

Does Canada's national health care system provide better patient satisfaction and access to health care than the United States' health care system?

Submitted by

**Caleb Grove**

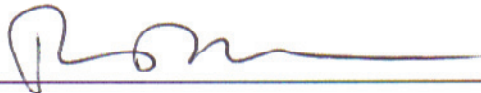
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of Master of Physician Assistant

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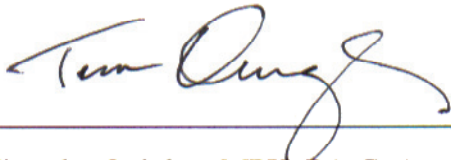
We hereby recommend that the research project prepared under our supervision by Caleb Grove entitled Does Canada's national health care system provide better patient satisfaction and access to health care than the United States' health care system? be accepted as partial fulfillment for the degree of Master of Physician Assistant.

Approved:



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Richard D. Muma, PhD, MPH, PA-C, Chair and Associate Professor  
Department of Physician Assistant



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Timothy Quigley, MPH, PA-C, Associate Professor  
Department of Physician Assistant

MAY 04, 2006

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Date

## *Abstract*

**Introduction:** The United States spends more money on health care than any other country in the world, yet there are millions of uninsured Americans. Lacking health insurance in the U.S. has many consequences such as not seeking preventative care, delaying necessary treatment, emotional stress, and financial burdens. On the other hand, Canada's national health care system provides health care to all of its citizens who pay for the system through taxation. Canada has long been looked at as a role model for health care reform in the U.S. **Methodology:** The purpose of this systematic literature review is to assess whether Canada's national health care system provides better patient satisfaction and access to health care than the current health care system in the U.S. This was done by performing a systematic literature review of articles found on the PubMed and FirstSearch databases. **Results:** The literature review contains 6 randomized surveys, 3 meta-analysis, 5 peer reviewed articles, 1 published book, 1 doctoral thesis, and 1 newspaper article. **Conclusion:** After looking at the data, evidence shows that patient satisfaction is higher among Canadian citizens than U.S. citizens. However, both systems have their own unique problems when it comes to access. The debate for the U.S. to change to a national health care system will continue and may never be resolved.

## **MeSh Terms**

Canada  
United States  
Access to Health Care  
Patient Satisfaction  
Health Care System

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## Introduction

The purpose of this systematic review is to determine whether Canada's national health care system yields better patient satisfaction and access to health care than the United States' health care system. This will be done by evaluating the data that compares patient satisfaction and access to health care among patients in Canada and the United States. In this paper, access to health care is defined as having health insurance, the ability to pay for needed medical services, the availability of health care providers, and the availability of hospital beds. Patient satisfaction is defined as how each country's adult population views the quality of care they receive, the availability of services, and the cost of health care.

Although the United States leads the world in the amount of money spent on health care, there are approximately 41 million American citizens without insurance.<sup>1</sup> There are more people in the United States without health insurance than the entire population of Canada, with many more in the United States underinsured.<sup>2</sup> This means that millions of Americans each year do not seek the medical attention that they need because they can't afford to pay for the services out-of-pocket<sup>1</sup>. In fact, the cost of medical treatment is a leading cause of bankruptcy in the U.S.<sup>3</sup> Over the years, many different plans have been proposed to amend the health care system in the United States so that this problem can be corrected. Some of those proposed changes have included switching to a national health care system similar to the one in Canada.

In Canada, every citizen is given access to medical care and there is no discrimination based on one's socioeconomic status, type of health insurance, or ability to pay. However, Canadians still face restrictions on gaining access to health care due to a

shortage of health care providers, a lack of hospital beds, and longer waiting times to see a provider.<sup>4</sup> Despite these shortcomings, only 36% of adults in Canada said they were unsatisfied with their health care system compared to 44% of adults in America.<sup>2</sup>

### Methodology

This study was done by conducting a systematic literature review of articles found on the PubMed and FirstSearch databases. The keywords included Canada, United States, access, health care system, and patient satisfaction. Articles were chosen on the basis of peer-reviewed sources from credible medical journals.

### Literature Review

#### *Canada's Health Care System*

In order to understand the problems facing the health care systems in Canada and the United States, one has to have knowledge regarding how each system is set up. Canada is a federation of 10 provinces and 3 sparsely populated northern territories.<sup>2</sup> Under the Canadian Constitution, the responsibility for health care rests with the provincial and territorial governments.<sup>5</sup> Their system is the result of sustained federal, provincial, and territorial efforts that have achieved a national program based on a series of interlocking health insurance plans toward which the Canadian federal government contributes substantial payments.<sup>5</sup> The provinces and territories must meet established criteria to qualify for their full share of federal payments for health care services. The established criteria include *public administration* on a non-profit basis, *comprehensiveness* of coverage, *universality* of eligibility, *portability* between provinces, and *accessibility* achieved by prepayment through taxation.<sup>2</sup> Federal legislation is designed to ensure that all residents of Canada have access to needed medical care on a

prepaid basis.<sup>5</sup> Hospital services include inpatient care in a ward unless medical necessity warrants a private or semiprivate room<sup>5</sup>. All necessary drugs, supplies, and diagnostic tests, a broad range of outpatient services, and all physician services that are medically required whether rendered in the hospital, clinic, or office are also covered.<sup>5</sup>

Overall, about 70% of Canadian health expenditures come from public sources, putting it among the least publicly financed of industrialized countries.<sup>2</sup> Although Canadian hospitals are commonly referred to as public institutions, they are almost all owned and operated by private not-for-profit organizations.<sup>6</sup> Therefore, Canada does not have socialized medicine as it is commonly believed, due to its high number of privately owned institutions<sup>6</sup>. Table 1 shows an outline of the Canadian health care system.<sup>5</sup>

**Table 1--Highlights of the Canadian National Health Care Plan**

<b>Basic Elements</b>	<b>Strong Points</b>	<b>Weak Points</b>	<b>Funding</b>
Universal coverage and uniform benefits	Simplified payment system, no bills; administrative costs are minimized	Per capita costs rose 10.6%/yr between 1980 and 1987 while general inflation rose 6.3%/yr	Fund services through general tax revenues
Uniform fee schedule, reimbursement (structured negotiations between purchasers and physicians and global budgets for hospitals)	Cost controls through central planning and fee schedule negotiation	No ready access to high technology, eg, open heart surgery, hip replacement, some cataract, etc	Cost containment through dictating hospital operating budgets, set Drs' fees through bargaining, limit number of specialists, allocate purchase of expensive equipment, restrict costly procedures to few locations in larger cities
Elective procedures; those requiring special skills or high technology mean waiting in line	Universal access to basic and preventative care	Requires young physicians to practice in remote or rural areas by reimbursing city doctors at 70% rate	Costs soaring, so containment efforts not enough
Control of and planning for hospital location and diffusion of technology		No health insurance industry, so similar plan in United States would necessitate including costs of unemployment in significant sector of economy	

Source: Kardos Bettie, Allen Anne. Healthy neighbors: Exploring the health care systems of the United States and Canada. *Journal of Post Anesthesia Nursing*. 1993 Feb; 8(1): 48-51.

*The United States' Health Care System*

America's current health care system is a complex mix of public and private insurance and services<sup>7</sup>. Americans receive health insurance coverage from a variety of public and private sources. Most Americans get their health insurance through the workplace and must often pay a subsidized monthly premium for these services. At 65 years of age, all Americans become eligible to apply for Medicare, relatively high quality, publicly funded health insurance<sup>7</sup>. Public assistance recipients in the United States can apply to receive more restricted public health insurance from the Medicaid program, which also provides some coverage for basic dental and vision needs<sup>7</sup>. Many Americans purchase private health insurance independently from insurers. While premiums for coverage range in cost dramatically, they are based on an individual's previous medical history and can be extremely expensive for those with pre-existing medical conditions<sup>7</sup>. Those without health insurance risk having to pay for extremely expensive health care services, especially after an emergency.

In America, the majority of the uninsured are comprised of the working poor who are under 65 years old and their children.<sup>7</sup> This is because most people over age 65 are covered by Medicare and comprise only a small percentage of the uninsured. According to the Centers for Disease Control and Prevention, 16.5% of the U.S. population is uninsured and under age 65.<sup>8</sup> This number equals out to roughly 40.6 million uninsured Americans. Out of this staggering number, 10.7% or 4.3 million consists of children less than 18 years old without health insurance.<sup>8</sup>

*Health Care System Costs*

In 1991, the U.S. General Accounting Office estimated that, if the United States could get its administration costs to the Canadian level, it could afford to cover the entire uninsured population.<sup>2</sup> In a 2003 study published in the *New England Journal of Medicine*, Woolhandler et al calculated the administration costs of health insurers, employers' health benefit programs, hospitals, practitioners' offices, nursing homes, and home care agencies in 1999. The results of that study showed that the U.S. spends \$752 more per capita on health care administration per year than Canada (Table 2).<sup>9</sup> This study was reliable in that it used the most recent comprehensive data for its estimates of administrative costs. However, the study relied on self-reports from physicians to figure the physicians' administrative costs. This may not have been truly accurate data as human error would figure into play.

**Table 2-Costs of Health Care Administration in the United States and Canada,  
1999**

Cost Category	Spending per Capita (U.S. \$)	
	United States	Canada
Insurance Overhead	259	47
Employers' cost to manage health benefits	57	8
Hospital administration	315	103
Nursing home administration	62	29
Administrative costs of practitioners	324	107
Home care administration	42	13
Total	1,059	307
Difference between totals	752	

Source: Woolhandler Steffie, Campbell Terry, Himmelstein David. Costs of health care administration in the United States and Canada. *The New England Journal of Medicine*. 2003 Aug; 349(8):768-76.

### *Patient Satisfaction*

The Commonwealth Fund International Health Policy Survey of Sicker Adults showed that 44% of U.S. citizens were “not very” or “not at all” satisfied with their health care system compared to 36% of Canadian citizens.<sup>1</sup> Americans cited inadequate medical coverage and high costs as their top reasons for being unsatisfied while Canadians cited a shortage of health care professionals or hospital beds followed by long waiting times.<sup>1</sup> The study defined sicker patients as those who have chronic care needs or more acute, intensive care needs. One downfall of this study is that it focused on patients

who have chronic care needs. This sample group may have negative feelings toward the health care they received due to previous and multiple experiences that had a negative impact on their way of life. Another potential negative aspect is that the surveys only included people who had a telephone. This potentially denied a large group of people from participating in the study. A positive aspect of this study is that it was designed by researchers at the Harvard School of Public Health who have extensive knowledge and experience in designing research surveys.

A study made up of randomized telephone interviews stated that in the early 1990's, Canadians felt that their health care system was excellent.<sup>10</sup> The study was conducted using random-digit dialing and took place between October 10 and December 22, 2002. However, in 2002, Canadians were experiencing more difficulty obtaining needed health care and felt that changes were needed in their health care system.<sup>10</sup> This study had a 58% response rate but relied on participants who owned a telephone, thereby excluding a certain number of individuals.

In a 2003 comparative survey of hospital executives, the U.S. had the most negative outlook on their health care system, with 50% of hospital administrators reporting they were unsatisfied.<sup>11</sup> In the same survey, only 12% of Canadian hospital administrators reported dissatisfaction.<sup>11</sup> Blendon also reported that the Canadian government supported major increases in health spending with a share devoted to reinvestment in hospitals to help correct some of the lack of availability issues.<sup>11</sup> One potential drawback of this study is that it focused on the largest general or pediatric hospitals and did not include data on smaller hospitals or specialty hospitals.

A 1998 randomized study surveyed 1000 adults and found that citizens in the U.S. were more likely than Australia, Canada, New Zealand, and the United Kingdom to call for a complete rebuilding of their health care system.<sup>12</sup> The study also found that Canadians have suffered a substantial loss of public confidence in their health care system over the past decade. The proportion of people saying that the system needs only minor changes has dropped from 56% in 1988 to 20% in 1998.<sup>12</sup> The study found that the most important problem in the U.S. health care system is affordability, while in Canada it is funding, system administration, and resource management. This study attempted to minimize errors due to interpretation of question wording by having the survey instrument reviewed by experts in health care financing and delivery and by pre-testing the instrument in each country.

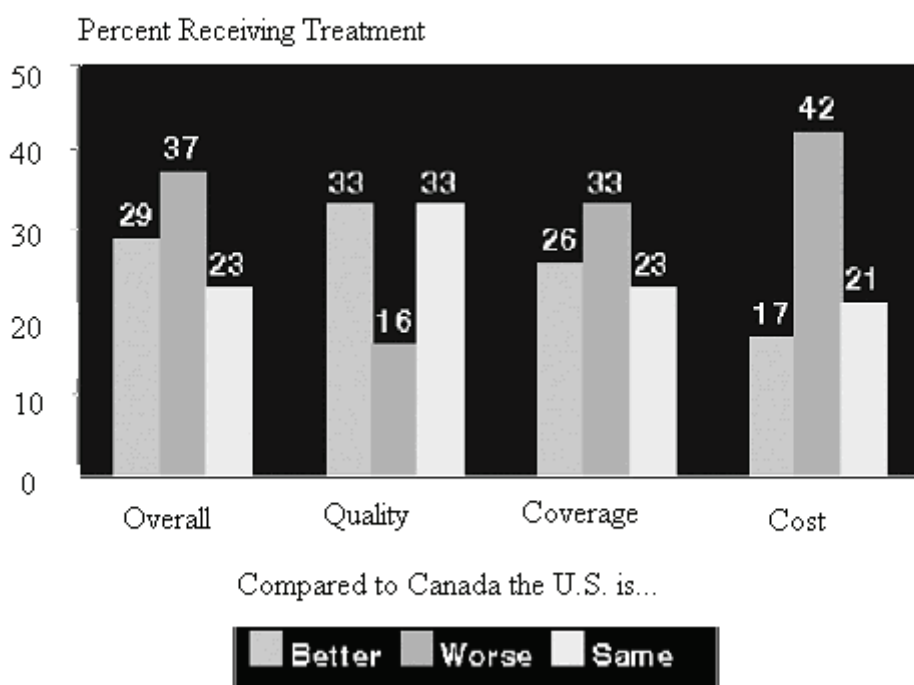
A 2003 peer reviewed article in the American Journal of Public Health detailed how funding problems are changing the way Canadians feel about their health care system. The article stated that Canadians remain devoted to their national health care system but are worried that it may not survive due to financial problems<sup>2</sup>. Access and quality remain relatively high although it is declining<sup>2</sup>. This information is strong because it comes from a peer-reviewed source written by the Department of Health Policy, Management, and Evaluation from the University of Toronto in Ontario, Canada.

According to a 2003 study comprised of 1,000 U.S. adults, many Americans believe that Canada has a better health care system than the United States.<sup>13</sup> The study was performed by TNS Intersearch and consisted of randomized telephone interviews. The sampling error for the study is +/- 3%. When asked to compare Canada with the

United States, Canada was ranked higher in terms of overall health care, coverage, and cost (Graph 1).<sup>13</sup>

**Graph 1**

America's Views on Canada's Healthcare



Source: "Americans think Canada's health care is better." The Washington Post. October 20, 2003.

### *Access to Health Care*

The literature review showed that both countries have shortcomings in their health care systems, with each country having its own unique problems. In the United States, problems regarding access to health care involved low-income and underinsured citizens,

where health insurance did not pay for the needed services and the patient couldn't afford to pay for the health care on their own.<sup>4</sup>

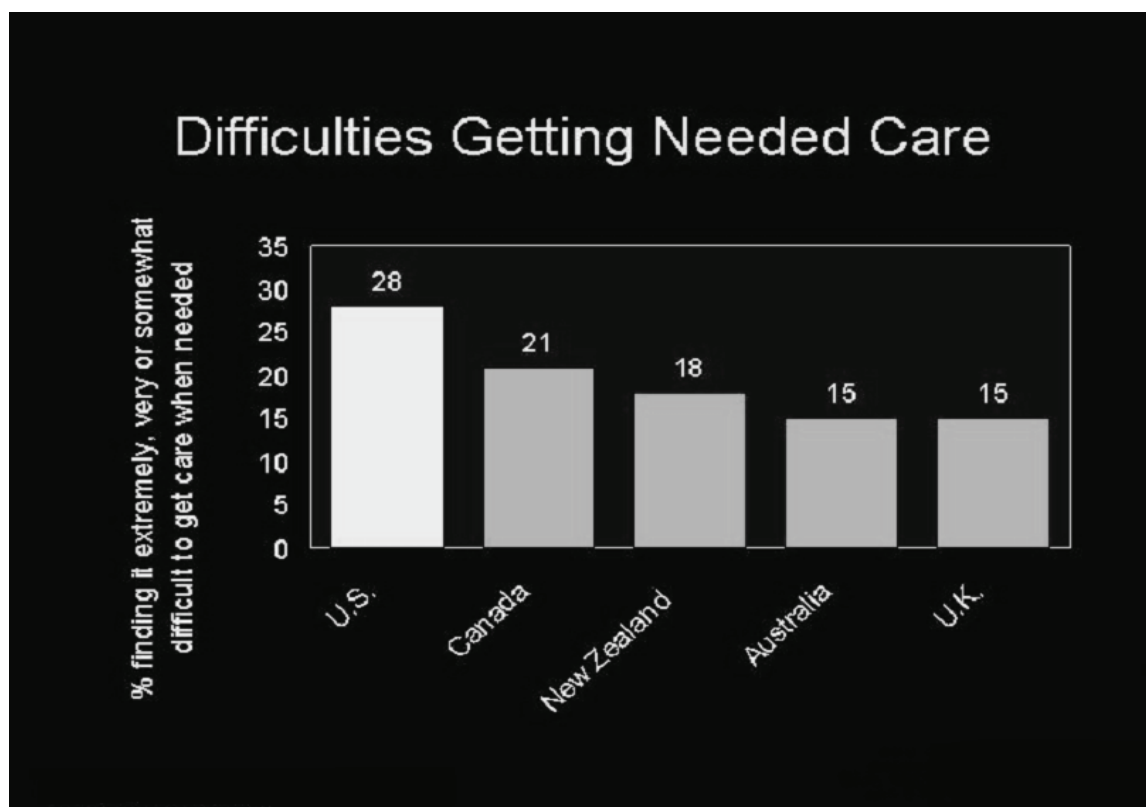
A 1993 randomized survey of practicing physicians found that in Canada, problems regarding access to health care were due to long waiting times to receive care and lack of available hospital beds and services.<sup>4</sup> The average waiting time for nonemergency surgery is 6 weeks in Canada compared to 2 weeks in the United States.<sup>4</sup> This study also showed that Americans would not support a national health care system if it resulted in longer waiting periods to receive care or rationing of medical care.<sup>4</sup> This study relied on the views of physicians in the United States, Canada, and Germany. In addition, response rates were somewhat low at 44% in the U.S., 49% in Canada, and 41% in Germany.

A 2004 randomized study consisting of telephone interviews done by the Commonwealth Fund showed that among adults with incomes lower than their country's national medians, 26% of Canadians and 57% of Americans did not see a doctor when they were sick, get recommended testing or follow-up care, or went without prescription medications because they couldn't afford to do so.<sup>14</sup> In both the United States and Canada, 20-25% of patients report waiting at least six days to be able to get an appointment when sick.<sup>14</sup> In both Canada and the United States, patients are more likely to go to the E.R. for care that their regular physician could have provided and are more likely to say that after-hours access to medical care is difficult.<sup>14</sup> This study was strong in that it was designed by expert researchers from the Commonwealth Fund and included representative samples of adults in each country (1,401 in the U.S. and 1,410 in Canada). Post stratification weights were applied in each country to adjust for variations between

the sample demographics and known population parameters. One drawback is that it relied on telephone interviews for data.

A survey conducted by the Commonwealth Fund found that 53% of Canadians said that seeing a specialist when needed is difficult, compared to only 40% of Americans.<sup>1</sup> 20% of Canadians reported long waits to be admitted to the hospital while only 13% of U.S. citizens did.<sup>1</sup> In the U.S., 28% reported access problems due to cost, while only 16% of Canadians reported this.<sup>1</sup> Graph 2 depicts the percentage of people who find it difficult to get care when they need it.<sup>1</sup>

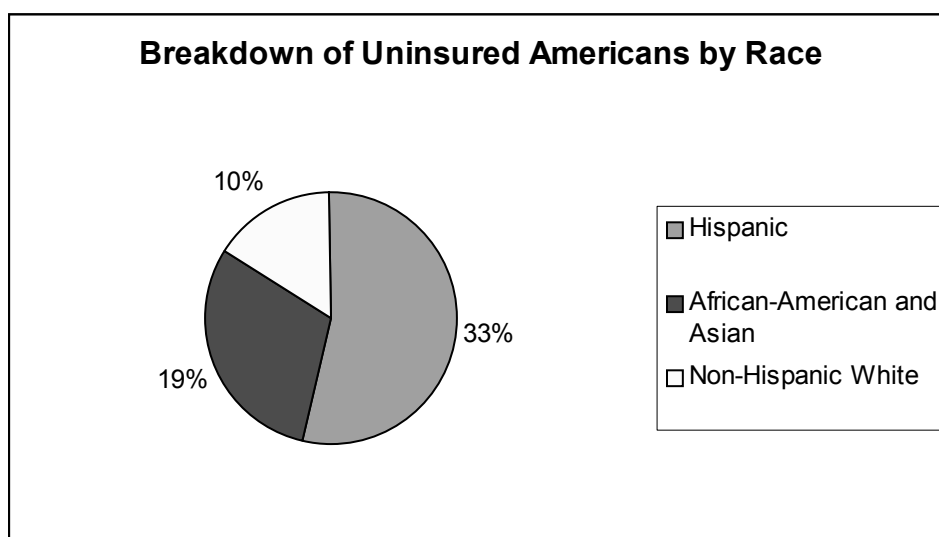
**Graph 2**



Source: Blendon Robert, Schoen Cathy, DesRoches Catherine, Osborn Robin, and Zapert Kinga. Common concerns amid diverse systems: Health care experiences in five countries. *Health Affairs*. 2003 May/June; 22(3):106-121.

According to Jonathan Oberlander, the U.S. is the only democratic country in the world with a substantial uninsured population.<sup>3</sup> In a 2003 article published in JAMA, Steffie Woolhandler wrote that of the 41 million uninsured Americans, 33% are Hispanic, 19% African-Americans and Asians, and 10% non-Hispanic Whites (Graph 3).<sup>15</sup> She goes on to say that the U.S. health care system is unable to ensure prenatal care, immunizations, and we trail most of the world on such indicators as infant mortality and life expectancy.<sup>15</sup>

**Graph 3**



Source: Woolhandler Steffie, Himmeistein David, Angell Marcia, Young Quentin. Proposal of the Physicians' Working Group for single-payer national health insurance. *JAMA*. 2003 Aug; 290(6):798-805.

In a book entitled Universal Healthcare: What the United States Can Learn From the Canadian Experience, Armstrong and Fegan write about the differences in infant mortality rates between Canada and the U.S. In 1994, the infant mortality rate in Canada was 6 out of 1,000 babies compared to 8 out of 1,000 babies in the U.S.<sup>16</sup> One of the

reasons for this difference is the fact that Canadian babies are less likely to have low birth weights than American babies.<sup>16</sup> While the proportion of Canadian babies with low birth weights declined between 1983 and 1993, the opposite was true in the U.S.<sup>16</sup> In 1992, 5.5% of Canadian babies had birth weights under 2500 grams (5.5 lbs.) compared to 7.1% of American babies that year.<sup>16</sup> Access to health care is a factor in these differences as regular doctor visits and routine obstetrical care play a role in having healthy babies. These services are covered without charge in Canada while they are not in the U.S.<sup>16</sup> Table 3 shows the differences in infant mortality rates and life expectancy rates among various countries.<sup>16, 17</sup> The U.S. ranks last in both categories.

**Table 3--Life Expectancy and Infant Mortality Rates Among Various Countries**

	<b>CANADA</b>	<b>U.S.</b>	<b>JAPAN</b>	<b>SWEDEN</b>	<b>ICELAND</b>
Life Expectancy of Men (years)	75.7	72.7	77.0	76.5	76.2
Life Expectancy of Women (years)	81.4	79.4	83.6	81.5	80.2
Infant Mortality	6/1000	8/1000	3.8/1000	N/A	3.7/1000

Source: Infant mortality rates for Canada and U.S. come from Armstrong and Fegan. Universal Healthcare: What the United States Can Learn From the Canadian Experience. New York, New York: The New Press, 1998. All other data came from Martin, S. Canada among leaders in OECD health results. *CMAJ*. 2000 April; 162(7):1032.

In a 1993 study in the *Journal of Post Anesthesia Nursing*, Kardos and Allen reveal the information they gathered after surveying Canadian and U.S. residents about their health care system. The survey revealed that Americans are unhappy with their health care system, but are worried that reform will put them in a worse situation than they were in to begin with.<sup>5</sup> The study showed that the biggest problem with the U.S. health care system is the number of competing insurance plans.<sup>5</sup> These plans all have

marketing and administration, which increases the cost of insurance. The study also showed that there are more Canadian doctors in general practice than in the U.S. where doctors tend to specialize.<sup>5</sup> Still, Canada faces a shortage of doctors due to the amount of patients being seen which makes it more difficult to see a specialist when needed. These factors decrease access to health care in both countries. A weakness of this data is that much of it was taken from Canadian doctors who are now practicing in the United States. This means that the data is subject to whatever bias is present in these individuals.

Kardos and Allen also found that in Canada, beds and operating rooms are routinely closed while patients wait or seek help elsewhere.<sup>5</sup> Also, the Canadian system ranks cases as emergent, urgent, and elective. An emergent case such as a motor vehicle accident or a heart attack requires care within 24 hours whereas an elective classification means there will be an average wait of 27 weeks for a procedure while the patient may be enduring pain and impairment.<sup>5</sup>

### Discussion

The purpose of this systematic review is to investigate whether Canada's national health care system provides better patient satisfaction and greater access to health care than the current health care system in the United States. The review of the literature reveals that Canadian patients are more satisfied with their health care system than Americans are with theirs. However, access to health care is limited in both countries.

Although every Canadian citizen is provided with medical coverage, the system doesn't guarantee a bed in the hospital when one needs to be admitted, a health care provider when one needs medical attention, or timely access to see a physician or a specialist. While it may be true that every citizen has the ability to see a medical

provider, it is not true that every citizen is able to get in to see one. Canadian patients face long waiting lines when trying to get an appointment with a physician due to the large number of patients who are able to seek medical care. In fact, many Canadian doctors are packing up and leaving their country because they believe they cannot deliver appropriate care in Canada.<sup>5</sup> Also, the shortage of hospital beds delays many patients from being admitted to the hospital where they can receive the skilled care that they need. Canadian citizens must compete with one another for the limited number of health care providers available. Also, health care in Canada is not free or cheap; the average Canadian spends 46% of his income in taxes.<sup>5</sup>

The literature reveals that access in the United States is a problem due to a lack of health insurance and the high costs of medical care. People without insurance must forego medical treatment or face financial disaster because of the inability to pay for needed services. Many citizens do not receive regular preventative care from a primary physician because they cannot afford to do so. American citizens are under large amounts of stress, knowing that if they are in an accident or lose their job they will have no way of paying for medical services. In the long run, the United States is probably costing itself more money due to medical complications that arise in the uninsured, when hospitals must find a way to receive payment from those individuals who have no resources or are forced to write off the cost.

### Conclusion

Overall, patient satisfaction is generally higher in Canada than it is in the United States, but access to health care is limited in both countries. One could argue that Canada has greater access to health care because of the fact that all of its citizens can readily seek

a health care provider without having to purchase insurance. However, the long waiting lines, shortage of hospital beds, and shortage of health care providers restricts many citizens from receiving medical care.

Not all Canadian citizens are one hundred percent satisfied with the state of their health care system, but when asked about what changes need to be made, they provide feedback and are opposed to doing away with the national health care system. On the other hand, American citizens are not only unsatisfied with their health care system, they are also more likely to call for a complete rebuilding of the system.<sup>12</sup> The contempt for the current health care system in the U.S. runs the gamut from sicker adults to hospital executives. However, Americans have strong concerns that reform might place them in a worse position than they are now experiencing. As a result, support for reform is not well organized or focused in a single direction. In general, Americans have three incompatible basic demands when it comes to health care: immediate access, the latest high-tech medicine, and a limited price.<sup>5</sup> Clearly, some kind of change needs to be made so that people can have confidence that they have the ability to receive and afford quality health care.

Access to health care is a problem in both countries, and careful consideration needs to be taken when addressing this topic. Americans have their access to health care restricted due to not possessing health insurance and not being able to afford medical treatment. The consequences of lacking health insurance range from emotional stress that comes from constant worrying about potential medical complications to physical harm from delaying or avoiding necessary treatment.<sup>7</sup>

Canadians are prevented from accessing their health care providers due to long waiting times and shortages of providers and hospital beds.<sup>4</sup> Most emergency problems can be readily treated, but there are some provinces and territories where the latest technology is not accessible. Some patients are forced to wait for an MRI or CT scan for several months; such a wait cannot be fathomed here in the U.S. Several Canadian physicians are not satisfied with the level of care they can provide so they end up leaving the country. This only furthers the problem of not having enough physicians to serve the large amount of patients seen on a daily basis.

Further studies need to be done to see how these problems can be overcome so that patients in both countries are not only guaranteed equal access to health care, but to ensure that the proper facilities and providers are present when they seek medical treatment. Gaps in the literature include a lack of randomized controlled trials. These studies are difficult to obtain when dealing with this type of data, since most patient satisfaction comes from opinion. The Canadian model has both negative and positive aspects in regards to health care. Perhaps the most positive element is that its citizens do not want to get rid of their national health care. Universal access was achieved by the early 1970's in all industrialized countries except for Italy, Portugal, Greece, Turkey, Australia, and the United States.<sup>18</sup> With this in mind, the U.S. must look to Canada as a model for reform. Whether or not America will ever adopt a form of national health care remains to be seen and time will only tell if the U.S. will ever change its policies.

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## APPENDICES

Reference #	Author(s)	Level of Evidence/Recommendation	Type of Study	Comments
1.	Blendon et al	I /A	Randomized Survey	41 million American citizens are without insurance.
2.	Deber, RB	III /B	Peer Reviewed Article	Credible source—Dept. of Health, data over 10 years old.
3.	Oberlander	III /B	Peer Reviewed Article	Medical treatment is a leading cause of bankruptcy in the U.S.
4.	Blendon et al	I /A	Randomized Survey	Low response rates (44%), Based results on physician's views.
5.	Kardos and Allen	III /C	Peer Reviewed Article	Residents of Canada have access to needed medical care on a prepaid basis.
6.	Devereaux et al	I /A	Meta-analysis	Includes 8 studies and 350,000 patients.
7.	Zuberi	I /A	Doctoral Thesis	In America, the majority of the uninsured are comprised of the working poor who are under 65 years old and their children.
8.	CDC.gov	I /A	Statistics based on data	16.5% of the U.S. population is uninsured

				and under age 65.
9.	Woolhandler et al	I /A	Meta-analysis	U.S. spends \$752 more per capita on health care administration per year than Canada.
10	Abelson et al	I /A	Randomized Survey	Sound survey methods, 58% response rate.
11.	Blendon et al	I /A	Randomized Survey	50% of U.S. hospital administrators unsatisfied with health care.
12.	Donelan et al	I /A	Randomized Survey	Good info., views over 7 years old.
13.	Anonymous	III /C	Washington Post Article	Canada was ranked higher than U.S. in terms of overall health care, coverage, and cost.
14.	Schoen et al	I /A	Randomized Survey	26% of Canadians and 57% of Americans delay seeking medical care due to cost.
15.	Woolhandler et al	III /C	Peer Reviewed Article	U.S. trails world in terms of infant mortality and life expectancy.
16.	Armstrong et al	III /A	Published book	Infant mortality rates in Canada are lower than in the U.S.
17.	Martin	III /C	Peer Reviewed Article	Current data from credible journal, life

				expectancy rates in 5 countries.
18.	Gray	I/A	Meta-analysis	U.S. one of few countries not having universal access.

### **Level of Evidence**

**I:** Evidence obtained from at least one properly randomized controlled trial.

**II-1:** Evidence obtained from well-designed controlled trials without randomization.

**II-2:** Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group.

**II-3:** Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence.

**III:** Opinions of respected authorities, based on clinical experience, descriptive studies and case reports, or reports of expert committees.

### **Level of Recommendation**

A: Recommendation based on consistent and good-quality patient-oriented evidence

B: Recommendation based on inconsistent or limited-quality patient-oriented evidence

C: Recommendation based on consensus, usual practice, opinion, disease-oriented evidence, or case series for studies of diagnosis, treatment, prevention, or screening.

Name: Caleb Grove

Date of Birth: 10/12/1981

Place of Birth: Paul's Valley, Oklahoma

Education:

2004-2006	Master - Physician Assistant (M.P.A.) Wichita State University, Wichita, Kansas
2002-2004	Bachelor of Arts - Exercise Science Wichita State University, Wichita, Kansas
2000-2002	Associate of Science Butler Community College, El Dorado, Kansas