

Cuban Medicine through the 1990s

By

Anthony W. Sutton

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Primary Reader: Dr. John Rector
Secondary Reader: Dr. Kimberly Jensen
Course Instructor: Dr. David Doellinger

History Department
Western Oregon University

In 2000, the World Health Organization surveyed health services provided from 181 different countries, Cuba ranked 39th just two below the United States. This indicates clearly, that a developing nation could provide health services that of the developed world. When the socialist party took power in Cuba in 1959, the government made it a goal to provide access and care to its citizens through means of a universal health care system. To address the adequacy of Cuban medicine, this study focuses on health care both prior to and following the fall of the Soviet Union in the early 1990s. After the collapse of communism in the Soviet Bloc and its loss of trade partners, Cuba solved economic problems by opening to world trade and improved health from the troubles caused by this event through supportive health policies and preventative medicine.

Following the socialist revolution in 1959 in Cuba, the revolutionary government made it a goal to bring health care to the rural Cubans neglected by prerevolutionary administrations. This paper will describe how Cuba brought health to the rural masses. It will also examine health care into the 1990s because it marks the years following the Soviet collapse. With the loss of Cuba's main trading partner combined with the ever strong U.S. embargo, how did this affect the adequacy of health care? Evidence suggests that adequate health care was a goal in Cuban society and among its leaders.

Examining the health structure early in the revolution shows the development and successes of this system prior to the collapse of the Eastern Bloc. The goal of universal health care in this country meant bringing access to the many Cubans without it in rural Cuba. Ross Danielson describes the early formation of the health care system. Linda M. Whiteford and Laurence G. Branch illustrated a similar subject but additionally contributed to this health section by showing how health evolved into preventative

medicine. Lastly, the Center for American Studies aids in this discussion by depicting how Cuba set goals in health care as well as advanced in medical research.

Ross Danielson's book, *Cuban Medicine*, illustrates the formation of the health care system and Cuba's use of the polyclinic in delivering medicine to rural Cuba and evaluates their health systems adequacy. Danielson completed this book prior to the Soviet collapse and accurately describes how health care developed through trial and error and a persistent Cuban government. The first plan for health care was envisioned in 1961, which consisted of decentralized provincial and regional facilities used in treatment, health promotion, long term and short term planning, and scientific improvement of health workers.¹

The health structure is important in respect to the revolutionary goals of health care. Danielson emphasized the polyclinic, because it brought health to rural Cuba. The polyclinic provided access to health services in close reach of its citizens, or as Danielson would state, "...the health areas were intended to be small enough to be accessible and large enough to efficiently provide a substantial range of primary services."² To compliment the polyclinic, a hospital worked in close relations to this institution to provide citizens with doctors of specialization related to their treatment. For the citizens, they received these services and medicines prescribed from polyclinics for free, or as Danielson would state, "All services and medicines which were administered in polyclinics and hospitals were provided free of charge."³

¹ Danielson, Ross, *Cuban Medicine* (New Brunswick: N.J. : Transaction Books, 1979)

² Danielson, 168.

³ Danielson, 171.

It is difficult to establish an institution of any sort without problems; Danielson addresses this by an overall examination of the health services of Cuba. One of the first problems arose at the core of the system, the polyclinic. Polyclinics tended to be understaffed and lacking materials early on, but more importantly, work in polyclinics was not particularly favorable. For example, “The physician was in the polyclinic, but his mind was in the hospital.”⁴ To deal with these problems the socialist government modified the health structure to better fit Cuban needs and most importantly to create a good working relationship with the public they serve.

On the one hand, the physician-nurse teams are expected to spend a relatively large amount of time (about twelve hours per week) making home visits, or in related community work such as health education or liaison with community groups, On the other hand, the physician dedicates time to ‘intra-consultation.’ That is, instead of referring patients away to specialists, the primary care physician participates directly as a third party in consultations between patient and specialists.⁵

Cuba modified and supported its health system due to the fact that the ministry of health enjoyed considerable funding. The support of the economy to health care is shown as the following figures indicate health financial support before the revolution and after. “...the increase in the budge of public health services from \$22,670,900 in 1958 to \$180,241,300 in 1968.”⁶ As a result of the increase in funding, the Cuban health sector saw particular changes in infant mortality and maternal mortality. For example, “...infant mortality had fallen to 27.4 per 1,000 live births and the maternal mortality rate had declined to 5.2 per 10,000 live births.”⁷ These rates were achieved in 1973, a drastic reduction from 1969 with infant mortality at 48.9 per 1,000 and maternal at 8.8 per 10,000. Overall the

⁴ Danielson, 199.

⁵ Danielson, 201.

⁶ Danielson, 216.

⁷ Danielson, 207.

socialist government's main goal was to provide health access to rural Cubans, an objective unachievable by prerevolutionary government, which they made possible through the use of the polyclinic by the considerable funding the new government supported it with.

Linda M. Whiteford and Laurence G. Branch present the most recent publication of Cuban medicine. For this section, their chapters pertaining to health care development in the 1960s through 1990s. This era describes both the early formation of the health system and how it progressed into current Cuban standards of preventative medicine while bringing health to all citizens.⁸ These authors begin by noting that since this health care system's establishment, considerable decreases in Cuban mortality have occurred, especially in the sectors of infant, child, and maternal mortality. The polyclinic's establishment occurred in 1962 designed as a multi specialty health center to provide health in workplaces, homes, neighborhoods and give child care. This facility did not meet standards set by the government; besides the fact they helped bring control to infectious disease during 1962-70. As a result, the program changed in 1974 to the community medicine model. The new program in the polyclinic hoped to solve the problems of doctors practicing curative medicine, lacking training, and having poor relations with the public. However, the government's dissatisfaction still lay within the community involvement, which led them to create the family doctor program in 1984. This program created geographically defined areas of 120 to 180 families that the polyclinic was responsible for. In addition to this, the new system created new

⁸ Linda M. Whiteford and Laurence G. Branch, *Primary Health Care in Cuba* (Newyork: Rowman and Littlefield Publishers Inc, 2008)

responsibilities for Cubans. For example, “The government wanted vigorous local involvement, significant attention to social factors influencing health, and an overt and articulated focus on improving lifestyle choice for health,”⁹ which shows the overall importance the Cuban government placed on the health care system during its development, in addition to the choices its citizens make.

The Cuban Revolution into the 1990s, as reported by the Center for American Studies, explains aspects of preventive medicine and health facilities of Cuban health care prior to the 1990s. This source also addresses issues and goals set by the socialist government at the time of the revolution and shows how Cuba worked towards and accomplished these objectives.

Among the concrete objectives set forth were to broaden and improve the national health care system, focusing on prevention and health promotion, to ensure coverage of the entire population by a network of family doctors by the year 2000, to continue to concentrate on maternal and child health and further reduce infant and maternal mortality, to continue to develop hygiene and epidemiology, to advance medical science and technology by incorporating the most modern preventive, diagnostic, and treatment methods, and to encourage research important for science and medical practice, particularly in tropical medicine, genetics, biotechnology, and prenatal diagnosis.¹⁰

As a result of this focus, the amount of health facilities increased to support revolutionary aspirations of adequate rural health care, which is shown with the emergence of neurophysiology labs to aid in preventative medicine, in each of Cuba’s 14 provinces. Neurophysiology is used to examine the nervous systems of adults and children as a method of early prevention; however, technologies produced in Cuba became impossible for other countries to gain due to the U.S. embargo.

⁹ Whiteford, 22.

¹⁰ The Center for American Studies, *Cuban Revolution into the 1990s*. (Boulder: Westview Press, 1992) 163.

Biotechnology, an objective set forth by the Cuban government, became particularly successful. As a result, in 1986, the Center for Genetic Engineering and Biotechnology was established. This institution created 136 different products used in diagnosis and treatment of specific illnesses.¹¹ The Center for American Studies continues by stating statistics of Cuban health achievements prior to the Soviet collapse. Specifically mentioned in the area of transplants, they have had particular success in treating Parkinson's treatment,

In addition, they have done 29 transplants of fetal substantia nigra to treat the symptoms of Parkinson's syndrome, with patients experiencing 100 percent recovery. The Parkinson's surgery has been done in Mexico and Sweden and twice in the United States.¹²

Through these historians account's there is now a clear picture drawn depicting the health care system prior to the Soviet dissolution. Revolutionary Cuba set goals for not only the structure but for levels of care, which is shown through the refining of the polyclinic into a multi specialty clinic with large community involvement. In addition, historians reveal goals set by the government and how areas progressed, such as infant mortality.

Cuba's health care system, which was supported by the strength of the economy, suffered with the collapse of the Soviet Union in 1991. This country's reliance on sugar production caused economic problems upon the collapse of the Soviet bloc, the primary purchaser of this commodity. Hugh Thomas, Georges A. Fauriol, Juan Weiss, Marifeli Perez-Stable and a report by the Center for American Studies, examined the weaknesses of this monoculture based economy.

¹¹ The Center for American Studies, 170.

¹² The Center for American Studies, 171.

The Cuban Revolution: 25 Years Later, by Hugh Thomas, Georges A. Fauriol and Juan Weiss, discussed the flaws of the Cuban economic structure and describes the relationship of the Soviet Union as the key purchaser of sugar.¹³ The first failure of the economy was the reliance on a monoculture system centered on an export with sporadic values. Despite relying on sugar for revenue, the Soviet Union and the Eastern Bloc, satellite countries of the Soviet Union, bought sugar far above market price. For example, “The Soviet Union, together with the rest of the Eastern bloc, purchases over 60 percent of Cuba’s sugar, paying Cuba four times the world price.”¹⁴ The last fault mentioned of Cuba’s main export relied on the revenue of one market, the same countries buying a majority of Cuban sugar.¹⁵

Marifeli Perez-Stable indicates in her book, *The Cuban Revolution: Origins Course, and Legacy*, that Cuba pursued economic diversification early in the revolution and how this led to receiving support from the Soviet trade bloc. Attempts to expand agriculture failed because Cuba could not produce enough to meet its own needs leaving little for export.¹⁶ As a result, they shifted to emphasis on sugar and a goal to achieve ten million tons of sugar annually by 1970 to produce revenue for industrialization.

Increasing production in other agricultural sectors such as cattle, citrus fruits, tobacco, and coffee would complement the turnpike strategy. Producing a sugar harvest of 10 million tons in 1970 became the medium-term objective.¹⁷

¹³ Thomas, Hugh. *The Cuban Revolution, 25 years later* (Boulder: Westview Press, 1984)

¹⁴ Thomas, p. 21

¹⁵ Thomas, p. 22

¹⁶ Pérez-Stable, Marifeli, *The Cuban Revolution: Origins Course, and Legacy* (New York: Oxford University Press, 1993)

¹⁷ Perez-Stable, 86.

However, this target in sugar production was not met and in 1972; Cuba joined the Council for Mutual Economic Assistance (CMEA) or the socialist trading bloc. This offered Cuba favorable prices for sugar, low interest loans, and below world market prices for oil.¹⁸

A report by the Center for American studies titled, *The Cuban Revolution into the 1990s*, shows the Cuban emphasis on sugar production but also explains how this monoculture system generated revenue for other economic sectors.¹⁹ Between the 1960s and 80s, one fourth of available funds went into industrial investment and agriculture integration. As a result, “Today the machine, parts, and equipment sectors account for one-sixth of total nonsugar gross industrial production...”²⁰ In addition to this, revenues from sugar production supported industrial investment. This study explains that, “During 1966-1970 most of the construction effort was linked to the program of achieving 10 million tons of sugar by 1970.”²¹ This suggests that despite a reliance on sugar, the revenues supported other areas in Cuba, such as construction.

These three sources helped describe the economic status and dependence on sugar and Soviet aid. It is clear that Cuba focused on this product due to the fact that expanding agriculture failed to meet Cuban demand yet alone surplus for exports. Also, despite having reliance on sugar, the revenues from this crop supported construction and industrial infrastructure. As a result, because Cuba focused on one market and one commodity for export, economic revenues from this product became vulnerable, thus

¹⁸ Perez-Stable, 86.

¹⁹ *Cuban Revolution into the 1990s* (Boulder: Westview Press: 1992)

²⁰ The Center for American Studies, 124.

²¹ The Center for American Studies, 127.

threatening the support for the health care system if problems arise between Cuba and the Soviet Bloc.

The 'Special Period' is a time in Cuban history that referred to the crash of the Soviet Union and its impacts on Cuba. It is clear that the Cuban economy was closely tied to the Soviet Bloc and the fall of this primary source of trade devastated the financial system that supports health care. Geraldine Lievesley focuses on the United State's impact during this economic situation as they strengthened the U.S. embargo. In addition to Lievesley, Whiteford and Branch describe the emphasis placed on preventative medicine, which suggests solutions to problems caused by the collapse of the Soviet Union. In addition to these sources, Frank T. Fitzgerald and Marifeli Perez-Stable, address the economic situation that occurred in Cuba as well as offering insight on how Cuba remedied the financial circumstances brought on during the special period. These secondary sources allow one to examine the time period after the Soviet dissolution and explain how the country's financial situation directly influenced the quality of care, which was further exacerbated by the U.S. Embargo.

The Cuban Revolution: Past, Present and Future Perspectives, by Geraldine Lievesley, offers another look at the economy but pays particular attention to the U.S. Embargo. As a result of the collapse, Cuba shifted trade elsewhere as basic export items diminished. To help the Cuban economy, the government opened to the world market and foreign investment,²² which led to an increase in tourism and dollarization of the Cuban economy. What this author shows, however, is dissatisfaction the international community showed when the United States strengthened the embargo on Cuba with the

²² Lievesley, Geraldine, *Cuban Revolution : Past, Present and Future Perspectives*. (New York: Palgrave Macmillan, 2004.) 124

Cuban Democracy Act. Many countries disagreed with this, as seen by the U.N., which voted on the matter twice. “In 1992, the UN General Assembly vote on the blockade was 88 against to 4 for it; by 1997 it was 143 against to 3.”²³

Lievesley shows how the embargo profoundly affected society and the health care system, in addition to describing how Cuban medical research flourished. During this time, half of Cuba’s industrial factories closed and the ones in production suffered from low resources. Also, the funding of health care saw a decline as well, decreasing from 250 USD per person to 160 USD. Specifically, the embargo limited the amount of pharmaceuticals entering Cuba as the U.S. made most new drugs and restricted other countries from supporting Cuba with medical supplies. Despite the struggles with the embargo, Cuba was still able to advance in medical research. For example, they developed vaccines through biotechnology that Cuba sold to the U.N. for foreign credit. Lievesley continued to discuss some of the benefits with her concluding statement, “In 2000, the WHO’s register of world health provision saw Cuba ranked thirty-ninth out of 181 countries – only two places below the United States.”²⁴

In contrast to Lievesley, Whiteford and Branch describe preventative medicine and how it became strengthened during this crisis.²⁵ Health care modeled on preventative medicine aides in reducing stress on governments, as it is generally a cost effective method. The family care method used in Cuba emphasizes prevention as early as possible. This is shown upon comparison of the average Cuban from age one to fourteen and the average U.S. citizen from the age one to twenty, both in respect to doctor visits.

²³ Lievesley, 127.

²⁴ Lievesley, 164.

²⁵ Whiteford, 53.

Cubans attend at least 38 appointments by the age of fourteen, opposed to Americans who total 22 by the age twenty. A question arises that these authors address, which is, how does the Cuban government convince its citizens to comply with health policies?

These authors explain that one program in particular made it possible. For example,

Whether through national polices and/or coercive practices, the Cuban medicine-in-the-community initiative succeeded in instituting a program locating family practitioner teams in specific neighborhoods to care for indentified populations and develop health promotion campaigns that resulted in enviable levels of child and maternal mortality in Cuba.²⁶

This shows that the community medicine model took on the responsibility of applying national policies and health promotion to the citizens.

Whiteford and Branch continue to discuss preventative medicine in the face of the Soviet collapse. After this event, the Cuban government asked its citizens to care for their own health more then they did previous to the Soviet collapse in an effort to cope with the economic disaster of the 1990s. This is shown by the authors as they describe a Canadian physician's visit to Cuba. The doctors asked the Cuban practitioners if any of their patients suffered from hypertension; the answer explained about 30% did. To follow this up the Canada doctor then asked how many of these patients received medication, their response indicated almost none. This answer shocked the Canadian but the Cuban doctors soon clarified their reasoning. Whiteford and Branch explain that,

The answer seemed to surprise the Canadian physician, but his concern was quickly replaced by admiration when he learned that Cuban family doctors are very serious about controlling hypertension through diet and exercise.²⁷

²⁶ Whiteford, 56.

²⁷ Whiteford, 49.

This section described the importance of preventative medicine in Cuban Health. Also suggests that at the time of the collapse this idea became expanded to cope with post Soviet collapse troubles.

The last theme addressed in Marifeli Perez-Stable's book is the 'Special Period' or the time after the Soviet collapse. The author shows how this situation hurt the Cuban economy but it also depicts how Cuba tried to remedy the situation. As a result of the collapse between 1991 and 1992, the Cuban economy dropped at least 35%.²⁸ With the decline in Soviet trade to about 50% of what it had been prior to the collapse, Cuba then saw a tightening of the U.S. embargo, "In October 1992, George Bush signed the Cuban Democracy Act, which prohibited U.S. subsidiaries abroad from trading with Cuba."²⁹ To combat this new need for economic revenue Cuba opened itself into the world market and foreign investment. Without a large trading partner, Cuba increased trade to China, North Korea, Iran, and Latin America as foreign investment in the form of tourism generated 400 million USD in 1992.

Frank T. Fitzgerald depicts a pessimistic approach to the economy in the time of the Soviet dissolution in, *The Cuban Revolution in Crisis*, by showing the negative effects the collapse of the Soviet Union created for the closely tied Cuban Economy; However, he is optimistic about how Cuba dealt with the collapse of the Soviet Union by showing how Cuba expanded trade to deal with the loss of major trading partners in the Soviet bloc. Fitzgerald depicts two main reasons for the decline of the Cuban economy. The collapse of the CMEA and the Soviet bloc severely impacted Cuban economics due

²⁸ Perez-Stable, 87.

²⁹ Perez-Stable, 90.

to their reliance on this trade market.³⁰ Also, in 1991 the Soviet declared no new aide for Cuba. It took two years for the crisis to fully develop, as trade from the Soviet Union was nearly finished and sugar production in Cuba dropped from 7.5 million tons to 4.2 million tons and the revenue from sugar was only able to cover exports for food and fuel.

To deal with the economic crisis, Cuba opened its government to foreign investment, which formerly did not exist in this country due to the bond that existed between socialist countries. Despite U.S. influence, 129 countries invested in Cuba by 1994 in various venues, the most successful being tourism. Also, foreign investments had encouraged Cuban biotechnology.

The most dramatic example is biotechnology, where Cuba rapidly has become a major innovator. Cuba's new professional scientist have genetically engineered and marketed over 200 medical and agricultural products. Some of the medical products are unique in their categories, such as natural and recombinant interferons for treating cancer, AIDS, leprosy, hepatitis C, and Schizophrenia...³¹

This showed how Cuba retained some economic growth with foreign investment, which shows Cuba's attempts at dealing with the economic situation and having some success.

It is now evident that the 'Special Period' caused by the collapse of socialism in Europe, caused profound impacts on both the economy and health care. Due to the economic ties which bonded the Cuban government and the Soviet bloc, the disintegration devastated trade for this island nation. Without this aid from the Soviet Union and lack of trade partners, the health system struggled in medical supplies but research in this sector continued to strive. Historians have explained how Cuba remedied the economic predicament in the early 90s by opening to world trade. In addition,

³⁰ Fitzgerald, Frank T, *The Cuban Revolution in Crisis: From Managing Socialism to Managing Survival* (New York: Monthly Review Press, 1994)

³¹ Fitzgerald, 177.

Whiteford and Branch suggest that prevention became more vital as the health care system struggled. But many studies do not further discuss medicine to more contemporary time.

Whiteford and Branch represent the only source published in the 21st century. The following two sources provided a look at modern health from distinct perspectives. Through these primary sources show health care observed through an American student studying in Cuba in 2003, as well as a translated report of Cuban health officials examining the adequacy of the health care system as of 2007.

The first article, "Primary Care in Cuba" a first hand account of Stephanie Hauge of the University of Minnesota, examines health services of Cuba in 2003.³² Hauge traveled to Cuba to complete a project required by her Masters of Public Health, where she took part in Cuba's health system at the primary care level. Hauge's experiences contribute to this study as she offered historiography of the recent structure of the Cuban health care system, as well as an in-depth understanding of the polyclinic, which is responsible for bringing health services to Cubans. The last article presented is a document transcribing Cuban health officials examining healthcare as of 2007, reported by Dora Perez Saez. These representatives concentrate on successes and problems faced to this date and how they planned on solving them.³³

Stephanie Hauge's experiences with Cuba and her background of Health Services Research and Policy effectively portray a first hand experience in this health care system. Largely, her work at the primary level helps explain health structure, community

³² Stephanie Hauge, "Primary Care in Cuba." *The Einstein Journal of Biology and Medicine* (2007): 37-42. EBSCOhost. Search.ebscohost.com.

³³ Dora, Perez Saez, "Cuban Officials Discuss Doctor Shortage Caused by Medical Aid." *Juventud Rebelde Website* (2007): Lexisnexis. www.lexisnexis.com.

involvement and her experiences with seeing the U.S. embargo still impacting Cuban medicine. She traveled to Cuba in 2003 to complete a study for her masters degree in Public Health. Through her accounts, she provides extensive detail on the structure of their health system.

Prior to sharing her experiences, Hauge presents research based on the Cuban health system to describe the situation she worked in. She explains the three levels of health care, primary taking care of 80% of health concerns, secondary, which handles 15% of more technical problems that typically lead in patient hospitalization. Lastly, the tertiary level of care constitutes the remaining percent, mainly dealing with illnesses resulting in severe complications.³⁴ Hauge's visit focused on working at the primary level in the polyclinic, the key sector of Cuban medicine. Within this branch, she describes how they use epidemiology or surveillance of its population to create data based on populations of different areas of Cuba as means of preventive care. Based on the research in this area, Cuba created programs to address child and maternal health, aging populations and chronic illness. Once established, epidemiology provided necessary information for health programs to improve health standards and increase early prevention.

During her time in Cuba, she experienced the effects of the U.S. Embargo first hand. For example, she notes how physicians routinely prescribe medications with several alternatives due to the availability of certain medicines. In addition, she also explained how Cuba moved to the manufacturing of medicine to help remedy this problem. For example, "Cuba has moved to manufacturing almost all of its own

³⁴ Hauge, 38.

medications and immunizations and strives to continually increase the number of available medications.”³⁵ Hauge indicated later, that medical equipment and advanced technology is particularly effected by the embargo because of countries not willing to trade with Cuba in fear of tampering relations with the U.S. As a result, this lack of technology poses a future risk to health standards as new technologies cannot replace their counterparts. This signifies some areas of Cuban health prone to vulnerability years after the Soviet collapse in 1991 and due to the U.S. embargo; the health system continues to have some flaws in the 21st century.

Lastly, Hauge discusses her observations of the community involvement and interaction between the patient-doctor relationships, which Cuban health focused on early in their socialist history. She starts off by briefly discussing the CARE program or Continuous Assessment and Risk Evaluation. This program describes an excellent example of Cuba’s emphasis on prevention. The CARE program assesses the citizens within the area and assigned them to groups based on health risks determined by, for example, age or smoking. This is done to allow for doctors to complete home visits with efficiency as citizens become identified by this program. Hauge describes the experiences as the following,

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 rationale for it, displaying an elevated personal awareness of how individual health fits into a broader population view.³⁶

Hauge continued to discuss the relationship that exists between health personnel and the people they serve in an event they held for a blood drive. She described this not as a

³⁵ Hauge, 39.

³⁶ Hauge, 40.

blood drive but a community event held with food, music, decoration and dancing.³⁷ This event hoped to collect 100 pints of blood by the end of the day, Hauge describes their success with the following statement, “The Day’s goal was set at 100 pints of blood and by mid-morning over 80 pints had already been collected.”³⁸ Hauge’s use of these examples clearly show the physician patient interaction as truly beneficial for this system.

Dora Perez Saez, translated a document describing Cuban health officials examining problems of this organization. These health administrators discuss accomplishments thus seen in the Cuban health care system, which provides interesting insight on the quality of health care in contemporary time. Through additional discussions in this document, officials examine the problems the health system is having and propose solutions to remedy these tribulations, which portrays the support of the government in the health sector. This article begins by discussing some accomplishments of their health system; for example, in 1993, shortly after the Soviet economic crash, life expectancy for the average Cuban was 74.7 and rose to 77 by 2006. The availability of medicine is another highlight of their successes, “The number of unavailable medicines has dropped from 428 in 1994 to 11 in 2007.”³⁹ This example showed a time roughly after the Soviet collapse and how in recent years their situation has improved. Cuban officials continue to discuss examples such as those already mentioned until they turn their attention to problems of the existing health care system. The first issue was health infrastructure. Technology and deteriorating facilities pose a threat to the system, in particular the polyclinic or Cuba’s health foundation. In contrast, an explanation

³⁷ Hauge, 41.

³⁸ Hauge, 41.

³⁹ Perez Saez, np.

presented indicated that all technology used by health clinic is not being neglected but replacement does occur. “The Cuban healthcare system has placed more than 24,000 new pieces of equipment in different facilities.”⁴⁰ Problems occur as they indicate that particular health sectors not being supported to their full extent. For example, “Though in 2007 we provided 1,198,928 pairs of glasses, half a million more than in 1998, we still do not yet meet the full demand, and there have been delays in delivery.”⁴¹ This shows that the Cuban health care system’s improving; however, the quality of care given at the moment of this report does not meet governmental standards. Despite the problems explained by these officials, they still remain optimistic about solving the existing problems thus indicating their support of the healthcare system.

The healthcare system has the institutional responsibility to solve all of the needs of this patient. We have processes that guarantee this. Our field is prepared to not leave our people defenseless.⁴²

Through the analysis of these first hand accounts, 21st century medicine in Cuba becomes clearer. Hauge indicates that Cuban medicine emphasized preventative medicine in programs such as CARE. In addition to experiencing this practice of health she feels the effects of the U.S. Embargo, which still causes shortages, she explained. The document transcribing Cuban health officials does not discuss the U.S. Embargo but approach their evaluation of health in terms of successes and failures. In the 21st century they have improved life expectancy as well as decreasing the amount of unavailable medicine, however, they do recognized the fact that shortages exist in Cuba, but the government does its best to provide what technologies they do have to Cubans.

⁴⁰ Perez Saez.

⁴¹ Perez Saez.

⁴² Perez Saez.

To follow up the literature review and comparison section, the use of a statistical analysis used in this study will now be introduced. When deciding an appropriate section to put these sources, the end seemed suitable as they support findings already discussed and further highlight conclusions that have already been drawn.

To support the findings in health care discussed by these mentioned historians, these statistical analysis aid in verifying the quality of care given in Cuba. This study primarily focuses on the effects of the Soviet collapse. These charts once graphed help describe mortality rates both prior to the soviet collapse and after. In addition, as mentioned by historians, the health revolution in Cuba often set goals for itself, such as, decreased infant mortality and overall to bring health care to rural Cubans. This data helps verify the goals set by the revolution as well as indicate how the collapse of the Soviet Bloc affected the health care system.

The data used in the following sections derives from two sources. Two sets of figures come from Estadísticas de Salud de Cuba or Health Statistics of Cuba and the other is presented by the Ministry of Cuban Health or for this report, Infomed. The first set of statistics from the Health Statistics of Cuba described the principle causes of death in the following years: 1970, 1981, 1993, 2005, and 2006.⁴³ In addition to these main diseases, the chart also indicates the rates of death per 100,000 inhabitants. The second set of data used in this analysis comes from Infomed.⁴⁴ This series of information describes causes of death in respect to geographic location. These statistics come from the year 1995 and show the rates of death per 100,000 inhabitants. Lastly, another

⁴³ “Cuadro 13. Principales Causas de Muerte de Todas las Edades. 1970, 1981, 1993, 2005 – 2006” *Estadísticas de Salud de Cuba*. www.dne.sld.cu.

⁴⁴ “Tasas de Mortalidad Ajustadas Segun Causas Seleccionadas y Estratos.” *Infomed: Red de Salud de Cuba*. www.infomed.sld.cu

collection of information from the Health Statistics of Cuba is used. This data describes mortality rates for infants under the age of one year old and from ages one through four.⁴⁵ Graphs created upon the information of these data sets will draw conclusions on questions raised by this study as well as evaluate the goals established by the revolution in Cuba.

Before this analysis, there is a need for clarification of these statistics sources. The information for this section all has Cuban origin. Thus, a question arises as to the validity of the proposed data. Reasonable confidence is given to the figures used in this segment due to Cuba's regard in the international community as seen through medical tourism. Lynda M. Whiteford and Lawrence G. Branch, in their book, *The Cuban Health Care Revolution*, describe the level of respect the health care system in Cuba has.⁴⁶ Both foreign medical researchers and practitioners are frequently invited to the island to participate in international health conferences. Here, the medical community takes part in discussions on health, in addition to exchanging views with Cuban physicians in various medical institutes. In addition, Cuba's innovation in the use of doctors as export proved an exceptional part of Cuban medicine. Cuba subsidizes medical staff sent abroad if host countries cannot afford them.⁴⁷ Due to the high esteem the international community places on Cuban medicine; it seems unlikely for significant errors to exist in these statistics.

This study's focus is centered on the effects of the Soviet collapse in respect to the health care system and the first set of data helps suggest that this event did in fact

⁴⁵ "Defunciones y Tasas de Mortalidad Segun Grupos de Edad." *Estadísticas de Salud de Cuba*. www.bvs.sld.cu

⁴⁶ Whiteford, 13.

⁴⁷ Ibid.

create pressures on health. The figures in this section are presented by Health Statistics of Cuba, and they represent the years 1970, 1981, 1993, 2005 and 2006. Statistics used for this graph indicate the rates of mortality for every 100,000 inhabitants. The time frame of this diagram adds significant correlations with the present analysis at hand due to the relevance of the years chosen by this data set. 1970 and 1981 would signify years prior to the 1991 collapse of the Soviet bloc, 1993 representing shortly after, and above all, 2005 and 2006 offers information on contemporary health in Cuba.

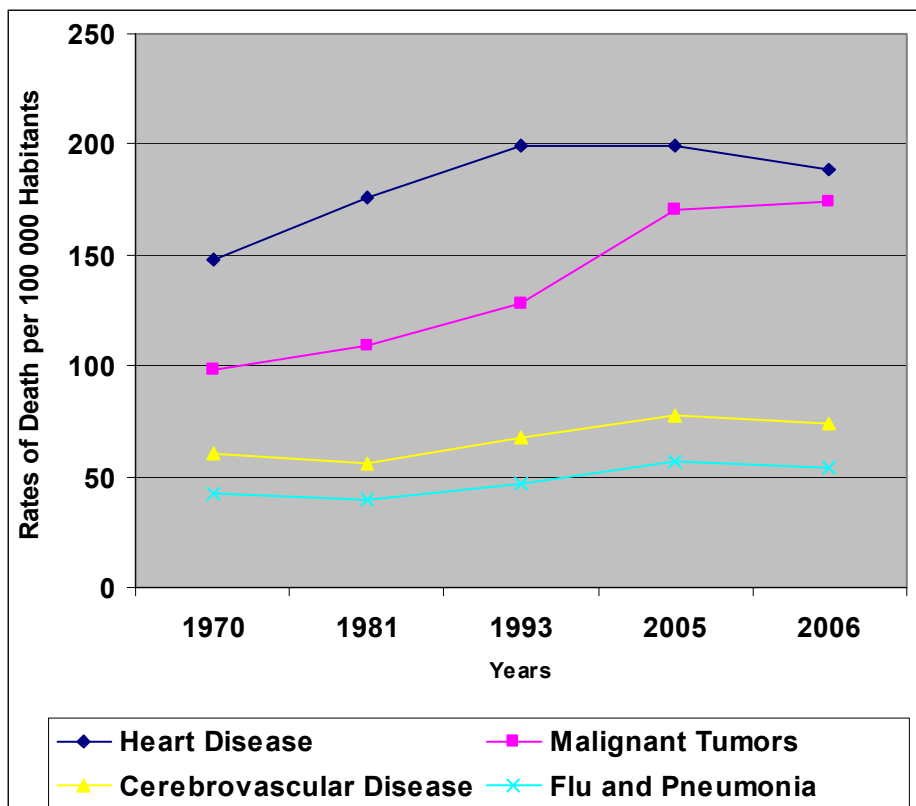


Figure 1: Principle Causes of Death 1970, 81, 93, 2005 and 06.

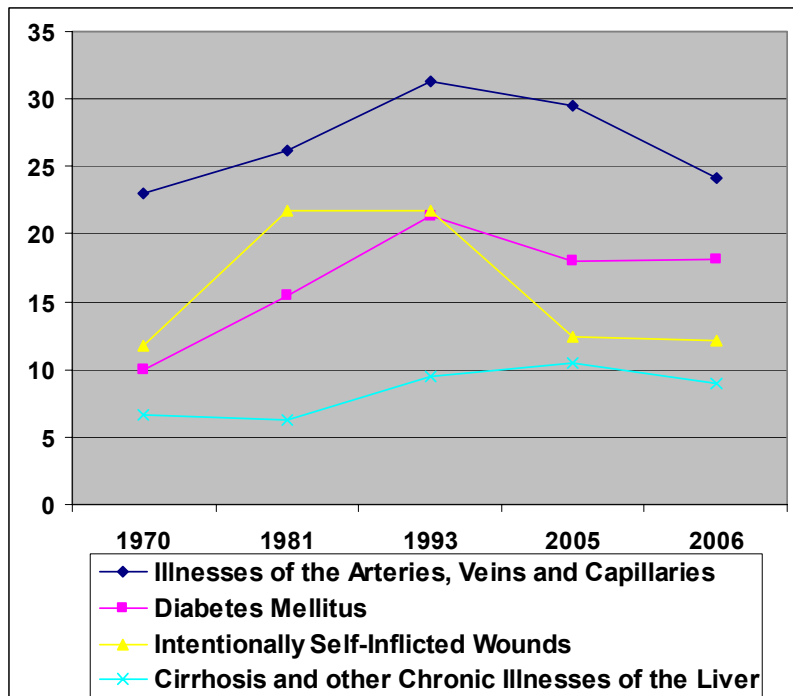


Figure 1 : Principle Causes of Death 1970, 81, 93, 2005 and 06.

After viewing this graph, it becomes apparent that significant increases in mortality occur in 1993, two years prior to the Soviet dissolution. All principle causes of death listed in this report show escalating trends. Lievesley points out that as a result of the Soviet collapse, the considerable funding health care received prior to this event dwindled from 260 USD to 160USD; Additionally, she adds that the U.S. Embargo caused further difficulties due to the U.S. production of new pharmaceuticals and their restriction of these goods from entering Cuba.⁴⁸ Lievesley's findings are verified as the document describing Cuban health officials examining their system indicate similar conclusions. These officials point out in 1994 428 medicines were unavailable in Cuba.⁴⁹ These points correlate strongly with indicating figures of this graph. Health funding and large medicine shortages draw a clear parallel between the increases in mortality that these graphs describe. In addition to this revelation, the years 2005 and 2006 also

⁴⁸ Lievesley, 164.

⁴⁹ Perez Saez, np.

describe interesting trends amongst the data. Most of the principle causes of death are declining or gradually starting to decline, from post Soviet collapse surges. The document on Cuban health officials describes that the unavailability of medicines in 1994 declined to 11 in 2007. This information suggests reasoning to why there is a decrease seen in these years and also implies that the Cuban health care system recovered in recent years. Lastly, the only outlier of this data set is malignant tumors. This is the only trend that continues through the years illustrated in this graph. Whiteford proposes fact that Cuba's life expectancy rose during the revolution and cancers prone to older populations.⁵⁰ This suggests the reason why mortalities of malignant tumors increase is because of the longer life Cubans now live. Overall, this graph points to the fact that the Soviet collapse drastically affected the Cuban health care system due to the decline in health expenditures and lack of pharmaceuticals, however, in recent years mortality decreased.

One of the primary goals to the health revolution in Cuba was its determination in bringing health care to the many rural Cubans who formerly did not have access. Infomed provides similar statistics in mortality in respect to causes of death but approach the subject in a different light. These figures indicated rates of death per 100,000 habitants but this study narrows on the year 1995 and pays specific attention to mortality in respect to urban, suburban, and rural settings. These graphs aide in evaluating the quality of care Cuba gives its citizen in relation to social settings.

⁵⁰ Whiteford, 87.

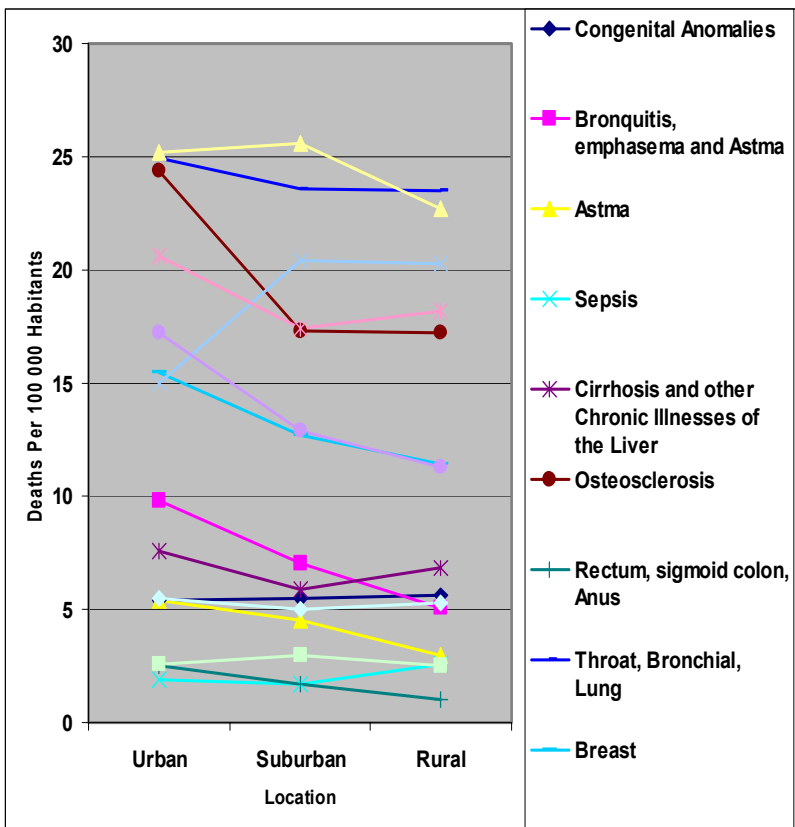
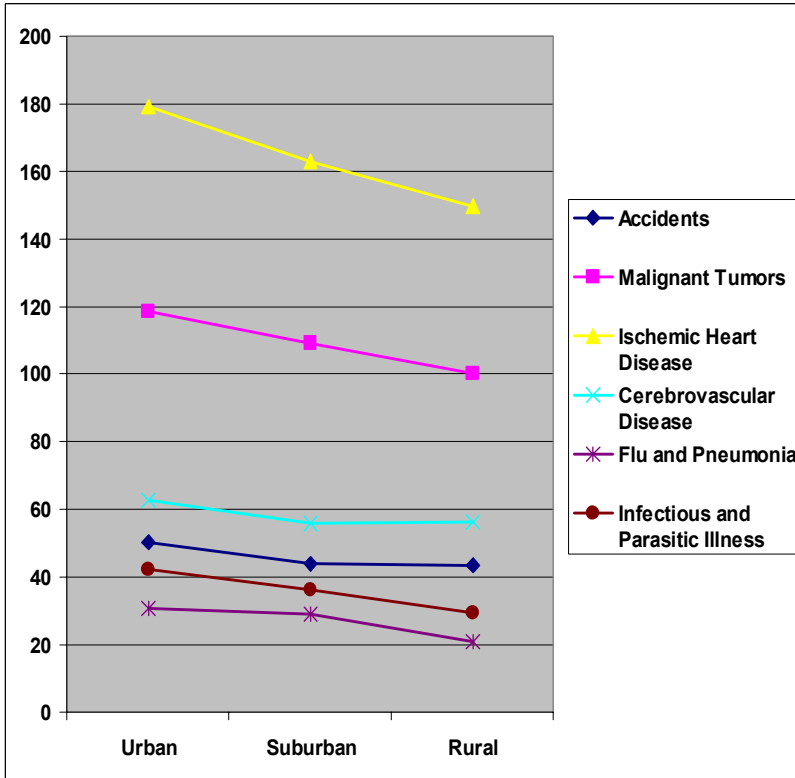


Figure 2: Causes of Death in Rural, Suburban and Urban Regions in the year 1995.

Many historians discussed the polyclinic as being the keystone of Cuban medicine, primarily, for its ability to bring health care to all Cubans. Data was gathered regarding rates of mortality for these respected social settings but the graphs indicate a downward trend. These diagrams suggest that, in fact, higher mortalities occurred in the urban setting versus the rural. Does this conclude that rural medicine is more effective than urban? An important fact to note is the time period of this data set, 1995. Thus, similar factors that triggered higher mortality in figure 1 have a comparable impact to these figures. Areas with higher populations might have caused the statistics resulting in higher mortality. The logic behind this is that the larger populations caused a greater impact on the already stressed health care system during this time. Overall it is important to point out the actual values of the statistics examined. As a whole, a downward trend exist, however, the increments in which they differ are minor. Largely, these graphs conclude that in proportion to the increments used to examine this data, the health care system succeeded in bringing health services to those in all social settings.

Another goal of the health revolution in Cuba involved decreasing infant mortality. Health Statistics of Cuba presents figures describing the rates of death for infants under the age of one and from the ages one to four. This data set is similar to figured 1 in the sense that it shows a wide range of years. For these statistics, mortality is shown from 1982 through 2006. The 1980s signified years in which the health system became more solidified with its structure and the later years help address health into contemporary times. Rates are described in total deaths for the given year. The values obtained from this study test the focus of this analysis, as well as addressing the goal of

reducing infant mortality in Cuba. Overall, it describes deaths both prior to the Soviet collapse and after.

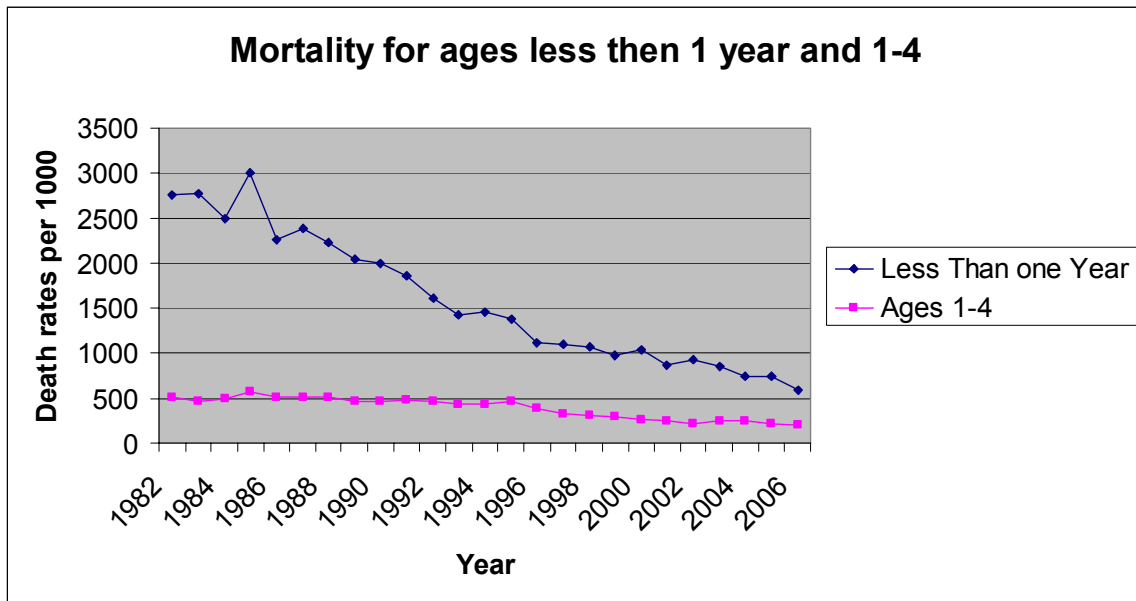


Figure 3: Infant Mortality 1982 through 2006.

The collapse of the Soviet Union drastically impacted the principle causes of death as seen in figure 1. Analysis of these graphs indicated quite a contrast to the first diagrams. Significant downward trends in infant mortality exist through all years in this data set. This concludes that the dissolution of the Soviet Bloc impacted this area of medicine to a lesser extent. Also, the data provided indicates that the goal of the revolution in reducing infant mortality succeeded in Cuba. Another interesting point worth discussion is the fact that the downward trend seen in this figure contrasts those seen in figure 1. Given that the principle causes of death addresses many illnesses and this data set only describes two it still implies a lot. Comparing both figure 1 and 3 suggests that not all areas of health were effected the same by the collapse of the Soviet Union.

After the review of this analysis, statistics suggest that questions brought up from this study as well as the historians mentioned parallel the graphs quite well. The collapse of the Soviet Union combined with the U.S. Embargo drastically affected the level of care given in Cuba, which is clearly shown in figure 1 but in more recent years data suggests improvements have occurred as mortality begins to decline. When the revolutionary Cuban government established its health care system, they set goals such as decreasing infant mortality and bringing health services to rural Cuba. Figure 2 indicates that due to the relative differences between values of mortalities, that the level of care given from urban to rural settings appears similar. Figure 3 suggests that different areas of health became impacted in distinct ways after the crash of the Soviet Union, which offers insight as to why there are drastic increases in mortality shown in figure 1 while figure 3 there is not.

To conclude, substantial evidence gathered by secondary sources indicates that due to the fact Cuba relied heavily on the Soviet Bloc for trade and economic support, the collapse of the Soviet Union drastically impacted the Cuban economy and health care system. As the economy declined sharply, a parallel drop in health care expenditures is prevalent as well. The U.S. Embargo added additional difficulties to this event, as they created many new pharmaceuticals; Cuba underwent a decline in available medicine. In the statistical analysis it becomes clear that during this era due to the pressures created by Soviet dissolution there is an increase in principle causes of death in figure 1. However, in contrast to this figures 2 and 3 describe goals of the revolution and represent their relative success. Infant mortality, the revolutionary goal represented in figure 3, not only signified that Cuba succeeded in this area but despite the Soviet dissolution, decreasing

mortality occurred all years shown. This contrasts figure 1 and suggests that not all areas of Cuban health became impacted by the collapse of the Eastern Bloc in a negative way. The primary sources suggest that the 21st century health care system in Cuba is moving toward improving, as the amount unavailable medicines decreases and further emphasis becomes placed on preventative medicine. In addition to this, both Hauge and the Cuban health officials concluded that problems still exist within health care. Hauge describes medicine shortages when doctors need to give prescriptions and the Cuban health officials describe the inability to meet the need for eye glasses despite the large number they have thus far provided. Overall, the Cuban health care system, due to the dependency on the Soviet Union, clearly produced large problems in the 1990s. In the 21st century, however, evidence suggests through principle causes of death decreasing and the Cuban health officials determination to back health policies that the health care system improved in contemporary times.

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