The Importance of Human Resources Management in Health Care:

A Global Context

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Abstract

Background: This paper addresses the healthcare system from a global perspective and the importance of human resources in improving overall patient health outcomes and delivery of health care services.

Methods: We explored the published literature and collected data through secondary sources.

Results: Various key success factors emerge that clearly impact the health care practices and human resources management. This paper will reveal how human resources management is essential to any health care system and how it can improve health care models. Challenges in the health care systems in Canada, the United States of America and various developing countries are examined, with ways to overcome these problems through the proper implementation of human resources management. Comparing and contrasting selected countries allowed a deeper understanding of the practical and critical role of human resources management in health care.

Conclusion: A proper management of human resources is critical in providing a high quality of health care. A refocus on human resources management in health care along with more research are needed to develop new policies. Human resources management strategies are greatly needed to achieve better access to healthcare around the world.

Background

Defining Human Resources in Health Care

Within many health care systems worldwide, increased attention is focused on human resources management. Specifically, human resources management is one of three principle health system inputs with the other two inputs being physical capital and consumables [1]. Figure 1 depicts the relationship between health system inputs, budget elements, and expenditure categories.

Human resources, when pertaining to health care, can be defined as the different kinds of clinical and non-clinical staff who are responsible for public and individual health intervention [1]. As the most important of the health system inputs, the performance and the benefits the system can deliver depend largely on the knowledge, skills, and motivation of those individuals who are responsible for delivering health services [1]. It is essential there is a balance between health workers and physical resources, as well as a balance between the different types of health promoters and care givers to ensure the system's success [1]. Due to their differences, it is imperative that human capital is handled and managed in a way that is very different from physical capital [1]. The relationship between human resources and health care is very complex, and merits further examination and study.

The number of potential consumables (drugs, prostheses, disposable equipment) is rising astronomically as is their individual costs. This either drastically increases the costs of health care or, particularly in public funded systems, impacts on the ability to hire and sustain effective practitioners. In both government envelope-funded systems and in employer-paid systems, human resources management must develop a balance of manpower supply and the ability of

those practitioners to practice effectively and efficiently. A practitioner practicing without tools is as inefficient as having the tools without the practitioner.

Key Questions and Issues Pertaining to Human Resources in Health Care

When examining health care systems in a global context, many general human resources issues and questions arise. The issues that are of greatest relevance and that will be discussed in further detail include the size, composition and distribution of the health care workforce, workforce training issues, the migration of health workers, the level of economic development in a particular country, and socio-demographic, geographic and cultural factors.

The variation of size, distribution, and composition within a county's health care workforce is of great concern. For example, the number of health workers available in a country is a key indicator of that country's capacity to provide delivery and interventions [2]. Factors to consider when determining the demand for health services in a particular country include cultural characteristics, socio-demographic characteristics and economic factors [3].

Workforce training is another important issue. It is essential that human resources personnel consider the composition of the health workforce in terms of both skill categories and training levels [2]. New options for the education and in-service training of health care workers are required to ensure the workforce is aware of and prepared to meet a particular country's present and future needs [2]. A properly trained and competent workforce is essential to any successful health care system.

The migration of health care workers is an issue that arises when examining global health care systems. It appears as though the movement of health care professionals closely follows the migration pattern of all professionals in that the internal movement of the workforce to urban areas is common to all countries [2]. Workforce mobility can create additional imbalances that

require better workforce planning, attention to issues of pay and other rewards, and improved overall management of the workforce [2]. In addition to salary incentives, developing countries use other strategies such as housing, infrastructure and opportunities for job rotation to recruit and retain health professionals [2] since many health workers in developing countries are underpaid, poorly motivated, and very dissatisfied [3]. The migration of health workers is an important human resources issue that must be carefully measured and monitored.

Another issue that arises when examining global health care systems is a country's level of economic development. There is evidence of a significant correlation between the level of economic development in a country and its level of human resources for health [3]. Countries with higher Gross Domestic Product (GDP) per capita spend more on health care than countries with lower incomes and tend to have larger health workforces [3]. This is an important factor to consider when examining and attempting to implement solutions to problems in health care systems in developing countries.

Socio-demographic elements such as age distribution of the population also play a key role in a country's health care system. An aging population leads to an increase in demand for health services and health personnel [3]. An aging population also has important implications for heath care providers. More training of younger workers will be needed to fill the positions of the large number of health care workers that will be retiring.

It is also essential that cultural and geographic factors be considered when examining global health care systems. Geographic factors such as climate or topography influence the ability to deliver health services and the cultural and political values of a particular nation can also affect the demand and supply of human resources for health [3]. The above are just some of

the many issues that must be addressed when examining global health care and human resources which merit further consideration and study.

The Impact of Human Resources on Health Sector Reform

When examining global health care systems, it is both useful and important to explore the impact that human resources has on health sector reform. While the specific health care reform process varies by country, some trends can be identified. Three of the main trends include efficiency, equity and quality objectives [3].

Various human resources initiatives have been employed in an attempt to increase efficiency. Outsourcing services have been used to convert fixed labour expenditures into variable costs as a means of improving efficiency. Contracting out, performance contracts, and internal contracting are also examples of measures employed [3].

Many human resources initiatives for health sector reform also include attempts to increase equity or fairness. Strategies aimed at promoting equity in relation to needs require more systematic planning of health services [3]. Some of these strategies include the introduction of financial protection mechanisms, the targeting of specific needs and groups, and re-deployment services [3]. One of the goals of human resource professionals must be to use these and other measures to increase equity in their particular countries.

Human resources in health sector reform also seek to improve the quality of services and patients' satisfaction. Health care quality is generally defined in two ways, technical quality and socio-cultural quality. Technical quality refers to the impact that the health services available can have on the health conditions of a population [3]. Socio-cultural quality measures the degree of acceptability of services and the ability to satisfy patient's expectations [3]. Human resource professionals face many obstacles in their attempt to deliver quality health care to citizens. Some

of these constraints include budgets, lack of congruence between reformer and worker values, absenteeism rates, high rates of turnover, and low morale of health personnel [3]. Better utilization of the spectrum of health care providers and better coordination of patient services through interdisciplinary teamwork are further recommendations for health sector reform [4]. Since all health care is ultimately delivered by people, effective human resources management will play a vital role in the success of health sector reform.

Methods

To stress the global context we examined the health care systems of Canada, the United States of America, Germany and various developing countries. The data collection was achieved through secondary sources such as the Canadian Health Coalition, the National Coalition on Health Care, and the World Health Organization Regional Office for Europe. This allowed the examination of the main human resources issues and questions along with the analysis of the impact that human resources have on the health care system as well as the identification of the trends in health sector reform. These particular trends include efficiency, equity and quality objectives.

Results

Health Care Systems

Canada

The Canadian health care system is publicly funded and consists of five general groups: the provincial governments, the federal government, physicians, nurses, and allied health care

professionals. The roles of these groups differ in numerous aspects. See Figure 2 for an overview of the major stakeholders in the Canadian health care system.

Provincial governments are responsible for managing and delivering health services including some aspects of prescription care, as well as planning, financing, and evaluating hospital care provision and health care services [5]. For example, British Columbia has shown its commitment to its health care program by implementing an increase in funding of $6.7 million in September 2003, in order to strengthen recruitment, retention, and education of nurses province-wide [6]. In May 2003, it was also announced that 30 new seats would be funded to prepared nurse practitioners at the University of British Columbia and at the University of Victoria [6]. Recently the Ontario Ministry of Health and Long Term Care announced funding for additional nurse practitioner positions within communities. Furthermore, most provinces in Canada have moved the entry to practice level for Registered Nurses to the baccalaureate level while increasing the length of programs from Licensed Practice Nurses to meet the increasing complexity of patient care needs. Several provinces have also increased seats in medical schools for preparation of family physicians [7].

The federal government has other responsibilities including setting national health care standards and ensuring that standards are enforced by legislative acts such as the Canada Health Act (CHA) [5]. Provinces must abide by these standards if they wish to receive federal funding for their health care programs [8]. At the same time, health care is the responsibility of the provinces under the British North American Act (BNA). The federal government also provides direct care to certain groups including veterans, native Canadians and first nation's peoples through the First Nationals and Inuit Health Branch (FNIHB). Another role of the federal government is to ensure disease protection and to promote health issues [5]. The federal

government demonstrates its financial commitment to Canada's human resources in health care by pledging transfer funds to the provinces and direct funding for various areas. For example, in the 2003 Health Care Renewal Accord, the federal government provided provinces and territories with a three-year $1.5 billion Diagnostic/Medical Equipment Fund. This was used to support specialized staff training and equipment that improved access to publicly funded services [6].

The third group, private physicians, is generally not employed by the government, but rather is self-employed and works in a private practice. They deliver publicly funded care to Canadian citizens. Physicians will negotiate fee schedules for their services with their provincial governments and then submit their claims to the provincial health insurance plan in order to receive their reimbursement [5].

The roles of nurses consist of providing care to individuals, groups, families, communities and populations in a variety of settings. Their roles require strong, consistent and knowledgeable leaders, who inspire others and support professional nursing practice. Leadership is an essential element for quality professional practice environments where nurses can provide quality nursing care [9]. In most Canadian health care organizations, nurses manage both patient care and patient care units within the organization. Nurses have long been recognized as the mediators between the patient and the health care organization [10]. In care situations, they generally perform a coordinating role for all services needed by patients. They must be able to manage and process nursing data, information, and knowledge to support patient care delivery in diverse care delivery settings [10]. Workplace factors most valued by nurses include autonomy and control over the work environment, ability to initiate and sustain a therapeutic relationship with patients, and a collaborative relationship with physicians at the unit level [11]. Though the

roles of nurses are evidently a significant force in the health care system, there remains to be an impending worldwide nursing shortage. In Canada it is predicted to be from 67,000 to 110,000 by 2011, and in the U.S. it is predicted to be about 300,000 within the same timeline.

In addition to doctors and nurses, there are many more professionals involved in the health care process. Allied health care professionals can consist of pharmacists, dietitians, social workers, physiotherapists, and occupational therapists, just to name a few. While much focus is on doctors and nurses, there are numerous issues that affect other health care providers as well, including workplace issues, scopes of practice, and the impact of changing ways of delivering services [12]. Furthermore, with health care becoming so medically advanced in technology, the health care system needs an increasing supply of highly specialized and skilled technicians [12]. Thus we can see the various roles played by these five groups and how they work together to form the Canadian health care system.

Canada differs from other nations such as the United States for numerous reasons, one of the most important being the CHA. As previously mentioned, the CHA sets national standards for health care in Canada. The CHA ensures that all Canadian citizens, regardless of their ability to pay, will have access to health care services in Canada. "The aim of the CHA is to ensure that all eligible residents of Canada have reasonable access to insured health services on a prepaid basis, without direct charges at the point of service" [6]. Two of the most significant stipulations of the CHA read, "reasonable access to medically necessary hospital and physician services by insured persons must be unimpeded by financial or other barriers" and "health services may not be withheld on the basis of income, age, health status, or gender" [5]. These two statements identify the notable differences between the Canadian and American health care systems. That is, coverage for the Canadian population is much more extensive. Furthermore in Canada, there

has been a push towards a more collaborative, interdisciplinary team approach to delivering health care and a significant aspect of that approach will involve successful knowledge transfer within these teams [13]. The introduction of interdisciplinary health teams in Canadian hospitals is a relatively new phenomenon and their connection to the knowledge management policies and agendas of governments and hospital administrations raises important questions about how such teams will work and to what extent they can succeed in dealing with the more difficult aspects of knowledge management, such as the transfer of tacit knowledge. The literature on teamwork and research on the practices in hospitals relating to multidisciplinary teams suggests that interdisciplinary teams face enormous challenges [13]. Multidisciplinary team work must therefore be a vital part of the health care system. However, the goal of this team work should not be to displace one health care provider with another, but rather to look at the unique knowledge and skills each one brings to the team and to co-ordinate the deployment of these skills. Clients need to see the health worker who is most appropriate to deal with their problem [14].

Issues regarding the Canadian public system of health have been identified by the release of the Mazankowski Report, which was initiated by Alberta's Premier Ralph Klein in 2000. Many issues have arisen since this date and have been debated amongst Canadians, for example the possibility of introducing a two-tier medical system. One tier of the proposed new system would be entirely government-funded through tax dollars and would serve the same purpose as the current publicly funded system. The second tier would be a private system and funded by consumers [5]. However, the CHA and the Canadian Nurses Association (CNA) is critical of any reforms that pose a threat to the public health care system. It should be noted that although

Canada reports to have a one-tier system, the close proximity of private fee for service health care in the United States really creates a pay-as-you-go second tier for wealthy Canadians.

It is important to realize the differences between the proposed two-tier system and the current health care system. Presently, the public health care system covers all medically necessary procedures and the private sector provides 30 percent coverage for areas such as dental. With the new system, both public and private care would offer all services and Canadians would have the option of choosing between the two. The proposal of the two-tier system is important because it highlights several important issues that many Canadians are concerned about, mainly access to the system and cost reduction. Many Canadians believe the current public system is not sustainable and that a two-tiered system would force the public system to become more efficient and effective given the competition of the private sector. However, the two-tiered system is not within the realm of consideration since the majority of Canadians are opposed to the idea of a privatized system [5]. No proposals have come forward that show how a privately funded system will provide an equal quality of services for the same cost as the current publicly funded system.

United States of America

The health care system in the United States is currently plagued by three major challenges. These include: rapidly escalating health care costs, a large and growing number of Americans without health coverage, and an epidemic of substandard care [15].

Health insurance premiums in the United States have been rising at accelerating rates. The premiums themselves, as well as the rate of increase in premiums, have increased every year since 1998 and independent studies and surveys indicate this trend is likely to continue over the next several years [15]. As a result of these increases, it is more difficult for businesses to

provide health coverage to employees, and their families are finding it more difficult to pay their share of the cost of employer-sponsored coverage [15]. The rising trend in the cost of employer-sponsored family health coverage is illustrated in Figure 3. To help resolve this problem, Health Maintenance Organizations (HMO) have been introduced to focus on keeping people well and out of hospitals to decrease employer costs. HMOs are popular alternatives to traditional health care plans offered by insurance companies because they can cover a wide variety of services, usually at a significantly lower cost [16]. HMOs use "networks" of selected doctors, hospitals, clinics, and other health care providers that together provide comprehensive health services to the HMOs members [16]. The overall trade-off with an HMO is reduced choice in exchange for increased affordability.

Another problem to address regarding the American health care system is the considerable and increasing number of Americans without any health coverage. Health care coverage programs such as Medicare offer a fee-for-service plan that covers many health care services and certain drugs. It also provides access to any doctor or hospital that accepts Medicare [17]. This program also offers extra help programs such as Medicaid for people with limited income and resources to help pay for their health care and prescription drug costs. Patients with limited income and resources may qualify for Medicaid, which provide extra help paying for prescription drug costs [17]. However, according to figures from the United States Census Bureau, the number of Americans without health coverage grew to 43.6 million in 2002 and it is predicted the number of uninsured Americans will increase to between 51.2 and 53.7 million in 2006 [15]. Those Americans without health care insurance receive less care, receive care later and are, on average, less healthy and less able to function in their daily lives than those

who have health care insurance. Additionally, the risk of mortality is 25 percent higher for the uninsured than the insured [15].

In spite of some excellent care in some areas, the American health care system is experiencing an epidemic of substandard care; the system is not consistently providing quality care to its patients [15]. There appears to be a large discrepancy between the care patients should be receiving, and the care they are actually getting. The Institute of Medicine has estimated that between 44,000 and 98,000 Americans die each year from preventable medical errors in hospitals [15].

It is also useful to examine the demographic characteristics of those Americans more likely to receive substandard care. It has been documented by researchers those Americans with little education and low income receive a lower standard of care [18]. This finding may be explained by the fact that patients who have lower education levels tend to have more difficulty explaining their concerns to physicians, as well as eliciting a response for those concerns because health professionals often do not value their opinions [18].

Case Studies

As displayed by the extensive literature, statistics and public opinion, there is a growing need for health care reform in the United States of America. There is a duty and responsibility of human resources professionals to attempt to elicit change and implement policies that will improve the health care system. It is informative to examine case studies in which human resources professionals have enacted change in a health care setting.

Case 1: One such case from 1995 is that of a mid-sized, private hospital in the New York metropolitan area. This case displays a model of how human resources can be an agent for

change and can partner with management to build an adaptive culture to maintain strong organizational growth [19].

One of the initiatives made by human resources professionals in an attempt to improve the overall standard of care in the hospital was to examine and shape the organization's corporate culture. Steps were taken to define the values, behaviors, and competencies that characterized the current culture, and analyze these against the desired culture [19]. A climate survey was conducted in the organization and it became the goal of the human resources professionals to empower employees to be more creative and innovative [19]. To achieve this, a new model of care was designed which emphasized a de-centralized nursing staff and a team-based approach to patient care. Nursing stations were re-designed to make them more accessible and approachable [19].

Human resources also played an important role in investing in employee development. This was achieved by assisting employees to prepare and market themselves for internal positions and if desired, helping them pursue employment opportunities outside of the organization [19]. It is evident this case indicates the important roles that human resources can play in orchestrating organizational change.

Case 2: Another case study that illustrates the importance of human resources to the health care system is the case of The University of Nebraska Medical Center in 1995. During this time period, the hospital administrative staff recognized a variety of new challenges that were necessitating organizational change. Some of these challenges included intense price competition and payment reform in health care, reduced state and federal funding for education and research, and changing workforce and population demographics [20]. The organizational administrators recognized that a cultural reformation was needed to meet these new challenges.

A repositioning process was enacted, resulting in a human resources strategy that supported the organization's continued success [20]. This strategy consisted of five major objectives, each with a vision statement and series of action steps.

The first strategic objective addressed was staffing. Here, the vision was to integrate a series of organization wide staffing strategies that would anticipate and meet changing workforce requirements pertaining to staff, faculty and students. To achieve this vision, corporate profiles were developed for each position to articulate the core competencies and skills required [20].

The second objective was performance management. The vision was to hold all faculty and staff accountable and to reward individual and team performance. With this strategy, managers would be able to provide feedback and coaching to employees in a more effective and timely manner [20].

The third objective focused on development and learning. The vision was to have all individuals actively engaged in the learning process and responsible for their own development. Various unit-based training functions were merged into a single unit, which defined critical technical and behavioral competencies [20].

The fourth objective was valuing people. The vision was to have the hospital considered as a favored employer and to be able to attract and retain the best talent. To facilitate this vision, employee services such as childcare and wellness were expanded [20].

The fifth objective was organizational effectiveness. The vision was to create an organization that is flexible, innovative, and responsive [20]. The developments of these human resources strategies were essential to the effectiveness of the organization and to demonstrate the importance of human resources in the health care industry.

Both of these case studies illustrate that effective human resources management is critical to health care in a practical setting and that additional human resources initiatives are required if solutions are to be found for the major problems in the American health care system.

Germany

Approximately 92 percent of Germany's population receives health care through the country's statutory health care insurance program, Gesetzliche Krankenversicherung (GKV). GKV designed an organizational framework for health care in Germany and has identified and constructed the roles of payers, providers, and hospitals. Private for-profit companies cover a little less than 8 percent of the population. This group would include, for example, civil servants and the self employed. It is estimated that approximately 0.2 percent of the population does not have health care insurance [21]. This small fragment may be divided into two categories; either the very rich who do not require it, or the very poor who obtain their coverage through social insurance. All Germans, regardless of their coverage, use the same health care facilities. With these policies nearly all citizens are guaranteed access to high-quality medical care [22].

While the federal government plays a major part in setting the standards for national health care policies, the system is actually run by national and regional autonomous organizations. Rather than being financed solely through taxes, the system is covered mostly by health care premiums [22]. In 2003, about 11.1 percent of Germany's gross domestic product (GDP) went into the health care system [23] versus the United States with 15 percent [24] and Canada at 9.9 percent [25]. However, Germany still put forth about one-third of its social budget towards health care [22].

The supply of physicians in Germany is high, especially compared to the United States, and this is greatly attributed to their education system. If one meets the academic requirements

in Germany, the possibility to study medicine is legally guaranteed [26]. This has led to a surplus of physicians and unemployment for physicians has become a serious problem. In 2001, the unemployment rate for German physicians of 2.1 percent led many German doctors to leave for countries like Norway, Sweden, and the United Kingdom, all countries that actively recruit from Germany [27].

Germany's strong and inexpensive academic system has led the country to educate far more physicians than the United States and Canada. In 2003, Germany had 3.4 practicing physicians per 1,000 inhabitants [23], versus the United States, which had 2.3 practicing physicians per 1,000 inhabitants in 2002 [24] and Canada, which had 2.1 practicing physicians per 1,000 inhabitants in 2003 [25]. It is also remarkable that health spending per capita in Germany (US$2996) [23] amounted to about half of health spending per capita in the United States (US$5635) [24], and slightly less than Canada's health spending (US$3003) [25]. This clearly demonstrates the Germans strength regarding cost containment.

There are several issues that physicians face in the German health care system. In a 1999 poll, 49.9 percent of respondents said they were very or fairly satisfied with their health care system, while 47.7 percent replied they were very or fairly dissatisfied with it [28]. Furthermore, the vast amount of competition between physicians is very high in Germany and this could lead to a reduction in physician earnings. Due to this competition, there are also many younger physicians that are currently facing unemployment. The German law also limits the number of specialists in certain geographic areas where there are issues of overrepresentation [22]. Therefore, while there are many physicians educated in Germany, they have excess supply and this leads to many challenges including human resources management in the health care system.

In Germany, there is a distinction made between office-based physicians and hospital-based physicians. The income of office-based physicians is based on the number and types of services they provide, while hospital-based physicians are compensated on a salary-basis. This division has created a separated workforce that German legislation is now working to eliminate by encouraging the two parties to work together, with the aim of reducing overall medical costs [22].

Developing Countries

Accessing quality heath care services can be incredibly arduous for those living in developing countries, and more specifically, for those residing in rural areas. For many reasons, medical personnel and resources may not be available or accessible for such residents. As well, the issue of migrant health care workers is critical. Migrant health workers can be defined as professionals who have a desire and the ability to leave the country in which they were educated and migrate to another country. The workers are generally enticed to leave their birth country by generous incentive offers from the recruiting countries [29].

Developing countries struggle to find means for improving living conditions for their residents and countries such as Ghana, South Africa, Zimbabwe and Kenya are seeking human resources solutions to address their lack of medically trained professionals. Shortages in these countries are prevalent due to the migration of their highly educated and medically trained personnel.

Professionals tend to migrate to areas where they believe their work will be more thoroughly rewarded. The *International Journal for Equity in Health (2003)* suggested that those that work in the health care profession tend to migrate to areas that are more densely populated and where their services may be better compensated. Health care professionals look to

areas that will provide their families with an abundance of amenities, including schools for their children, safe neighborhoods, and relatives in close proximity. For medical professionals, the appeal of promotions also serves as an incentive for educating oneself further [30]. As one becomes more educated, the ability and opportunity to migrate increases and this can lead to a further exodus of needed health care professionals.

These compelling reasons tend to cause medical professionals to leave their less affluent and less developed areas and migrate to areas that can provide them with better opportunities. This has caused a surplus in some areas and a huge deficit in others. This epidemic can be seen in nations such as Nicaragua. Its capital city, Managua, holds only one-fifth of the country's population yet it employs almost 50 percent of the medically trained health care workers. The same situation can be found in other countries like Bangladesh, where almost one-third of the available health personnel are employed "in four metropolitan districts where less than 15 percent of the population lives" [30]. Clearly this presents a problem for those living outside of metropolitan districts.

Other possible explanations put forth by Dussault and Franceschini, both of the Human Development Division of the World Bank Institute, include "management style, incentive and career structures, salary scales, recruitment, posting and retention practices" [31]. Salary scales can differ quite drastically between originating and destination countries, which are shown in Figures 3 and 4. They also state that in developing countries the earning potential that one would see in more affluent or populated urban areas is much higher than one would expect to earn in rural areas.

As more health professionals immigrate to urban areas, the workloads for those in the rural areas increase astronomically. This leads to a domino affect in that those in such dire

situations look for areas where they may be able to find more satisfactory and less demanding working conditions [31]. Vujicic et al. (2004) summarizes numerous variables that influence the migration pattern and has created a formula to express their impact. It is possible to quantify the causes, and HR professionals need to look at the costs and benefits of altering the factors so that the migration pattern is more favourable. This formula is expressed as the results shown in Table 1, which shows the different reasons for one to migrate in terms of the popularity of a given reason.

There is a tendency for developed countries faced with decreasing numbers of nationally trained medical personnel to recruit already trained individuals from other nations by enticing them with incentives. Zimbabwe has been particularly affected by this problem. In 2001, out of approximately 730 nursing graduates, more than one-third (237) of them relocated to the United Kingdom [29]. This was a dramatic increase from 1997, when only 26 (approximately 6.2%) of the 422 nursing program graduates migrated to the United Kingdom [29]. This leads to the loss of skilled workers in developing countries and can be incredibly damaging due to the fact the education systems in developing countries are training individuals for occupations in the medical profession, yet are not able to retain them [29]. Countries that have the capacity to educate more people than necessary in order to meet their domestic demand have tried to counterbalance this problem by increasing their training quota. Vujicic et al. (2004) identify that "the Philippines has for many years trained more nurses than are required to replenish the domestic stock, in an effort to encourage migration and increase the level of remittance flowing back into the country" [29].

Developed countries attract internationally trained medical professionals for many reasons. To begin with, "political factors, concerns for security, domestic birth rates, the state of

the economy and war (both at home and abroad)" [26] influence the amount of people that will be allowed or recruited into a country. Also, due to the conditions of the labour market compared to the demand in developed countries, governments may make allowances to their strict policies regarding the type of and number of professionals they will allow into their country [29]. This can be seen in a Canadian example:

> Canada maintain[s] a list of occupations within which employment vacancies [are] evident. Potential immigrants working in one of these [listed] occupations would have a much higher chance of being granted entry than if they worked in a non-listed occupation [29].

Though Canada attracts internationally trained medical professionals, those employment vacancies may not always be open. Although there may be up to 10,000 international medical graduates (IMG) in Canada, many are not legally allowed to practice. Many immigrants cannot afford the costs of retraining and may be forced to find a new job in a completely unrelated field, leaving their skills to go to waste [32]. In 2004, Ontario had between 2,000 and 4,000 IMGs looking for work in medical fields related to their training and background [33]. That year, IMG Ontario accepted 165 IMGs into assessment and training positions, which was a 50 percent increase over the last year, and a 600 percent increase from the 24 positions in 1999 [33].

Another appeal for developed countries with regards to foreign trained health care professionals is that there may be less of a financial burden to the host country than those trained domestically. This is due to the fact that educational costs and the resources necessary for training are already taken care of by the international medical schools and governments [29]. Though these reasons may make recruiting foreign medical professionals seem appealing, there are still ongoing debates as to whether those trained outside of the host country are equally

qualified and culturally sensitive to the country to which they migrate. The developing countries are addressing these concerns by incorporating similar health professional training programs found in developed countries [29]. These practices can be seen in, "the majority of nursing programmes in Bangladesh, the Philippines and South Africa [which] are based on curricula from United Kingdom or USA nursing schools" [29]. Because of these actions, those that are trained may be more likely to leave and use their skills where they will be recognized and more highly rewarded.

Due to the shortages, it has been found the level of health service in rural or poor areas has decreased, leading to lower quality and productivity of health services, closure of hospital wards, increased waiting times, reduced numbers of available beds for inpatients, diversion of emergency department patients and under-utilization of remaining personnel or substitution with persons lacking the required skills for performing critical interventions [30].

The article *Not Enough Here, Too Many There: Understanding Geographical Imbalances in the Distribution of the Health Workforce (2003)*, states that a reduced number of health care workers in a given area has a direct effect on the life expectancy of its residents. For example, in the rural areas of Mexico, life expectancy is 55 years, compared to 71 years in the urban areas. Additionally, in "the wealthier, northern part of the country, infant mortality is 20/1000 as compared to more than 50/1000 in the poorer southern states" [31].

Discussion

While examining health care systems in various countries, we have found significant differences pertaining to human resources management and health care practices. In Canada, it is evident that CHA legislation influences human resources management within the health care

sector. Furthermore, the result of the debate of Canada's one-tier vs. two-tier system may have drastic impacts on the management of human resources in health care. Additionally, due to a lack of Canadian trained health professionals, we have found that Canada and the United States have a tendency to recruit from developing countries such as South Africa and Ghana, in order to meet demand.

Examination of the relationship between health care in the United States and human resources management reveals three major problems. The three problems include rapidly escalating health care costs, a growing number of American's without health care coverage and an epidemic regarding the standard of care. These problems each have significant consequences for the well being of individual Americans and will have devastating affects on the physical and psychological health and well being of the nation as a whole. The physical health of many Americans is compromised because these factors make it difficult for individuals to receive proper consultation and treatment from physicians. This can have detrimental effects on the mental state of the patient and can lead to large amounts of undue stress, which may further aggravate the situation. By examining case studies, it is evident that human resources management can and does play an essential role in the health care system. The practices, policies, and philosophies of human resources professionals are imperative in developing and improving American health care. The implication is that further research and studies need to be conducted in order to determine additional resource practices that can be beneficial to all organizations and patients.

Compared to the United States, Canada and developing countries, Germany is in a unique situation considering their surplus of trained physicians. Due to this surplus, the nation has found itself with a high unemployment rate in the physician population group. This is a human

resources issue that can be resolved in a legislative manner. Through imposing greater restrictive admissions criteria for medical schools in Germany, they can reduce the number of physicians that are trained. Accompanying the surplus problem is the legislative restriction limiting the number of specialists allowed to practice in geographical areas. These are two issues that are pushing German-trained physicians out of the country and thus not allowing the country to take full advantage of their national investment in training these professionals.

Developing countries also face the problem of unused resources, as they lose many of their trained professionals to other areas of the world that are able to provide them with more opportunities and benefits. Human resources professionals face the task of attempting to find and/or retain workers in areas that are most severely affected by the loss of valuable workers.

Human resources management plays a significant role in the distribution of health care workers. With those in more developed countries offering amenities otherwise unavailable, chances are that professionals will be more enticed to relocate, thus increasing shortages in all areas of health care. Due to an increase in globalization, resources are now being shared more than ever, though not always distributed equally.

Conclusions

We have found the relationship between human resources management and health care is extremely complex particularly when examined from a global perspective. Our research and analysis has revealed there are several key questions that must be addressed and that human resources management can and must play an essential role in health care sector reform.

The various functions of human resources management in health care systems of Canada, the United States of America, Germany and various developing countries have been briefly

examined. The goals and motivations of the main stakeholders in the Canadian health care system including provincial governments, the federal government, physicians, nurses, and allied health care professionals have been reviewed. The possibility of a major change in the structure of Canadian health care was also explored, specifically the creation of a two-tier system. The American health care system is currently challenged by several issues. Various American case studies were examined that displayed the role of human resources management in a practical setting. In Germany, the health care situation also has issues due to a surplus of physicians and some of the human resources implications of this issue were addressed. In developing countries, the migration of health workers to more affluent countries and regions is a major problem resulting in citizens in rural areas of developing countries experiencing difficulties receiving adequate medical care.

Since all health care is ultimately delivered by and to people, a strong understanding of the human resources management issues is required to ensure the success of any health care program. Further human resources initiatives are required in many health care systems and more extensive research must be conducted to bring about new human resources policies and practices that will benefit individuals around the world.

Competing Interests

The author(s) declared that they have no competing interests.

Authors' Contributions

SK conceived the paper, worked on research design, did data analysis and led the writing of the paper. JH, MS and CO all actively participated in data analysis, manuscript writing and review. All authors read and approved the final manuscript.

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Figures

Figure 1: Relationship between health system inputs, budget elements, and expenditure categories
Source: World Health Report 2000 Figure 4.1 pg.75
[http://www.who.int.proxy.lib.uwo.ca:2048/whr/2000/en/whr00_ch4_en.pdf]

Figure 1 identifies three principal health system inputs: human resources, physical capital, and consumables. It also shows how the financial resources to purchase these inputs are of both a capital investment and a recurrent character. As in other industries, investment decisions in health are critical because they are generally irreversible: they commit large amounts of money to places and activities which are difficult, even impossible, to cancel, close or scale down [1].

Figure 2: Overview of the Major Stakeholders in the Canadian Health Care System

Figure 2 pictures the major stakeholders in the Canadian health care system and how they relate.

Figure 3: The trend of the cost of employer-sponsored family health care coverage in the United States
Source: National Coalition on Health Care 2004 pg.9
[http://www.nchc.org/materials/studies/reform.pdf]

Figure 3 illustrates the increase in health insurance premiums since 2001. These increases are making it more difficult for businesses to continue to provide health coverage for their employees and retirees [15].

Figure 4: Ratio of nurse wages (PPP$US), destination country to source country
Source: Vujicic M, Zurn P, Diallo K, Orvill A, Dal Poz MR 2004
[http://www.human-resources-health.com/content/2/1/3]

Figure 4 shows the difference between the wage in the source country and destination country for nurses. This difference is also known as the “wage premium.” [29]

Figure 5: Ratio of physician wages (PPP$US), destination country to source country
Source: Vujicic M, Zurn P, Diallo K, Orvill A, Dal Poz MR 2004
[http://www.human-resources-health.com/content/2/1/3]

Figure 5 shows the difference between the wage in the source country and destination country for physicians [29].

Tables

Table 1: Factors influencing health care professionals' intent to migrate, reason for migrating and willingness to remain in their home country
Source: Vujicic M, Zurn P, Diallo K, Orvill A, Dal Poz MR 2004
[http://www.human-resources-health.com/content/2/1/3]

	For what reasons do you intend to leave your home country?	**For what reasons did you leave your home country?**	**What would make you remain in your home country?**
Cameroon	Upgrade qualifications (85%) Gain experience (80%) Lack of promotion (80%) Living conditions (80%)	Recruited (29%) Gain experience (28%) Better pay (27%) Living conditions (19%)	Salary (68%) Continuing education (67%) Working environment (64%) Health care system management (55%)
Ghana		Gain experience (86%) Lack of promotion (86%) Despondency (86%) Living conditions, Economic decline (71%)	Salary (81%) Work environment (64%) Fringe benefits (77%) Resources in health sector (70%)
Senegal	Salary (89%) N/a N/a N/a		Work environment (n/a) Salary (n/a) Better career path (n/a) Benefits (n/a)
South Africa	Gain experience (43%) Violence and crime (38%) Heavy workload (41%) Declining health service (38%)		Salary (78%) Work environment (68%) Fringe benefits (66%) Workload (59%)
Uganda	Salary (72%) Living conditions (41%) Upgrade qualifications (38%) Gain experience (24%)	Salary (55%) Economic decline (55%) Save money (54%) Declining health service (53%)	Salary (84%) Fringe benefits (54%) Work environment (36%) Workload (30%)
Zimbabwe	All factors	All factors	All factors

Figure 1: Relationship Between Health System Inputs, Budget Elements, and Expenditure Categories

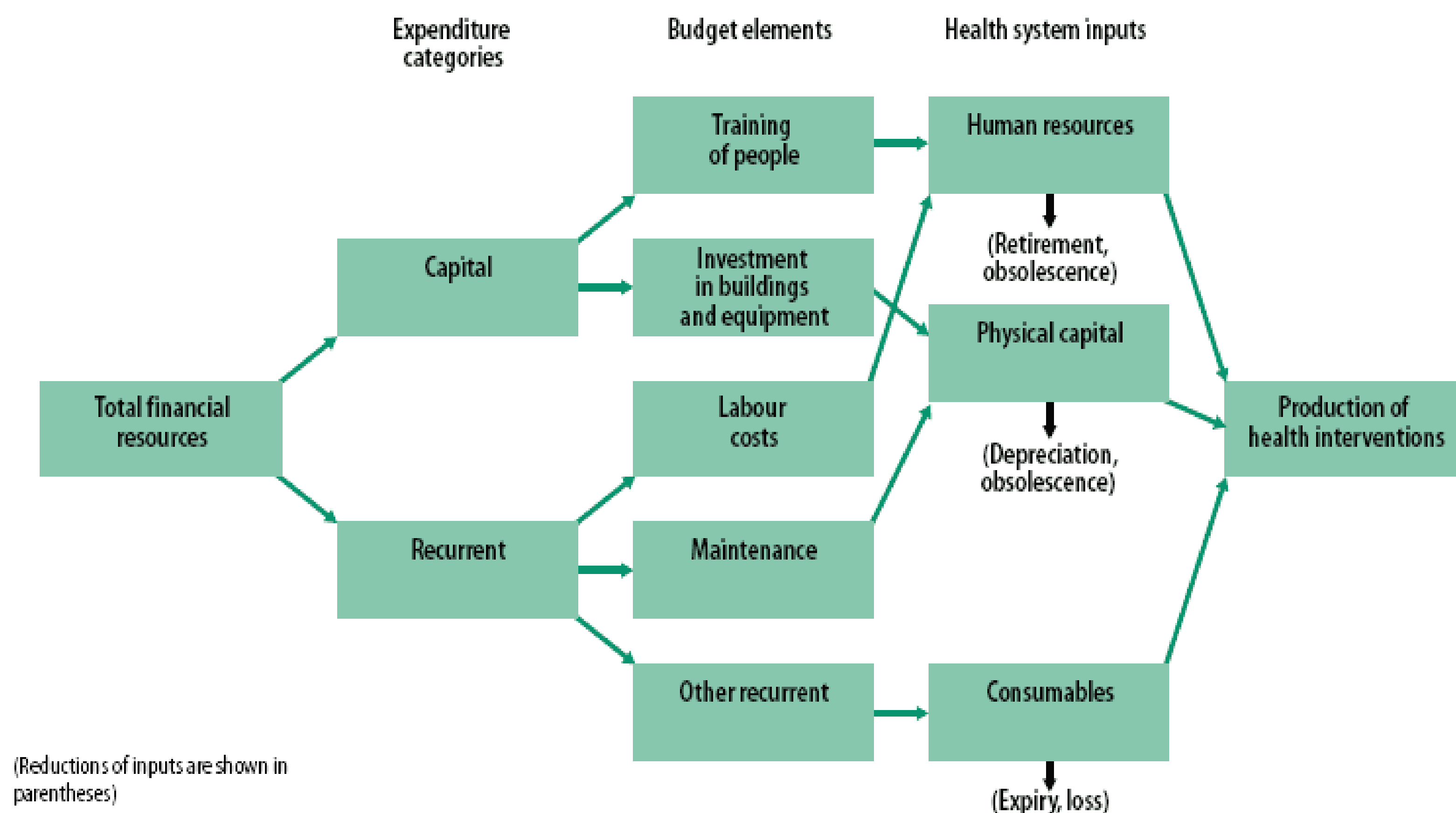

Figure 1

Figure 2: Overview of the Major Stakeholders in the Canadian Health Care System

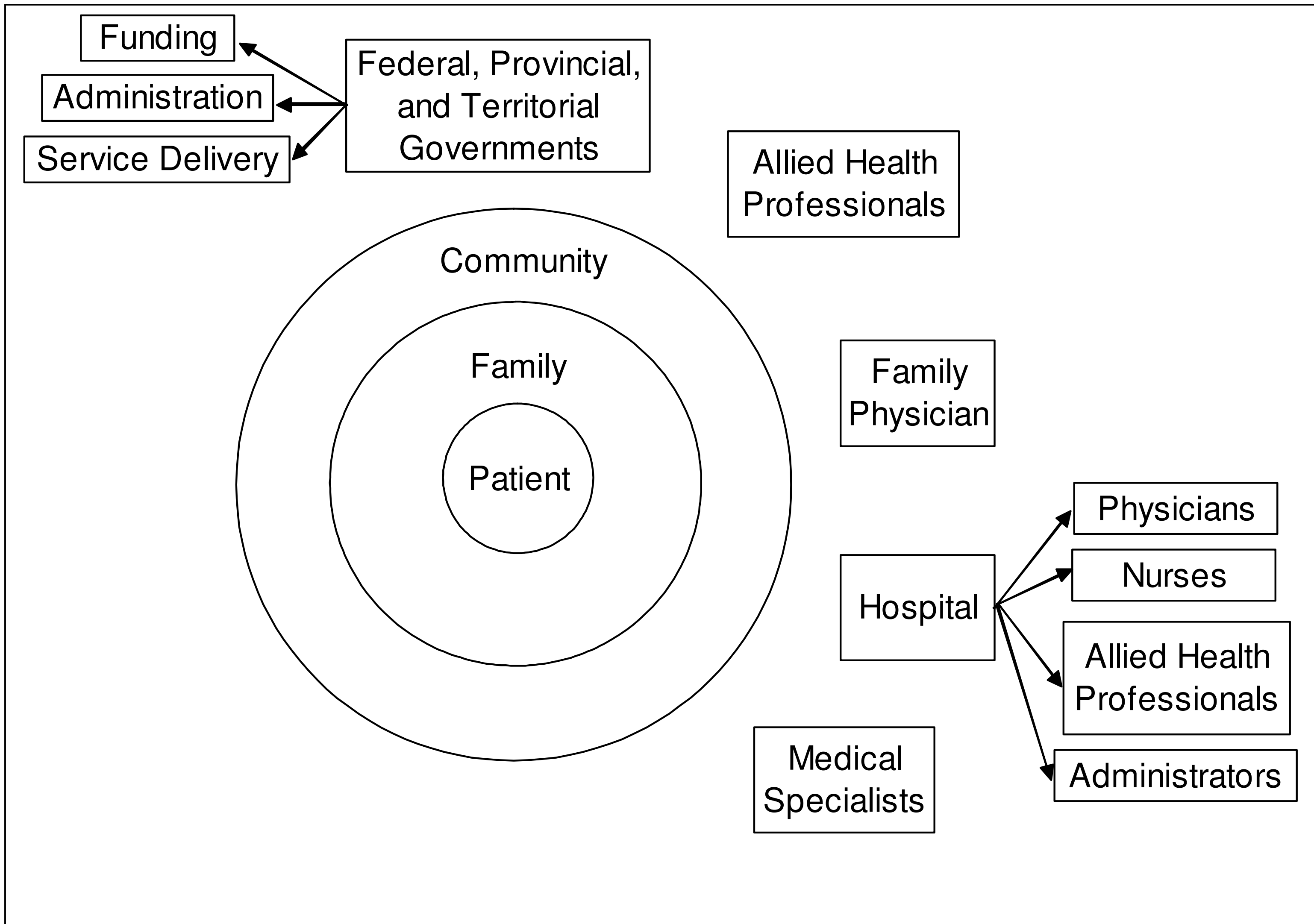

Figure 2

Figure 3: The Trend of the Cost of Employer-Sponsored Family Health Care Coverage in the United States

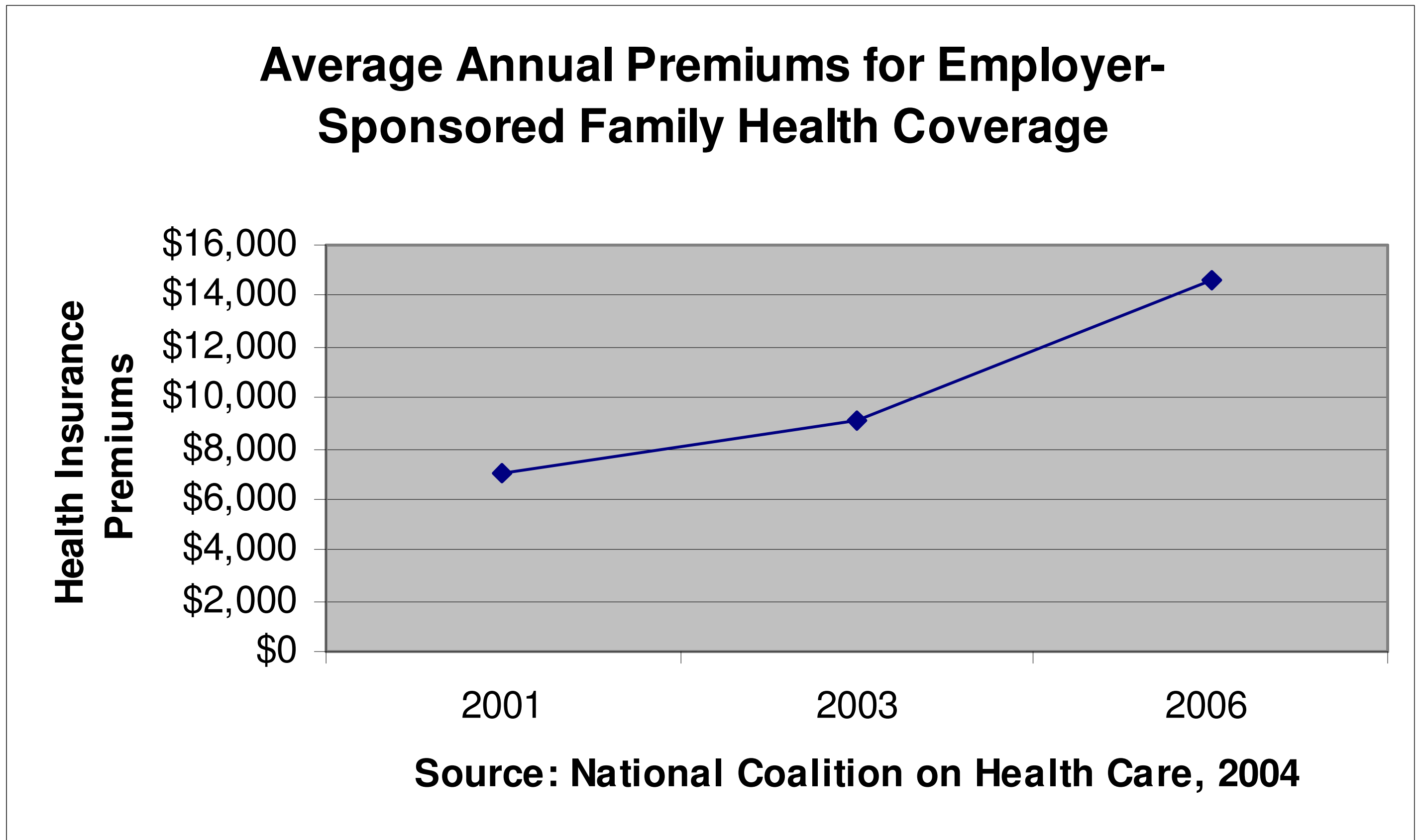

Figure 3

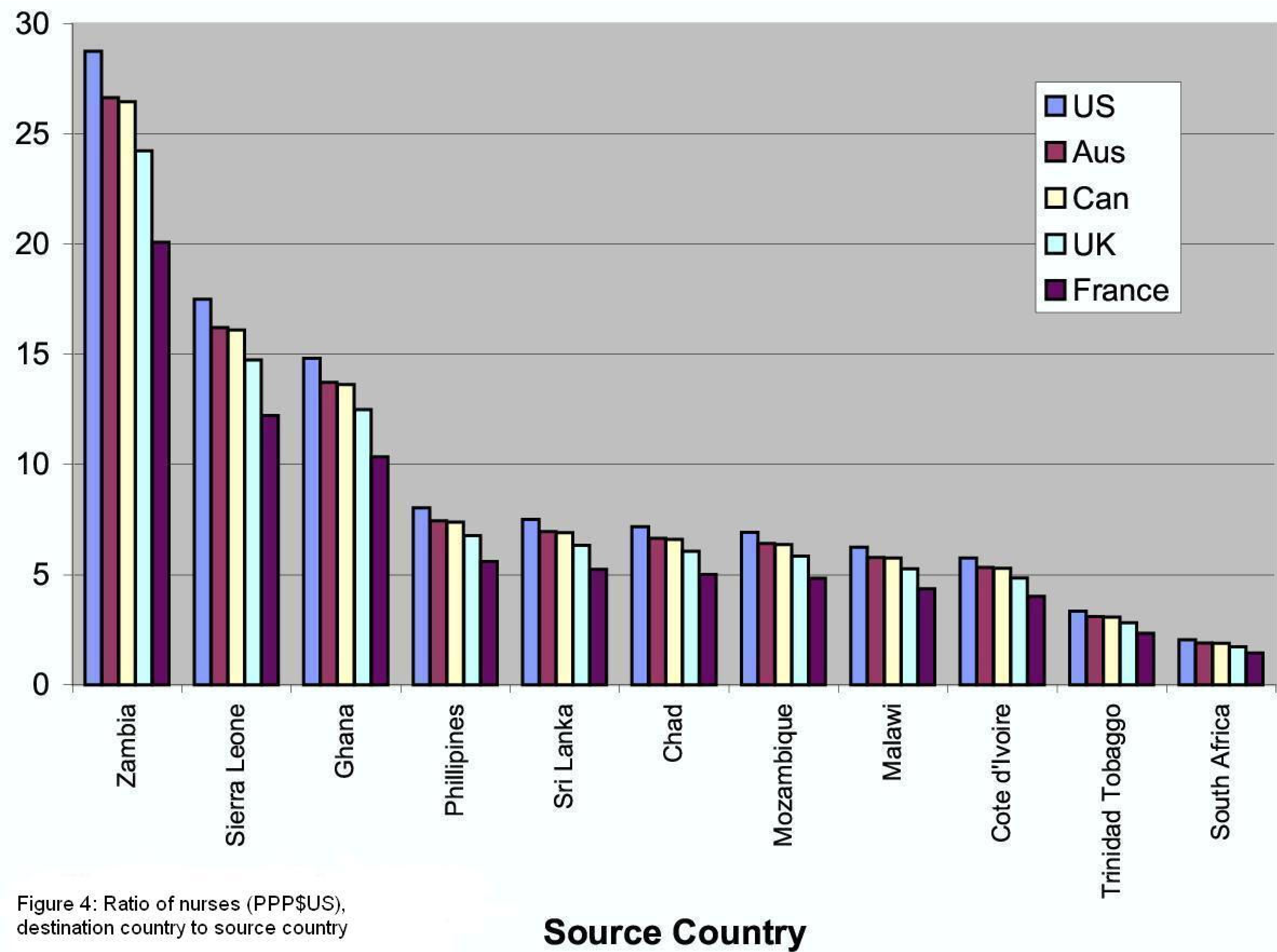

Figure 4: Ratio of nurses (PPP$US), destination country to source country

Figure 4

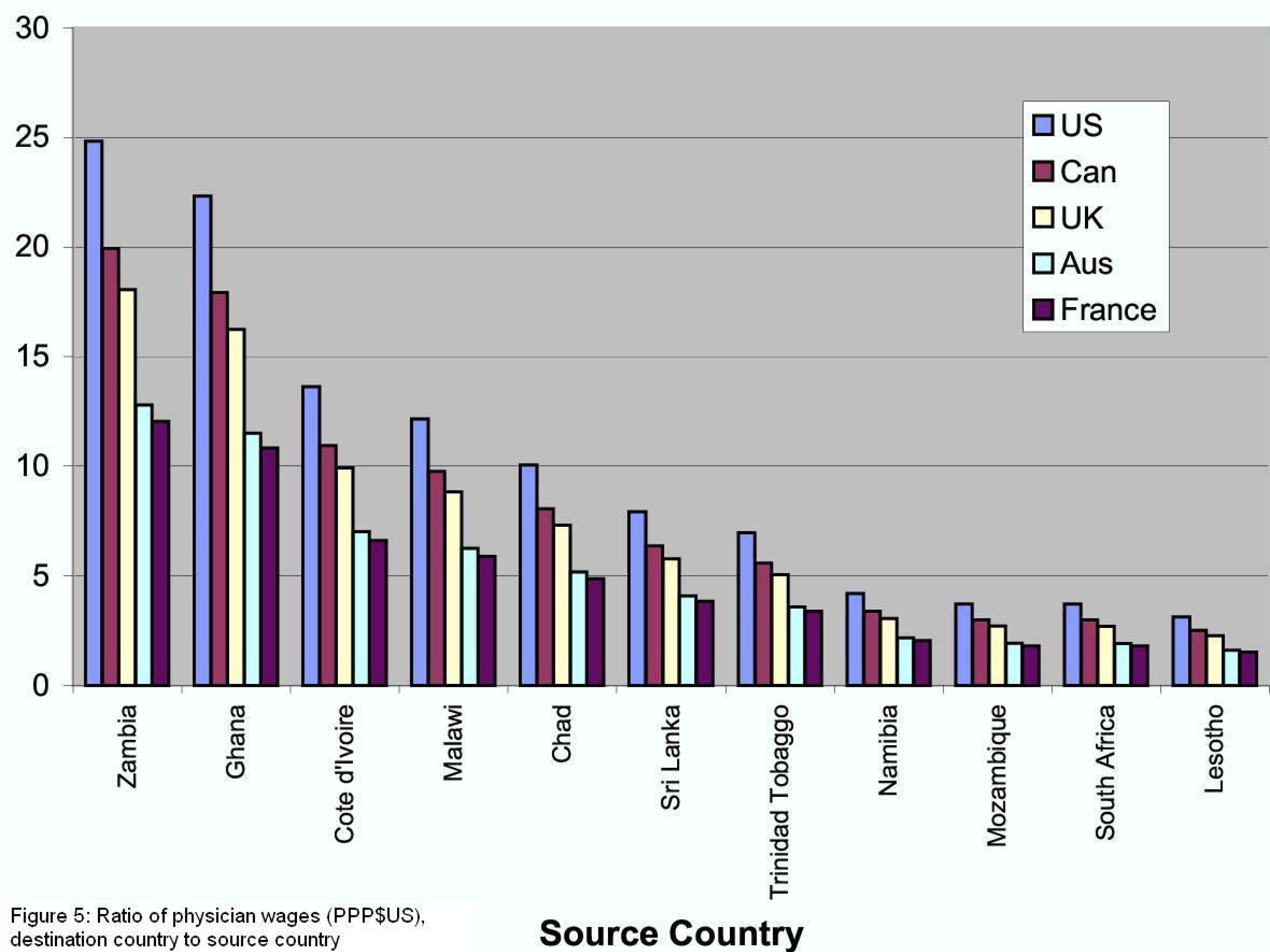

Figure 5: Ratio of physician wages (PPP$US), destination country to source country

Figure 5