reform of Ontario’s public services, 2012, p.162).
\item \textsuperscript{178} W. Wodchis et al., op. cit., p. 21.as cited in Commission on the reform of Ontario’s public services, 2012, p.162
\item \textsuperscript{179} Bridgepoint Health and Boston Consulting Group, “Improving Value in Managing Patients with Complex Chronic Disease,” PowerPoint deck provided by Bridgepoint Health, 2011as cited in Commission on the reform of Ontario’s public services, 2012, p.162
\item \textsuperscript{180} Simpson, 2012, p.195
\end{itemize}
performance and outcomes. Dr. Frank presents a chart showing how a surgical team saved $60,000 in less than three months. If all teams for hip and knee replacements will meet the province norm, they would save the system $19 million a year\textsuperscript{181}.

4.6.2 New South Wales

In NSW, in order to meet two key objectives of equity of access and efficient use of money in the health care system, the NSW Health’s Resource Allocation Unit developed a Resource Distribution Formula (RDF) to assess future relative health needs\textsuperscript{182}. This tool can predict and plan future changes and ensure each community gets the comparable access to the health services it needs. The RDF indicates what share of the health budget each Area Health Service should obtain both to ensure money need is addressed, and to face historic inequalities in access to health services. When the Area Health Services receives the funds, it uses a model named ‘episode funding’ to make sure money distributed fairly to health centers, hospitals, and services under Area control\textsuperscript{183}.

The NSW budget consists of yearly budget, health budget and a budget fact sheet which provides details about the distribution of the health costs. The yearly budget is divided into main categories such as health, education, wealth and so on. Compared with Ontario budget, which is written as a long story that contains mainly general costs and are not as specific. It is divided into categories such as prosperous and fair society, economic outlook, fiscal plan and so on.

Looking at table 2.3 below which is taken from the OECD website, table B shows that Canada is not expecting efficiency gains between 2007 and 2017, while Australia is expecting

\textsuperscript{181} Simpson, 2012, p.198-199
\textsuperscript{182} NSW Health funding approach, 2005, p.1
\textsuperscript{183} NSW Health funding approach, 2005, p.1
about a 40% increase in efficiency and is third after Korea and Turkey. Table C illustrates potential savings in public spending, Australia is already in a good place, and its potential is almost maximized, while Canada has almost 3% potential in public savings, which is above the OECD average.

Applying this potential means that, if Ontario has 1.5% potential in public savings, in a budget of $44.77 million a year; it would save more than $671,000. This money could be spent in other areas of health or education, social services, transportation and so on. The current situation is that the system is lacks efficiency and NSW is a state that has efficient health care system that provides value for money spent.

After analyzing the performances of Ontario’s health care system and NSW’s health care system across a wide range of key factors it is clear that NSW is a good model for Ontario to use or get inspired from. NSW has an efficient and less pricey health system.
Table 2.3: Potential efficiency gains and savings in public spending

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A. Gains in life expectancy

- Increase over 1997-2007
- Potential gains in 2007

B. Increase in per capita spending, in real terms

- 1997-2007
- 2007-2017 exploiting efficiency gains

C. Potential savings in public spending

- % 2017 GDP

5. Conclusion

Ontario’s health care system is pricey and does not provide value for money spent. The costs of the system increase disproportionally to the negative increase of the population and the inflation rate, if nothing changes, health will “eat” 80% from the budget in the next couple of years. Currently many services in the system are not connected to each other and plans for change are only targeting one specific area and not taking into account the system as a whole.

No government can meet all the needs of all citizens, especially in a system that has many services and is big, complex and divers. The public is not fully aware of the current situation and the true costs of the system. The fact that they “enjoy” “free” health care services in hospitals and from doctors, seems to be enough. Ontarians are proud of a system that delivers free visits to the hospital and family physicians. They forget that many services such as dentists, drugs and eye vision care, cost money and are private. Without private insurance coverage these services cost money and the Ontarians pay for them out of pocket.

“Private health care has been part of medicare from its creation”\textsuperscript{184}. It is important to encourage Ontarians to purchase private insurance for privately funded services that delivered privately and to have more public services delivered privately to reduce waiting times. Given the chance even those who oppose private health care, will use private services when the time comes and pay what they have to, whether they have the money or not, it is important to give this choice to everyone. This does not mean that the services will be expensive and only available for people who can afford them and it does not mean that we jeopardize the equity value. Everyone has the freedom of choice and this is the most important value.

\textsuperscript{184} Simpson, 2012, p.225
Ontario implemented and still has many programs to tackle issues in its health care system such as aging, infrastructure and more. However, a wider view is needed and only a reform in all the parts of the system can be the solution to the increasing costs. Ontario has also created a plan for the next 20 years. However, a 20-year plan is redundant. With political, economic, environmental and international changes, twenty years is too long to plan for.

Ten years plan, as the current plan is, is more suitable as long as it’s planned accurately and combines all the elements of the health care system. The current plan is too broad and does not contain enough numbers, just nice words on how Ontarians want the system to be like. Moreover, the plan does not contain elements that are essential for change in the Ontario health care system such as an electronic data base and the private health care system.

With regard to the use of an electronic data base, though Ontario did establish an electronic system in 2008, not all the province is using it and the system does not connect everyone, as it should. The province must enforce the use of an electronic data base everywhere and creates incentives for health care providers to use them effectively and efficiently.

Lastly, the way to reduce or maintain costs in every system is long and hard, especially in a health care system that is based on egalitarian principles. Ontario has made some progress in the last years, but there is still a long way to go and to bring better value for money spent.
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7. Appendices

Appendix 7.1

Case Study #1:
A 50-year-old woman has a mammogram. The results go to her family physician, whose office calls and asks her to come in for the next available appointment, which is a week later. At the appointment, the family physician says the results are positive for cancer and that she will arrange for a needle aspiration. The family physician has trouble finding a radiologist to do the needle aspiration and it takes three weeks to have it performed. The radiologist then has difficulty finding the mammogram as it was done somewhere other than in his clinic, creating further delay. The aspiration shows suspicious cells and the family physician’s office calls the patient back and asks her to make another appointment to discuss the results. The family physician now wishes to do an MRI, and again there is difficulty getting it done in a timely fashion. Meanwhile, the patient is becoming frantic and taking a lot of time off work. When the MRI is done, the patient is again called back to the family physician’s office where the doctor tries to find a breast cancer surgeon to perform a biopsy as her preferred surgeon is on holiday. Three weeks later, the breast cancer surgeon performs the biopsy, which is found to be negative (i.e., cancer-free).

Case Study #1, What could happen:
After a positive mammogram, the patient is referred electronically as a “Category 1” to a breast assessment centre. The patient goes online to her own record and links to the centre, where she can find and book an appointment at a time that suits her that is also within the Category 1 window for diagnosis and treatment. Through this online portal, the patient is also told how to prepare and what to expect at her appointment. When the patient arrives at the breast assessment centre within the proper time-frame set out by best practice guidelines, she sees a nurse practitioner expert and has her blood work done, a needle aspiration and an examination by doctor, all in one appointment. The patient then books her own followup appointment for four days later, which happens to be an early evening appointment so she can go after work. At the followup appointment, her results are discussed and are also available to the patient online, with email and text access to a registered nurse. That followup appointment avoids the unnecessary MRI and the patient is booked for biopsy. Again, the patient can see the results and discuss them immediately by email and phone.

**Health system performance—Canada compared to Australia**

<table>
<thead>
<tr>
<th>Indicator*</th>
<th>Canada</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total health expenditures (age-adjusted, % of GDP)</td>
<td>12.5</td>
<td>9.9</td>
</tr>
<tr>
<td>Physicians (age-adjusted, per 1,000 pop.)</td>
<td>2.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Nurses (age-adjusted, per 1,000 pop.)</td>
<td>10.3</td>
<td>11.6</td>
</tr>
<tr>
<td>MRI machines (age-adjusted, per million pop.)</td>
<td>8.8</td>
<td>6.7</td>
</tr>
<tr>
<td>CT scanners (age-adjusted, per million pop.)</td>
<td>15.2</td>
<td>43.8</td>
</tr>
<tr>
<td>Hospital beds (age-adjusted, per 1,000 pop).</td>
<td>3.6</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cusitive care beds</td>
<td></td>
</tr>
<tr>
<td>Waited less than 30 minutes in emergency room before being treated (% of patients, 2010)</td>
<td>20%</td>
<td>33%</td>
</tr>
<tr>
<td>Same- or next-day appointment with doctor or nurse when sick or needing care (% of patients, 2010)</td>
<td>45%</td>
<td>65%</td>
</tr>
<tr>
<td>Waited less than one month for specialist appointment (% of patients, 2010)</td>
<td>41%</td>
<td>54%</td>
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<tr>
<td>Waited less than one month for elective surgery (% of patients, 2010)</td>
<td>35%</td>
<td>53%</td>
</tr>
<tr>
<td>Waited for four hours or more in emergency room before being treated (% of patients, 2010)</td>
<td>31%</td>
<td>16%</td>
</tr>
<tr>
<td>Waited six days or more for access to doctor or nurse when sick or needing care (% of patients, 2010)</td>
<td>33%</td>
<td>14%</td>
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<td>Waited two months or more for specialist appointment (% of patients, 2010)</td>
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<td>Waited four months or more for elective surgery (% of patients, 2010)</td>
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<td>18%</td>
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<td>Infant mortality rate (per 1,000 live births)</td>
<td>5.1</td>
<td>4.3</td>
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<td>Mortality amenable to health care (per 100,000 pop, 2007)</td>
<td>74</td>
<td>68</td>
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<td>In-hospital case-fatality rates within 30 days, AMI**</td>
<td>3.8</td>
<td>3.2</td>
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<td>In-hospital case-fatality rates within 30 days, hemorrhagic stroke**</td>
<td>20.6</td>
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<td>In-hospital case-fatality rates within 30 days, Ischemic stroke</td>
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<td>Uncontrolled diabetes hospital admission rate (per 100,000 pop.)**</td>
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<td>COPD hospital admission rate (per 100,000 pop.)**</td>
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<td>Asthma hospital admission rate (per 100,000 pop.)**</td>
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<td>Foreign body left in during procedure (per 100,000 hospital discharges)</td>
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<td>9.8</td>
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<td>352</td>
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<td>Postoperative pulmonary embolism or deep vein thrombosis (per 100,000 hospital discharges)</td>
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<tr>
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<td>769</td>
<td>1,455</td>
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</table>

Notes: * 2009 or nearest year, unless otherwise noted.  ** The difference for this indicator is statistically significant (95% confidence interval). Note that confidence intervals apply to in-hospital case-fatality rates and hospital admission rates.

Sources: OECD, 2011; Commonwealth Fund, 2010; Gay et al., 2011; calculations by author.