

Quantitative and Qualitative Evidence on Cuba's Primary Health Care

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Abstract

Many scholars have lauded the Cuban primary health care system because the country has demonstrated a remarkable success in providing access to and improving the health of its population under punishing economic circumstances. While much of the evidence supporting this view has relied on quantitative research, more recent research with ethnographic components offers alternative perspectives of the Cuban health experience. The purpose of this capstone is to determine the extent to which there may be dissonance between quantitative and qualitative research. A review of the published literature reveals challenges for both patients and health workers. Issues discussed include the informal economy for health, diminishing income for physicians, constraints for patients, and medical internationalism. This capstone concludes that Cuba's primary health care system has been largely successful in meeting the health care needs of its population.

Keywords: Cuba; health system; primary care; qualitative; ethnography

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Introduction

Since the revolution in 1959, Cuba's commitment to improving living conditions and providing the Cuban people with a universal national health care system have led to significant gains in health status and exemplary numbers for major health indicators. Even though the country's GDP has doubled since the year 2000 (US \$6051.2 in 2011), it is only one-eighth of United States, yet Cubans have a life expectancy of 78 years at birth (compared with 79 in United States), an infant mortality of 4.5 per 1,000 live births (6 in United States), and an average maternal mortality of 29 per 100,000 (28 in United States) (PAHO, 2012; World Bank, 2015). The leading causes of death are chronic and non-communicable diseases similar to those of industrialized countries (PAHO, 2012). These achievements are remarkable given that Cuba has suffered serious economic hardships in the past two decades, with the collapse of the Soviet Union and the tightening of the economic blockage by the United States. Furthermore, Cuba has achieved these health indicators without support from the World Bank or the International Monetary Fund, as one of the few countries who is not a member of these institutions.

The Cuban government maintains that it is committed to reducing social inequality and providing universal access to health programs (Feinsilver, 1993; Whiteford & Branch, 2007). In 1975, the right to health as a responsibility of the state was written into the constitution (Feinsilver, 1993). Through trial and error, Cuba has developed a strong community-based primary care model, a system that embeds medical facilities and practitioners in the neighbourhoods where they practice. Since doctors and nurses live next to the families they treat – and often at the very post in which they work – this model of primary health care increased access, enhanced equity, improved communication, and reduced isolation (Whiteford & Branch, 2007). Support for community organizations ranging from neighbourhood brigades to political groups based on occupation have also led to large-scale health promotion activities including massive

vaccination campaigns and vector surveillance programs throughout Cuba (Whiteford, 2000).

While this capstone is primarily about the health sector, it recognizes that changes in Cuba's health care services, though very significant, are only one of many factors involved in improving people's health outcomes. Other factors such as housing, education, employment, and income are all social determinants of health that are inextricably linked to health outcomes (Marmot, 2005). The economic and social restructuring of Cuba after the revolution has allowed for improvement of all of these factors (de Vos, 2005).

Health professionals play a key role in the health system and are expected to provide high quality service under difficult circumstances. Prior to the economic crisis of the 1990s, physicians were among the many professionals who represented the apex of Cuba's social and economic hierarchy (Andaya, 2009). However, a shifting material economy is leading to many state-salaried professionals earning lower incomes than workers who have access to tourism, remittance, and informal economies. For disgruntled physicians, Cuba's expanding medical diplomacy has provided opportunities to serve abroad and to earn a higher income. Unfortunately, reality has not always met expectations, as many of these Cubans discover that their compensation quickly diminishes when adjusted for local prices, or that living conditions end up being very poor because they are sent to remote places where local workers refuse to provide service (Werlau, 2010).

Other problems affect Cubans and health care professionals because Cuban policies emphasize collective rights over individual rights (Hirschfeld, 2007; Whiteford & Branch, 2007). For example, there are no statutory rights to privacy in the physician-patient relationship, to patient-informed consent, to refuse treatment, and to protest or sue for malpractice. These values of privacy, autonomy, and individualism are principles of medical ethics in Western health care and potentially form a basis for critique of the Cuban health care system.

Though it is widely accepted that Cuban health policy has increased equity in the distribution of health care, less is known about the actual experience of the lives of

Cubans both as health workers and as patients in relation to their health system. Much of the evidence studied by foreign scholars has been based on the Cuban Ministry of Health's publications and interviews with Ministry officials and their networks (Feinsilver, 1993; Whiteford & Branch, 2007). Cuba's achievements in the health sector have been extensively described in structural terms. Many scholars present Cuba's improved health statistics to affirm the superiority of its health care model and its successful compliance with the World Health Organization's Alma Ata Declaration. Fewer scholars have conducted ethnographic fieldwork to yield inside knowledge about the culture in practice. This capstone explores qualitative evidence to deepen our understanding of the quantitative data often reported on Cuba's health care system.

Though there is no doubt that Cuba's health achievements are related to socialist goals, this capstone does not attempt to be a debate on the principles of the socialist government. It does, however, subscribe to the framework of health equity that is described below. Underpinning this capstone is the belief that health disparities are linked to social and economic contexts and are best addressed through planning, policies and practices within and outside the health sector (Bambra, Fox, & Scott-Samuel, 2005; Marmot, 2005).

Methods

Assessments of Cuba's health achievements have drawn heavily upon sources that often originate from the Cuban Ministry of Health. Many years of quantitative research on Cuba's health outcomes have shown time and again that its primary health care programs are successful. Because many of these claims were made by foreign scholars who did not live in Cuba, and less is known about the complexity of daily life in Cuba, what is needed is a better understanding of the lived experience of people working in, or using, the Cuban health system. Qualitative research bridges this gap by exploring the context and meaning of the Cuban lived experience, allowing for identification of missed processes, phenomena, and range of their effects (Creswell, Klassen, Plano Clark, & Smith, 2011).

I conducted a literature review on the Cuban health system to find the most recent qualitative assessments as well as to summarize the quantitative data on health outcomes. The review included both peer-reviewed articles and limited grey literature from news sources, non-profit organizations, and government sources. Only sources in English were reviewed which limits the evidence available for this capstone. The main sources used were primarily from Pub Med, Google Scholar, World Bank, and the Cuban Ministry of Health. I applied the snowball technique to identify other sources relevant to the topic of interest. Key search terms include Cuba, health system, primary care, qualitative, ethnography, etc. A literature review can help to find inconsistencies among evidence on the Cuban health system, compare interpretations of evidence, find areas in need of further study, and recapture ongoing problems for my topic of interest. A limitation to undertaking a literature review for this capstone is that the viewpoints I express may be affected by expectations generated from the reviewed literature, in particular because I do not have any history of association with Cuba. I attempt to report the latest findings available based on health performance data and observations of researchers gained through their participation in Cuban life.

Underlying this capstone is the conceptual framework of health equity. Health equity is a framework which assumes that health outcomes are a result of many factors, biologic and genetic, as well as less obvious processes including politics, power, and ideology in shaping distribution to health care (Bambra, Fox, & Scott-Samuel, 2005; Navarro & Shi, 2001). Health equity is conceptualized as 'differences in health that are not only unnecessary and avoidable, but in addition unfair and unjust' (Whitehead, 1992). The distribution of health care, such as access, provision, and equity of resources, all reflect political will which is amenable to change in developing and maintaining policies cognizant of social and economic conditions. It is well established that major determinants of health are linked to social and economic contexts, such as education, employment, housing, and income (Acheson, 1998; Sen, 2002; Wilkinson & Marmot, 2003). However, because resources are largely governed by policies outside of the health sector, policies are too often disconnected with plans to reduce health disparities. The success of the health sector in reducing health disparities depends on these allied social sectors and will not be sufficient if providing and funding only medical care. As the Cuban case demonstrates, addressing social determinants of health can create immense gains in population health. In spite of their national economic hardship and shortage of medical resources, focusing on social determinants of health by design in primary health care has been shown to significantly reduce health disparities and inequalities throughout Cuba.

The first part of this capstone presents a summary of the development of Cuba's health care system since the revolution in 1959. The next two sections discuss the health care system, first based on what is known from quantitative research then followed by qualitative research. Lastly, this capstone discusses the impact of Cuban medical internationalism for its significance in the recent years. As a final introductory comment, I wish to draw attention to my role as one who has not been to Cuba nor experienced Cuban culture in any fashion. I would like to acknowledge that as a distant observer of the Cuban health system, my understanding and conclusion of information evaluated is based upon the available published literature in English as well as my values, interests, and socio-historical experiences.

Development of Community-Based Primary Health Care

A logical place to begin an assessment of the Cuban health care system begins in the 1940s when Fulgencio Batista came to power. This was a period characterized by sharp social and economic gaps that eventually led to an armed revolution under the leadership of Fidel Castro. In this pre-revolutionary period, Cuba's health system was made up of private healthcare for the rich and an underfinanced public health care system for the poor (de Vos, 2005). There was only a single university hospital and medical school, and two-thirds of its 6300 physicians lived in Havana, while care for the poor and rural population was almost non-existent (Cooper, Kenelly, & Ordunez-Garcia, 2006).

Four distinct stages are commonly identified in the development of Cuba's national health system in the decades following the victory of the revolution in 1959 (Nayeri, 1995; de Vos, 2005; Whiteford & Branch, 2007). In the first decade (1959-1970), Cuba created a new Ministry of Health (*Ministerio de Salud Pública*—MINSAP) and declared that health was a right for all Cubans. The government nationalized private clinics and pharmaceutical companies, along with many other industries, and directed additional resources to improving sanitation and providing potable water to all homes (Nayeri, 1995; de Vos, 2005). The onset of the US embargo in 1961 led to many changes, among which the emigration and loss of 3,000 – approximately half – of its doctors, including many professors from Cuba's only medical school. Cuba responded by developing major new education and training programs, new medical schools, laboratories, hospitals, and research facilities to generate new professionals. Cuba also undertook massive literacy campaigns, made access to education free, and conducted health promotion and vaccination activities in rural Cuba (Warman, 2001). The result was the beginning of an even stronger state-emphasis on high-quality health care.

In the second decade (1970-1980), Cuba gave priority to reorganizing the administration of the health system and training health professionals. The system was gradually decentralized to designated health zones in Cuba's 15 provinces and 168 municipalities (de Vos, 2005). Each health zone was covered under the responsibility of a polyclinic that was staffed by primary care physicians specializing in paediatrics, internal medicine, obstetrics and gynaecology, with the support of nurses and psychologists (Demers, Kemble, Orris, & Orris, 1993). Health surveillance and data collection was also conducted through these clinics. Medical education was reoriented from disease to social medicine, and training shifted from preparing independent professionals to team-based workers (Iatridis, 1990). Due to shortages of medical supplies, the use of medicinal herbs and practice of complementary alternative medicine was also introduced into the health care system (Dresang, Brebrick, Murray, Shallue, & Sullivan-Vedder, 2005; de Vos, 2005).

In the third decade (1980-1990), further development of preventative and curative health activities for the population continued. The Cuban aphorism "we live like the poor but we die like the rich" rang truer, as the American Public Health Association presented the Edward Barsky Award to the Cuban Minister of Health for being on track to achieving the WHO goal of "health for all by the year 2000" (Swanson, 1987). A new primary care program was piloted which sent 12 family physicians, a new type of doctor in Cuba, to serve in clinics in rural areas. Based on encouraging preliminary results, the program was adopted and implemented throughout the country, assigning family practitioners to all geographic areas. The percentage of the Cuban population who had their own family doctor increased from 22 to 95 percent in the few years between 1987 and 1995 (de Vos, 2005). This program, known as the Family Physician and Nurse Program (*Programa Medico y Enfermera de la Familia*), succeeded the polyclinic focus at the local level and became the cornerstone of Cuba's current community-oriented primary health care system.

Family practice forms the foundation of medical practice and primary health care in Cuba. Primary care is provided in neighbourhood clinics (*consultorios*), secondary care in polyclinics (*policlinicos*), and tertiary care in hospitals (*hospitales*). A family doctor and nurse serve patients in their defined geographic area surrounding their

neighbourhood *consultorios*. At the end of 2013, the number of physicians per Cuban was 1 to 133, among the very highest in the world (the ratio is 1 to 416 in US) (Ministry of Health, 2014; World Bank, 2015). The large number of family doctors is made possible due to the expansion of medical education coordinated through 13 universities and 25 colleges scattered throughout the country (Ministry of Health, 2014; Suárez, Sacasas, & Garcia, 2008). Medical graduates are now also required to complete family residencies before they can choose to specialize further in acute care. The health infrastructure available to Cuba's population of 11 million is extensive. There are 152 hospitals (18% have 400 or more beds, 64% have between 100 and 399, and 15% have between 50 and 99 beds), 131 intensive care units, 451 polyclinics (71% have rehabilitation services), 118 dental clinics, 144 maternity homes, 144 nursing homes, 246 senior homes, 36 geriatric services, and 30 homes for the disabled (Ministry of Health, 2014). Neighbourhood *consultorios* address approximately 80 percent of health problems, emphasizing health promotion and disease prevention with patients (Demers, Kemble, Orris, & Orris, 1993).

Because many family doctors and nurses often live directly above the clinic at which they work (housing is a highly valued commodity, but doctors have the advantage of it being provided by the state), they are very integrated into the community they serve and are easily accessible (Reed, 2000). Public health is an intrinsic part of clinical practice. For example, clinics display updated listings of the number of patients in the community with nationally targeted priority conditions such as tuberculosis, hypertension, teenage pregnancy, and various communicable diseases, as well as immunization status, and displaying educational material related to topics such as smoking, alcohol, and injury (Demers, Kemble, Orris, & Orris, 1993; Whiteford & Branch, 2007).

The commitment to health care remained strong in Cuba even through the economic crisis beginning in the 1990s. In the fourth decade, known as the "Special Period" (1990-2004), Cuba suffered serious economic deprivation when the Soviet Union, their primary trading partner, collapsed in 1989. The economic crisis was intensified in 1992 when the Council for Mutual Economic Assistance (CMEA) disintegrated and Cuba lost 85% of its international trade with countries of the Eastern

Bloc and other socialist states in the world (Nayeri, 1995). In the same decade, US reinforced their blockade with the Helms-Burton law in 1996. The availability of food, medicine, fuel, raw materials, and other essential supplies became severely restricted. Many social problems reappeared, most notably poverty, inequality, unemployment, nutrition, education, health, social security and assistance, and housing (Mesa-Lago, 2005). Despite this, Cuba continued to provide 95 percent of its population with health services (Nayeri, 1995).

Cuba has since seen partial recovery of its performance on several social indicators since the Special Period. With the transfer of power to Raúl Castro in 2006, the government implemented a series of market-oriented reforms which has led to improvement of social and economic outcomes (Mesa-Lago & Pérez-López, 2013). However, many have not regained their 1989 levels. A thorough analysis of Cuban social welfare by Mesa-Lago and Pérez-López (2013) show that poverty is still increased due to a scaling back of the food rationing system, falling real salaries, price increases, decreased pensions, and planned dismissal of many state jobs. The effect of these reforms deepens inequality, in particular adversely affecting Afro-Cubans, pensioners, single mothers, residents of eastern provinces, migrants, residents of poor neighbourhoods, and individuals without access to remittances. The number of new housing units built per inhabitant decreased by half between 1989 and 2011, with an official housing deficit estimated at 600,000 units in 2008. Recognizing that Cuba's social services are financially unsustainable without reforms to improve resource allocation, efficiency, and production of goods and services, the government under Raúl Castro has gradually reduced social expenditures in education, public health, housing, and social assistance between 2007 and 2010.

A recent major development in the Cuban health sector is the increase of medical internationalism, particularly in Venezuela. The Venezuelan government under President Chávez made agreements beginning in 1999 to supply Cuba with much-needed oil in exchange for thousands of Cuban health professionals. Cuba devotes substantial resources to health aid in other countries despite a scarcity domestically. The effort has sparked an ongoing debate of whether Cuba's medical internationalism is primarily a gesture of solidarity or an affordable way for the country to gain international

support to counter the impact of the US blockade. This topic is explored at the end of this capstone given its importance to the Cuban health system.

Quantitative Evidence: Post-Revolutionary Health Outcomes

Epidemiological results can be politicized because governments can use them to support or justify their programs and policies (Crabb, 2001). For example, some analysts have argued that the government exaggerated pre-revolution health statistics (Hirschfeld, 2007). The accuracy of data in quantitative reports can change depending on many factors, such as the source, who is doing the reporting and for whom, or how information is gathered and stored (Whiteford & Branch, 2007). A well-known example is the impact of revisions to the US Diagnostic and Statistical Manual (DSM), which changed the way information is gathered and categorized, and has led to significant changes in the observed number of cases for particular mental health diagnoses.

Hirschfeld (2007), a strong critic of the Cuban health system, has pointed out that most scholarly analyses have been based on the government's publication of health data which are not often independently verified. The United Nations Development Program (UNDP) has also left Cuba out of its Human Development Index (HDI) in 2001 and 2010 for the stated reason of unreliable or incomplete data (Brown, 2011). Nevertheless, Cuban data has been accepted by most scholars for many years. Compared to other Caribbean and Latin American countries, Cuba has published very extensively on mortality and morbidity data since 1970, and a study reports that their patterns of variation reflect those of complex vital records systems (Cooper, Kennelly, & Ordunez-Garcia, 2006).

The sections below take a look at the latest quantitative data available on a number of key measures of population health in Cuba.

Maternal and Child Health

The Maternal-Child Program (*Programa Nacional de Atención Materno-Infantil—PAMI*) was established in 1970 to encourage governmental sectors and community organizations to work collaboratively to address the health of women of child-bearing age and their children (Cooper, Kennelly, & Ordunez-Garcia, 2006). The infant mortality rate in Cuba has been very low at less than five in the last six years. Cuba documents one of the most rapid declines for infant mortality. In 2013, the rate was 4.2 per 1,000 live births, and the rate of mortality under five years was 5.7 per 1,000 with the percent survival rate at this age at 99.4% (Ministry of Public Health, 2014). The maternal mortality ratio is 38.9 deaths per 100,000 live births. There has been an increase in fertility rate to 44.7 live births per 1,000 women of childbearing age. Couples control fertility through contraception (78% of the population are covered) and through interrupting unwanted pregnancies.

Infectious and Communicable Diseases

Infectious diseases are particularly well-controlled due to a high level of community participation, access to primary care, and aggressive public health approaches. The National Immunization Program provides vaccines for 13 diseases. Elimination has been achieved for poliomyelitis, diphtheria, measles, whooping cough, rubella, neonatal tetanus, tubercular meningitis in children under 1, congenital rubella syndrome, and meningoencephalitis following mumps (PAHO, 2012). According to the 2013 Ministry of Health data, 14 infectious diseases have been eliminated and 9 have incidence rates of less than 0.1 per 100,000 people (Ministry of Public Health, 2014). Tetanus and Hepatitis B are very low, at 1 and 11 cases in 2010 (PAHO, 2012). The dengue outbreak in 1981 has since led to strengthened surveillance, vector control, diagnostics, and community mobilization to remove mosquito breeding sites. Currently, 86% of Cuba's municipalities are free of or at low entomological risk of *Aedes aegypti* infestation.

Cuba has a national program to contain AIDS. There is routine testing, contact tracing, partner notification, close medical surveillance, and partial social isolation of HIV positive individuals (Scheper-Hughes, 1993). At the close of 2010, there were a

cumulative total of 12,217 individuals who were HIV positive, and 83.2% of them were still alive (PAHO, 2012). The large majority of diagnosed cases are among men, at 89%, and the greatest group at risk is men who have sex with men (PAHO, 2012). The state provides free antiretroviral therapy to all individuals with HIV or AIDS.

Chronic Diseases

Chronic, non-communicable diseases are responsible for 84% of deaths in Cuba (PAHO, 2012). The top three leading causes of mortality are from malignant tumours, heart disease, and accidents, similar to the experience of industrialized countries rather than non-industrialized countries (Ministry of Public Health, 2014). In 2013, the years of potential life lost (YPLL) was 17.6 for malignancies, 10.5 for heart diseases, and 5.4 for accidents (Ministry of Public Health, 2014). Malignancies were the leading cause of death in the 35-64 age group, with mortality higher among men and the urban population. This is also the case with heart disease, with more than 50% of cases affecting the 75-and-older age group. Accidental falls are responsible for 42% of deaths in this category, followed by motor vehicle accidents.

Qualitative Evidence: Constraints and Challenges

The experience of researchers in Cuba shows that the actual experience of the lives of Cubans both as health workers and as patients in the health care system may not be so positive. Material shortages in the health system affect everyone and are leading many to accessing social networks as a resource to obtain goods outside the formal economy. With ongoing market-oriented reforms in Cuba, a growing income disparity between the public and private sector is also increasing stress for health workers who are seeing diminishing incomes. Working within the health system has also become more challenging as incentives to practice abroad become stronger. Under the health system, patients are also constrained due to being routinely monitored by community brigades as part of state epidemiologic surveillance activities. The sections below discuss these challenges based on the most recent ethnographic research.

Using Social Networks

Qualitative research in Cuba reports that accessing social networks to obtain scarce goods and services is pervasive (Hirschfeld, 2007; Andaya, 2009). Often, Cubans turn to their networks of friends, kin, and acquaintances – called *socios* – to obtain or accomplish tasks “on the side”. This reliance on what may be termed an informal or second economy is often necessary because of state bureaucracy and material shortages. The popular term used jokingly by Cubans for this system of practice is *socioismo*, rather than *socialismo* (socialism) (Hirschfeld, 2007; Andaya, 2009). Informal economies such as the Cuban *socioismo* have existed throughout many historic examples of state socialism and have been studied extensively (for examples see Brown & Rusinova, 1997; Salmi, 2003). According to Henken (2005), informal economies are a common feature of contemporary socialism and are inadvertently promoted through the imperatives of central planning. Though not encouraged by the state, these activities can make up for some economic inefficiencies of rationing systems (Henken, 2005). Ritter

(2005) provides a good description of where *socioismo* falls into Cuba's types of economic activities. Some activities include mechanical services, food services, retailing, transportation, manufacturing, and personal services. These are informal because their production or transaction goes unrecorded, or their service or sale is unauthorized by the state. Many activities are done with little social stigma (Henken, 2005; Hirschfeld, 2007).

The prevalence of *socioismo* exists in the health sector too. Hirschfeld (2007) observed a number of examples of socios being tapped for health services during her nine-month research experience in Cuba. The following is one of her illustrative vignettes:

"When one of my wisdom teeth started coming in it hurt terribly so I made an appointment with a friend of mine who's a really good dentist to take it out. Well, when we first tried to schedule it there weren't enough materials available, so we had to put it off for a while, until he could hoard back enough stuff [surgical materials]. First there weren't any needles. Then no sterile water, then no surgical thread. About three or four months went by before we could actually do the surgery. He had gradually stashed things away as he found them, and then, since he was a friend of mine, he had me come in on a Saturday when the clinic was closed to do it."

— Hirschfeld, 2007

The practice of accessing informal networks to obtain scarce goods and services has been interpreted by traditional economists as evidence of corruption; however, the reality may be much more complex. Ledeneva (1998), who studied Russia's informal economy, describes the morality of practice as a balance between official values of absolute egalitarianism and one's willingness to help others. In Cuba, Andaya (2009) observes that doctor's participation in informal relations is motivated by "an ethos of altruism and care in the face of an often impersonal system". Gift-giving from patients and gift-receiving by doctors are a common practice. Despite doctors' relatively low income as state-salaried workers, giving gifts after a clinical visit forms the only socially appropriate way to acknowledge their professionalism and long hours of service. The following encounter captures this idea:

"People search me out... but I demand respect... the revolution gave me the opportunity to study, but I worked for this degree, and the only thing I have to defend is my integrity as a person and my professionalism, because I don't own

my house, I don't have a car... And so it really bothers me when people come in offering money for something, like to get an abortion after the time limit... I much prefer it if they come in, explain their circumstances, and ask for help, and if I can help them, that they give me a pack of cigarettes or something to say thank you."

— Andaya, 2009

Giving gifts are also social investments, which patients can draw on at a later time for special access or attention (Andaya, 2009). They are not meant to be a monetary equivalent to the labour performed, as gifts are usually small, such as a loaf of bread, coffee, or cigarettes. The constant circulation of gifts and favours between patients and doctors therefore allow them to draw on personal relations to achieve goals. As Andaya (2009) explains, this informal economy of favours and reciprocity characterizes a strong collective ethic that underlies socialist medicine in Cuba. It rests on foundations that work with socialist notions of self-sacrifice and social solidarity.

Rather than *socioismo* undermining egalitarianism in the health system, it is prudent to acknowledge Cuba's long-lasting resource constraint for having provoked an informal economy. The US trade blockade, the collapse of the CMEA, and the subsequent tightening of the embargo through the Cuban Democracy Act has significantly reduced the economic base upon which Cuba can build its social programs including health care. It is estimated that these measures had cost Cuba USD\$41 billion by 1993 (Nayeri, 1995). In 1993, Cuba's imports for public health alone cost an additional USD\$45 million due to trading restrictions with US foreign subsidiaries (Nayeri, 1995). The measures taken by the Cuban government to overcome resource constraints created by these economic crises demonstrate political will to sustain good health care (Pagliccia & Pérez, 2012). In fact, the government has slightly increased per capital funding for the health system through times of economic hardship (Garfield & Santana, 1997). The most recent data from the World Bank (2015) shows that health expenditure as a percent of GDP increased consistently from 5.1% in 1995 to a high of 11.7% in 2009, then down to 8.8% in 2013.

A shifting material and moral economy is developing in Cuba due to an emerging market economy. Three decades after the revolution, Cuba had reduced income disparity such that the highest income group earned only four times as much as the

lowest (Nayeri, 1995). However, the introduction of the Cuban Convertible Peso (CUC\$) which is directly tied to the US dollar has since substantially reduced the value of the peso. Those with access to dollars, particularly through tourism, remittances, and private self-employment, are enjoying far greater material status than many state-salaried professionals, including doctors. For comparison, a minimum monthly income for a state worker was about 100 pesos (USD\$4), while university professors earned 300-560 pesos (\$12-22) and a doctor 300-650 pesos (\$12-25) (Andaya, 2009). In contrast, a tourist taxi driver earned a medium income of \$128, a sex worker \$384, and a small restaurant owner \$6,400 (Leogrand & Thomas, 2002). Based on Andaya's (2009) thirteen month long research in Cuba, doctors have expressed fears that these economic changes will destabilize socialist values and its accomplishments. In one of her encounters, a doctor states that although moral reward is a primary motivation for her work, it must also be accompanied by material well-being. The younger generation of Cubans may be turning away from employment opportunities in the health sector as a result of these changes, opting instead for jobs in tourism (Warman, 2001).

Experience of Health Workers

Researchers have observed that the high expectation of healthcare workers who live and work in their communities has been demoralizing. They are responsible for a wide range of duties, including the general health of their patients, liaising with allied health workers, referring and following up with complex cases, conducting home visits, organizing health education workshops, providing counselling and advice, and generally "living the revolution by being model citizens" (Warman, 2001). Doctors are never completely off-duty; officially, they work 12 days before given a free weekend, but if an emergency occurs they are expected to return to duty. Warman (2001) spent 18 months observing the working lives of healthcare workers at Havana's largest hospital, the Hermanos Amerijeras, and found that many feel they do not have a private life. They are expected to be accessible at all times and often face stress caused by an inability to meet patient demands due to shortages of medicines and other supplies. The high expectations can be demoralizing, as expressed in this vignette:

“Chica, I don't have a private life! I go to the shop - they ask me questions. I sit at home - they call up at the window. There's always an emergency! How can I switch off? I'm always working.”

— Warman, 2001

Health workers' frustrations are further exasperated by a diminishing material status, relative to other workers. As noted earlier, their state-earned salaries are relatively low compared to emerging market opportunities such as tourism. Despite the greater responsibilities in their profession, many share the same basic standard of living as the general population:

“I work hard. Very hard. But then I see people in this neighbourhood living off the black market and they're doing better than me! Chica, I can't even afford their prices anymore! / I can't even afford a decent dress, and those girls who work in bars walk around like princesses. It's not fair!”

— Warman, 2001

Tough working conditions also apply to the thousands of health workers who have gone abroad as part of Cuba's large global health assistance programs. Werlau (2010) describes the reality for many of these workers. To begin with, it is important to recognize that many take up the opportunity because the government offers a significantly higher pay and a chance to send home consumer goods from abroad. In 2009, doctors can earn between \$150 and \$375 serving abroad depending on the country, but the salary is \$20 at home. Though this sum seems to be much higher, many Cubans are dismayed to learn that their pay quickly diminishes when adjusted for local prices. As an example, a doctor serving in Venezuela reportedly had to supplement his meagre salary by raising pigs and egg-laying hens to survive. Many Cuban health professionals who choose to serve abroad are also sent to remote places where local professionals refuse to work, often also due to insecurity, poor conditions, and inadequate food. They may endure shabby accommodations and cramped spaces which are shared with multiple co-workers. There have been incidents of assault, rape, and even murder. In 2010, the Cuban and Venezuelan governments honoured 68 Cuban doctors who died on their tours of duty.

Cuban laws apply to health workers serving abroad. According to personal interviews with doctors who served in Venezuela, they were required to attend meetings to hear the official version of news from Cuba, are not allowed to drive, cannot leave home after a certain hour, are forbidden to stay out overnight, and are not allowed to speak to members of the media (Werlau, 2010). It is also difficult for them to defect and escape Cuba because they are issued special passports of a different colour than all other Cubans, and are often kept by supervisors/handlers. Cubans have escaped, but only with bribery of officials and often leaving their families behind. Cuban workers are bound by strict labour laws which also apply to overseas workers. There is only one labour union, the CTC (Central of Cuban Workers), to which Cuban workers must belong and pay dues to. Under the CTC, the rights to strike, peaceful protest, direct employment, collective bargaining, and free movement within the country are not recognized (Werlau, 2010).

Experience of Patients

Another aspect of state intrusion related to the primary health care system at home involves the CDRs (Committees for the Defence of the Revolution). CDRs are organized neighbourhood brigades whose goals have evolved from monitoring political dissent to also conducting community health outreach and epidemiological surveillance activities (Whiteford & Branch, 2007). CDRs keep track of pregnant women, engage in health education regarding prenatal care, provide advice on breast feeding, conduct vaccinations, monitor nutrition, monitor household hygiene, control mosquito breeding sites, and support construction of new health facilities (Hirschfeld, 2007; Whiteford & Branch, 2007). CDRs can be seen as infringing upon privacy because they channel information to government. However, most Cubans and researchers agree that their role in furthering health goals is important.

The most controversial public health program in Cuba is the program to contain AIDS. Its program has been criticized by the international community for the violation of privacy and freedom of HIV-positive people because they are quarantined in a sanatorium. Cuba routinely tests its population for HIV, however, from a medical perspective, quarantine is problematic for controlling AIDS because HIV is not an

airborne virus. However, Scheper-Hughes (1993) research into Cuba's AIDS program reveals a more complex dynamic for the instigation of sanatoriums. The sanatorium was run at first by the military to contain soldiers from Africa who were believed to be the main reservoir of HIV beginning in 1986. Importantly, little was known about the transmission of AIDS at the time and it can be argued that greater measures were taken to prevent spread of infection.

Responsibility over the sanatorium was subsequently handed over to the Ministry of Public Health in 1987, and major reforms were implemented to transform the sanatorium into a community. The sanatorium, called the Santiago de las Vegas, is now a suburban community with several modern one and two-storey apartments surrounded by lush vegetation, palm trees, and small gardens. While there, sanatorium residents are paid their full regular salary and are fed better than the average Cuban. The purpose is not to quarantine but to place individuals under aggressive medical treatment (which is provided free by the state), research, testing of new drugs, and epidemiological surveillance.

After a probationary period of six months, residents can be 'guaranteed' by a panel of doctors, epidemiologists, and psychologists to return home; about 80% of residents receive guaranteed status. Cubans in general strongly support the AIDS program although they also feel sympathy for those detained. According to Scheper-Hughes (1993), AIDS is not viewed as a disease of the sexually stigmatized, but rather as an occupational hazard of those who have performed work internationally. The debate on privacy and freedom continues to be interesting, as Scheper-Hughes befittingly describes the difference for international operation as "a technical success, but the patient died", versus the operation in Cuba as "a moral failure, but the patient survived".

Medical Internationalism as Solidarity

Many scholars have tried to explain Cuba's extensive focus on medical internationalism. The question, which they ask, is why does Cuba commit so much to global health? It is a subject of considerable interest in the medical and international relations literature. For our purposes, the question is explored because the answer adds a significant layer to our understanding to Cuba's approach in primary health care. It underlines, in addition to the big numbers associated with its large global health effort, the importance of a qualitative assessment to appreciate the humanitarian need to provide healthcare services abroad to those who are systematically disadvantaged.

Cuba's global health effort relies heavily on resources of the existing primary care system. Because it is difficult to provide direct aid from limited economic resources, Cuba instead uses its extensive human resources, largely doctors and nurses already trained to practice at home. Since the revolution, Cuban medical professionals have been active in 94 countries, and were active in 66 countries as of 2013 (Ministry of Health, 2014; de Vos, Ceukelaire, Bonet, & Van der Stuyft, 2007).

Cuba's medical internationalism began at first as emergency assistance for disasters. But over the last four decades, Cuba has provided 67,000 health workers to structural cooperation programs to help develop sustainable health and education systems abroad (de Vos, Ceukelaire, Bonet, & Van der Stuyft, 2007). Their International Health Program for Latin America, Caribbean, and Africa (*Programa Integral de Salud*—PIS) has been made free for the receiving country since 1998. Through PIS, Cuban workers have helped to develop their model for community-oriented primary health care through technical assistance, training of local human resources, and essential drug programs. Most workers are family doctors from all areas of Cuba, with reinforcement of specialists and academics depending on local needs.

Cuba also created a parallel program at home to train international medical students at the *Escuela Latinoamericana de Medicina* (ELAM) medical school so that they may eventually return to their home country to provide care (de Vos, Ceukelaire, Bonet, & Van der Stuyft, 2007). Students from 110 countries are enrolled, including students from the United States (Porter, 2012).

Why does Cuba commit so much to global health? Several explanations have been given. The first suggests that Cuba offers international medical assistance for economic gains (France-Presse, 2013). When doctors go on tours of service to wealthier countries, Cuba is remunerated with much-needed money. In 2006, Cuba brought in USD \$2.3 billion, which surpassed their largest export economies in nickel and cobalt (Feinsilver, 2010). Another explanation suggests Cuba's international medical assistance helps to secure political advantages. The large-scale Oil-For-Doctors exchange with Venezuela for example has been vital to Cuban economy (Werlau, 2010). The provision of aid to small nations such as Nauru, Vanuatu, Kiribati, Tuvalu, and the Solomon Islands may also be important as far as one nation, one vote in the UN General Assembly is concerned (Feinsilver, 2010). Another explanation suggests that health workers are pressed into obligatory foreign-service contracts (Brotherton, 2012). However, as we discussed earlier, doctors' wages are relatively low and working conditions abroad are often tough. These views are critical because it does not acknowledge international service as something that is desired by health practitioners. Huish (2014) argues that a better explanation takes into account broader normative ethics that influence foreign policy in global health.

Most international health outreach, as seen by wealthier countries, is grounded in the assumption that outreach only makes sense as purely altruistic or self-interested (Huish, 2014). They also believe that population health improves through reactionary care rather than through long-term investment in public health. Canada demonstrates these normative ethics, for example, as the government dissolved the Canadian International Development Association in 2013 and folded it into the Department of Foreign Affairs and International Trade.

In the case of Cuba, Huish (2014) suggests that global health is grounded in the concept of 'solidarity' rather than these dominant frameworks of aid. Solidarity is viewed as relations "forged through political struggle which... challenges forms of oppression" (Featherstone, 2012: 13, as cited in Huish, 2014). Cuba's solidarity approach is at least two-fold: it aims to address humanitarian need through healthcare service provision, and further, it aims to tackle hegemonic processes that systematically limit health care to the underprivileged. Solidarity is different from charity and altruism, because the latter imply a one-directional, top-down approach to problem-solving rather than direct collaboration, particularly when Cuba is subject to similar structural and economic vulnerabilities as their hosts. Solidarity does not limit exchange between provider and host countries, and is instead open to mutual benefit.

The Oil-For-Doctors cooperation with Venezuela has seen the integration of more than 20,000 Cuban doctors and health workers. Although the health effort in Venezuela has been successful, the large influx of Cuban doctors has competed with local doctors, leading to Venezuelan medical organizations opposing their presence (de Vos, Ceukelaire, Bonet, & Van der Stuyft, 2007). The same has been observed in smaller-scale cooperation in Bolivia and Trinidad and Tobago where local doctors protested or went on strike (Feinsilver, 2010).

Cuba's substantial commitment of human resources to medical internationalism has impacted the primary health care system at home. At one point in 2008, the government had to reorganize the positioning of family doctors in Cuba because many staff had left their post to serve abroad (Feinsilver, 2010). As noted earlier, this consequence is closely tied to the need for an improved income that health workers can only earn through serving abroad. However, their impact abroad has been very positive. As of February 2009, Cuba's international medical personnel saved 1.97 million lives, treated 130 million patients, performed 2.97 million surgeries, and vaccinated 9.8 million people (Feinsilver, 2010).

Conclusion

For more than five decades, Cuba's policies have continued to develop a strong primary health care system to provide health for all. Since the revolution, a large number of health workers were trained to ensure that every community across the country would have easy access to a clinic. Priority for public health measures implemented through these clinics allowed the country to make drastic improvements to major population health outcomes so as to be comparable with those of industrialized countries. Cuba's areas of success include reduction of infant mortality, control of infectious diseases, and progress in controlling chronic disease.

The purpose of this capstone is to determine the extent to which there may be dissonance between quantitative and qualitative research. A review of recent qualitative assessments deepens our understanding of the quantitative data often reported on Cuba's health care system. The quantitative evidence clearly shows that post-revolutionary health outcomes in Cuba truly have been revolutionary. However, qualitative research explored in this capstone shows certain constraints and challenges that affect both health workers and patients alike. Material shortages in Cuba lead many to seek out health resources outside the formal economy by calling upon their social networks. The reliance of many on an informal economy shows that there is a reduced capacity to fulfill health services despite the prevalence of health workers available. For patients, civil liberties are constrained under the health care system, including surveillance by CDRs, sanctioning of AIDS sanatorium, and lack of statutory rights to privacy in the physician-patient relationship. For health workers, a wide range of duties, high expectations, and diminishing material status have led many to feel that they are not appropriately compensated. Recent expansion of Cuba's medical internationalism created an incentive for many health workers to practice abroad where salaries are better but working conditions are poorer than at home.

It is important to recognize that Cuba's health care challenges occur in the context of severe hostility by the United States government. United States policy on Cuba through economic blockade which includes food and medicine has for 54 years caused tremendous hardship on an entire population. The criticisms directed towards Cuba's AIDS program and medical internationalism should recognize the effectiveness of their approach instead of dismissing the effort based on a presumed moral failure.

From the perspective of health equity, Cuba's primary health care system is a well-developed public health strategy with the right goals. Although the country's material resources are limited in capacity, the development of the health infrastructure is an achievement given the social and economic context. There is equity in the distribution of health care, including access, provision, and scarce resources. Other aspects outside the health sector such as education and housing also make independent contributions to its success. Understandably, there are reasons to be wary about the constraints of civil liberties for patients and suboptimal working conditions for health workers in the health system. What is needed is a thorough assessment of the health system's organization, capacity, and services in detail.

I believe that recognizing successful aspects in Cuba is a first step to learning to solve problems of health care in other settings. This capstone demonstrates that the Cuban experience should serve as a strong example of successful public health policies. It is clear from years of population health data that Cuba has been very successful at improving health outcomes. The provision and distribution of health care for all indicates the government's recognition of health equity principles. Coupled with the strong Family Physician and Nurse Program which embeds health professionals in the community, the Cuban health system has established a strong foundation for addressing medical as well as social determinants of health.

Author's Capstone Learning Experience

I wanted to do a capstone that discusses both quantitative and qualitative evidence regarding Cuba's health care system because an initial preview of the literature showed me that such a capstone would present a comprehensive picture that was not

readily available for new readers. The MPH program at SFU gave me tools to understand and analyze both research approaches, so I wanted to utilize this knowledge for my capstone project. The topic on Cuba was new to me before I started, primed only by the film ¡Salud! (2006), so I was very excited to learn more about their model for health care. My first struggle was figuring out how to navigate the literature. The work of the majority of scholars I first read did not seem to differ in opinion, which made me sceptical. It took me some time to discover truly differing perspectives, and that was when I started to see how politically-charged these discussions were in the context of Cuba's socialist state. I believe the study of health care and politics has a very rewarding life-long learning experience. My second struggle was synthesizing quantitative and qualitative information and assessing their relevance to each other. This was a difficult task which requires a deep understanding of the topic, and likely many more years of experience conducting research studies of this kind. My supervisor Dr. John Calvert gave me the opportunity to connect with researcher Dr. Jerry Spiegel who was kind to meet with me to discuss my learning on Cuba. Dr. Spiegel has done many years of research in Cuba and was a valuable source for me to validate my literature review. I hope that I have done justice to the work other scholars have done on this topic.

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