Primary Care in Cuba

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ABSTRACT

The Cuban health system surprises the international health community with strong health indicators despite economic hardship and international political tensions. This paper provides an analysis of the Cuban health system with a special focus on the role of primary care and primary care practitioners in Cuban culture. The paper also includes a discussion of Cuban health indicators, current epidemiological issues, national health initiatives, and the effects of Cuba's political situation on its health care system.

INTRODUCTION

I flew into Cuba just as the sun's last rays were being overpowered by towering thunderheads, displacing my bird's eye view of the countryside. After a turbulent landing and a jumbled meeting of our group, I spent the drive from the airport to the dorm fruitlessly straining to get a better look at Havana through the rainy night. In the morning, the view from the 23rd floor balcony was overwhelming – a sparkling blue ocean, tattered and crumbling houses with red roofs juxtaposed against immaculate hotels for the foreign tourists, lush green parks, and people wearing every possible color, streaming their way through the city streets below. Cuba's health care system proved to be as vibrant as the view, leading my ideas of public health and medicine down new pathways.

This work is the result of a field experience project required by all accredited Schools of Public Health to complete a Masters of Public Health degree. I attended the University of Minnesota School of Public Health and coordinated my experience with a program called Medical Education in Cooperation with Cuba (MEDICC), centered at Emory University. The program was held during the summer of 2003 and was divided between the city of Havana and a rural province called Cienfuegos, known as *La Perla del Sur* (the Pearl of the South). A typical day of instruction consisted of either a lecture or a site visit to a local facility. The exception to this schedule occurred in Cienfuegos, where all the students spent time working in a clinic with a primary care team. Time was also allotted for exploring the island and experiencing Cuban culture, which imparted some of the most important lessons of the trip. This mix of learning opportunities provided the academic background necessary to understand the system and the first-hand knowledge that occurs through direct observation and unplanned conversations.

This paper will analyze a health care system and culture qualitatively different from any other in the world, and particularly unique from the US, with a special focus on the attainment of population health through primary care. While statistics and literature provide the scientific backing for my commentary, the body of the paper consists of the experiences and observations I acquired during my stay. My impressions are based on my personal experiences, yet I hope to frame them in a way that still conveys a basic level of clarity about the delivery of public health in Cuba. I will present background information on Cuba's political situation and health care structure, which will be followed by a detailed analysis of the primary care system.

CUBAN POLITICS

An understanding of the Cuban health system and Cuban social structure is not possible without a basic knowledge of the current political context. After rebel Cubans overthrew Batista's government in 1959, the country was set on course for the socialist regime that remains in power today. Political retaliation from the US came in the form of the embargo, a.k.a. el *bloqeuo* ("the blockade"), which was instituted in 1961 and largely prevented any further trade, travel, and/or sale of food, medicine, and medical supplies between Cuba and the United States. Restrictions were further tightened by the Cuban Democracy Act of 1992. At the time of writing, the Torricelli-Grahm bill specified that all subsidiaries of American companies are prohibited from trading with Cuba and that any ship that docks in Cuba is banned from all US ports for at least six months. The Cuban Liberty and Democratic Solidarity Act of 1996 (the Helms-Burton Bill) additionally prohibits all investments in Cuban enterprise and has substantially increased the numbers of Americans who claim ownership over property confiscated during the governmental transition. The claimants have the right to sue any person or entity, including governments and corporations, who conducts business relating to the property in question, which strongly discourages foreign investors (Vigil, 1999).

It quickly becomes clear to any visitor that the residents of Cuba are keenly aware of the ramifications of these restrictions, which are highly publicized by the Cuban

media. Most conversations will eventually turn to a discussion of the blockade and its consequences. Cubans speak freely about "the special period" - the years directly following the enactment of the Torricelli-Grahm bill and the fall of the Soviet Union, Cuba's strongest supporter and trade partner. Extreme financial hardship, electrical blackouts, hunger, and a severe lack of physical resources mark the mid-90s as the Cuban equivalent of the American Great Depression.

To the frustration of many Cubans, the tension between Cuba and the US does not seem to be lessening. Fidel Castro's increasing age obviously invites speculation from both nations about the political future of the country. While the vast majority of the Cubans my classmates and I met expressed a great affection for American citizens, they expressed an equal amount of frustration towards the political situation between the two countries.

THE CUBAN HEALTH CARE SYSTEM

As with everything else in Cuban society, the health care system is a nationalized public program. The current system was initially created in 1961 by the Cuban Ministry of Public Health, which was charged with the task of developing universal care. In the years since, the system has continued to develop and diversify. The system is a relatively seamless combination of public health and medicine; most Cubans are unable to fathom a system that separates the two. The overall structure and its components are based on the guiding principles set out in the Public Health Act of 1983 and corresponding articles in the Cuban constitution: socialized medicine as a responsibility of the government, free universal access, an emphasis on prevention and public participation, the intelligent employment of technological advances, the total integration all systems and levels of care, and working in medical cooperation with foreign nations (Sanchez, 1999).

Structure

The deliberate planning and nationalized system has created a very methodical structure for healthcare in Cuba. The levels of administration coincide with the corresponding levels of government – municipal, provincial, and national. Each tier finances and directs initiatives based on community needs assessments, constituent interests, and health indicators. Medical attention is also split into three common ranks – primary, secondary, and tertiary. The primary care level is charged with providing health promotion and protection, along with the resolution of the minor health issues that account for an estimated 80 percent of total health concerns (Sanchez, 1999). Local facilities such as *consultorios* (clinics) and *polyclinics* (multi-specialty clinics), as well as the homes of patients are the sites for providing the primary level of care. At the secondary care level, care is designed to handle the 15 percent of health problems that result in patient hospitalization. Finally, tertiary care is designed to treat the remaining five percent of health problems – situations where illness has resulted in severe complications. Tertiary care situations are handled in specialized hospitals and institutes throughout the country.

The designations for the types of medical care follow general medical standards. Ambulatory care corresponds to patients that are responsible for the administration of their prescribed treatment and do not require hospitalization or extended follow-up care. Stationary care is for patients who should be confined in their activities and/or living situations in order to be correctly treated, diagnosed, and rehabilitated. Non-permanent hospitalization, home confinement, and admittance to long term, specialized care facilities are types of stationary care commonly employed by physicians. Emergency care is provided locally by on-call family doctors who triage patients and transfer them to the designated emergency community polyclinic or hospital when necessary.

Epidemiology

Epidemiological surveillance is seen as an instrumental part of the Cuban health care system; all levels of health care and administration participate in data collection and research. Centers of epidemiology and hygiene are found in each municipality and province, along with specialists working within community polyclinics and all facilities that are used above the primary care level. Cuban epidemiological work consists of health services research and planning, educating health professionals, researching illness and health outcomes, and organizing community health programs according to the evidence-driven needs of the population.

Based on their epidemiological research, Cuba has designated four programs as the current main initiatives of the national system – maternal and child health, the aging population, control of communicable diseases, and chronic illnesses. Maternal and Child Health focuses on the maintenance and improvement of Cuba's already impressive infant and maternal mortality rates, promotion of reproductive health and breast feeding, prevention of low-birth weight babies and hypertension during pregnancy, and early detection of cervical and uterine cancers. The Attention to the Elderly program deals with the rapidly increasing percentage of the Cuban population over age 60. Specific program activities include the prevention and continual monitoring of disabilities, provision of special attention for patients with decreased mental functioning, and promotion of a healthy physical and psychological aging process. Control of Communicable Diseases is the initiative designed around diseases that are particularly detrimental to the Cuban population. During my visit in the summer of 2003, the illnesses of most concern were tuberculosis, respiratory infections in young children and the elderly,

neurological syndromes, sexually transmitted infections (STIs), leprosy, leptospirosis, and immunization-preventable childhood diseases. Mosquito-borne illnesses like dengue and malaria were on the decline due to increased prevention efforts, including insecticide use and education about breeding grounds. Finally, the Control of Non-Communicable Diseases program deals with the 90 percent of Cuban fatalities attributed to chronic illness. Heart disease, malignant tumors, asthma, and diabetes mellitus are some of the largest chronic health problems facing the Cuban population (Sanchez, 1999).

Health Indicators

By any standards, Cubans are among the healthiest people in the world. The health outcomes rival far more economically and technologically advanced countries and are produced at a fraction of the cost. The general sense of well-being in Cuba is a huge point of pride and results in health professionals and laypeople alike delving into a recital of the statistical health highlights in daily conversation. The Pan American Health Organization (PAHO) provides statistics on key socioeconomic and health indicators for countries in the Americas. The chart below compares Cuba to the US and Ecuador, a country similar to Cuba in size and economic status.

This chart shows that the US leads Cuba in indicators like maternal mortality and life expectancy. However, Cuba surpasses the US in infant mortality, physician supply, and immunization rates. While Cuba receives the same third-world designation as Ecuador by financial analysts, Cuba's health outcomes effectively separate it from other economically disadvantaged countries.

Effects of the Embargo

Throughout the island, posters and signs protest the embargo. The most common one in the clinics and hospitals is a large fist crashing through a brick wall, with large red letters proclaiming "Break the Blockade!". The Cuban medical community's frustration with the ban is fueled by its constant battle for supplies and technology. The treatment of patients is more complicated than it would be without the restrictions – physicians routinely write prescriptions with the names of three or four alternate medications, as the first choice is often unavailable at the local pharmacy. Cuba has moved to manufacturing almost all of its own medications and immunizations and strives to continually increase the number of available medications. While sufficient to deal with most common health conditions on the island, the health system is unable to replicate top-tier cancer combatants, AIDS-fighting cocktails, and complex remedies used to combat rare and life-threatening conditions. Additionally, for ease of manufacture, many medications are produced in an injectable form that requires administration by a physician or nurse, necessitating patients to make daily trips to the consultorios during their treatment course.

TABLE 1 | COMPARISON OF HEALTH AND SOCIOECONOMIC INDICATORS FROM THE US, CUBA, AND ECUADOR

PAHO 2004 Indicators*	United States	Cuba	Ecuador
Population (1,000s)	297,043	11,328	13,192
Annual GDP growth rate	2.4	1.1	3.4
Life expectancy at birth	77.4	77.0	71.2
Infant mortality rate (per 1,000 live births)	6.8	6.3	24.6
Under 5 mortality rate (per 1,000 live births)	8.3	9.5	53.5
Maternal mortality rate (per 100,000)	9.9	39.5	81.1
Communicable disease mortality rate	30.0	48.1	102.0
Percent Immunized for MMR (<1yr)	92	99	99
Physicians per 10,000 inhabitants ratio	27.9	60.4	16.4
Percent Low birth weight babies	8	8	9
Suicide mortality rate	10.4	15.9	5.9

*Pan American Health Organization (PAHO), 2004

Medical equipment and advanced technologies are the supply areas most drastically affected by the political stand-off between the two countries. Of the relatively few international manufacturers and shipping companies that are not subsidiaries of American companies, even fewer are willing to risk severing trade relations with the US by doing business with Cuba. The equipment that we observed in health care facilities were often outdated by several generations and in extremely high demand. The pediatric dialysis machines at a hospital in Havana were on a 24-hour operating schedule and still had patients on a waiting list. The US retains the right to grant licenses for the sale of specific medical supply items to Cuba, but the actual practice of this activity is cost-prohibitive. Despite creative solutions and valiant repair efforts, a prolonged continuation of the situation threatens to jeopardize the health of those needing the assistance of new technologies.

PRIMARY CARE AND PUBLIC HEALTH

In Cuba, medicine is public health and public health is medicine: there are no dividing lines, no turf fights, and no finger pointing. An explanation of the American system results in confusion and disbelief. Identifying oneself as a public health student, but not a medical student (or vice-versa) was a concept as ridiculous as time travel – theoretically possible, but nonsensical in practicality. Specialized training in public health is not required because the curriculum is fully integrated throughout physician and nursing education. The Cuban primary care system is a qualitatively different way of improving and maintaining the health of the population and its successes logically lead to a questioning of the traditional medical model used in the US.

Practitioners

The burden of the public health system rests on the shoulders of primary care practitioners. Its core workers are the doctors and nurses that form the consultorio (clinic) teams in each neighborhood. Since it began in 1984, the assignment of a nurse and doctor to every 150 families has established a solid foundation for continual community-based patient care (Reed, 2003). The consultorios are deliberately built to be easily recognizable – they are two-story, whitewashed buildings with their consultorio number and the number of their health area (groups of five to seven consultorios) clearly visible on the front. The nurse, physician, and their respective families live either in the second-story apartment in the consultorio building or within a neighboring house. In addition to the neighborhood consultorios, physicians are assigned to many other sites that allow for community care, including schools, factories, day-care centers, maternity homes, and *casas de abuelos* (elderly day-care facilities). All local physicians also spend rotating nights on-call at the local polyclinic. At each location, all care coordination and health promotion activities are the duty of the primary care team.

CARE Program

The public health/primary care integration effort is based on the Cuban philosophy of continuous care. The employed method of community care is based on the CARE program – Continuous Assessment and Risk Evaluation. At each level of care, the system allows for the constant monitoring and care of individuals while also providing a real-time surveillance system. Every person in the community is assessed for risk factors, demographics, present illness, and living environment. A category and designation are then assigned, monitored, and adjusted accordingly at each subsequent visit. There are four risk groups an individual can be assigned to. Group I is the *Sanos*, the people who are currently healthy and free of significant risk factors. Group II is *Riesgos*, the group for individuals with identified risk factors. This group is further subdivided; for example, a smoker receives a designation II-7A, meaning Health Group II, Risk Factor 7 (Respiratory), behavior A (smoking). Those in Group III are persons with diagnosed conditions, mainly those that are temporary or non-life-threatening. Group IV is the category for those who are chronically ill or disabled, either due to genetics or accidents. These designations allow consultorio teams to quickly and easily report detailed epidemiological information to the local surveillance centers.

At the individual consultorio level, this system effectively classifies all the patients under the jurisdiction of the clinic and allows for better surveillance of those who need or are at risk of requiring further follow-up care. The consultorio teams are extremely vigilant about following this protocol. During home visits, the team I worked with could immediately recall any individual's risk category and overall health designation from memory or by checking their all-resident health file. Many patients also knew their own classification and the rationale for it, displaying an elevated personal awareness of how individual health fits into a broader population view.

The population level benefits of the CARE program are substantial. Having a central practitioner diagnose, track, and report illness and risk factors at the consultorio level allows for sophisticated health monitoring. Double reporting is minimized, as each resident is only reported by the consultorio doctor to whom they are assigned. Beginning epidemics can be identified at early stages and quickly pinpointed to the exact neighborhood and residence needing attention.

Terranos

A substantial portion of the success that the primary care team has in promoting public health is due to the *terranos*, or home visits. Most weekday afternoons are set

aside for the doctor and nurse to make short visits to the homes in their neighborhood and visit with residents. While working with the local health team, we would first stop at the homes of people who were currently ill or who had recently experienced a major life change, such as the birth of a baby or a death in the family. On a day with fewer priority stops, we would perform a semi-annual check on a family's overall health and living situation. Everyone residing in the home is recorded, along with their relation to one another, birth dates, education level, profession, health group, and risk factors. The homes are inspected for environmental and hygienic conditions and are given a corresponding rating, ranging from *Bueno* (good) to *Malo* (bad). Accident risks, pets, structural conditions, and the general environmental atmosphere (air movement, cleanliness, etc.) are all taken into consideration. Additionally, the family's social structure is evaluated on the same scale. The psychosocial dynamics and family interactions are observed for evidence of neglect or abuse. Observations are noted along with the date of the visit and plans for follow-up to correct identified concerns.

The emphasis on the living environment and sanitation is viewed as a key component to a successful public health plan. Making observations and recommending changes to the living conditions of patients improves the health of the population in several ways – it prevents disease transmission, eliminates unnecessary hazards, and can lessen the development of chronic illness from exposure to toxins. The Dengue campaign is a clear example of how the home visit model fits into a larger public health mission: in order to prevent dengue, physicians are trained to inspect homes for areas that could be potential breeding grounds for *Aedes aegypti*, the mosquito that transmits the illness. If such spots are identified, such as uncovered water collection buckets, the resident is educated about the potential hazard and the situation is remedied. Other common examples include the removal of small toys from a baby's playpen, the recommendation to install a handrail on a high, exposed stairway, and reminders to boil all drinking water when a clean tap source is unavailable. These activities create a safer, cleaner neighborhood in which residents can work and live.

Community Outreach

The community outreach aspect of the Cuban primary care system is one of their greatest strengths. The physicians and nurses in Cienfuegos spend a large portion of their time and effort providing community education and organization. Several mornings a week, groups of elderly citizens ("the Circle of Grandparents") gather in central locations to stretch and do low-impact aerobics. The exercises are led by a physician and/or nurse from the local consultorio and are followed by an educational session. During one of my visits to the group, the lesson for the day included the benefits of breastfeeding and tips on how to deal with finding foreign objects in a grandchild's nose. The philosophy behind educating this demographic group about such topics is that the grandparents will be better caretakers when they baby-sit and will be more supportive of their own children's parenting choices. An added benefit to participation in the group is that everyone has their blood pressure checked every morning after exercises and the levels are recorded on a card that stays in the consultorio. These efforts result in a group of senior citizens who receive daily exercises appropriate to their age and activity level, are knowledgeable about many health topics, and are very aware of changes in their basic health indicators and overall health.

Community organization and mobilization by the primary care team can also have a dramatic impact on medical supplies. On the last day I visited the consultorio, a blood drive for the surrounding area was in progress. The consultorio spent the prior 48 hours preparing for the event, which included decorating the office, setting up the donation areas, organizing supplies, and cooking a huge amount of food for the expected crowd. The day's goal was set at 100 pints of blood and by mid-morning over 80 pints had already been collected. The atmosphere was festive, complete with music, banners, streamers, and people congregating to talk and dance. A few residents even made a replica of a video camera out of styrofoam and imitated news reporters by interviewing the clinic's staff and volunteers. The blood drive had a celebratory tone, making it an event that people looked forward to and enjoyed participating in. Donations are collected every three months at rotating clinics in the district and the physicians report that the area never has shortages due to the large groups of people who participate in the festivities. The camaraderie between the primary care team and the community was especially evident at this event, resulting in an ample supply of blood for the community and goodwill towards the health care system.

CONCLUSION

Two months after I arrived, the view out of my Havana dorm window was physically the same but appeared drastically different. The city seemed more familiar, more tired, and more human. A glance off the balcony now revealed the homes of friends, the best place on the boardwalk to sit and talk late into the night, the morning tai chi gathering area, the little French bakery, and the spot where my favorite artist set up his stand at *la feria*. The music that constantly poured out of Cuban houses, hands, and mouths had become a soundtrack that is still impossible to separate from my memories. The land had not changed, but my comprehension of it had. My academic experience with the Cuban health care system paralleled my interaction with the physical landscape of the country. Any initial judgments were challenged, spun, and transformed, developing finally

into a more complicated and familiar understanding of how a small island country creates and delivers health to its citizens.

The foundation upon which Cuba's positive health outcomes are built is a primary care system that integrates public health and clinical medicine into a seamless continuum. The role of the practitioners, the integration of epidemiological categorization systems and tracking mechanisms into everyday patient interactions, the neighborhood clinics, and the community outreach aspects of primary care are what drive it towards further successes. In spite of economic strain and political tension, the Cuban public health system continues to strive for excellence.

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