

CUBA'S CONTRIBUTION TO GLOBAL HEALTH DIPLOMACY

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Background

Hidden behind the information screen imposed by the US embargo, Cuba has developed its post-revolutionary health and education systems largely out of the view of the United States. During almost fifty years of consistent political will and action, Cuba has transformed itself, despite its continuing relative poverty, from one of the less healthy and less educated countries in the world, to a country with health status and educational attainment that matches or exceeds that of the world's developed nations.

The Beginnings

In January of 1959 when the Cuban revolution succeeded, the new government inherited a population of 7.3 million people, the majority of whom were poor, ill-housed, ill-educated, and unhealthy. Infant mortality was high – more than 60 deaths per 1,000 live births; maternal mortality was also excessive – 125 deaths per 100,000 births. Preventable communicable diseases such as measles, tuberculosis, and acute diarrheal diseases were common. Access to adequate medical care was limited to a minority of citizens, and average life expectancy at birth was 61.9 years. Health care professionals were in short supply, and educational opportunities in health care were limited: there were one medical school, six nursing schools and one dental school in the country. Tuition to these institutions was relatively high and few scholarships were available. Professional shortages were augmented by a significant “brain drain” in the first years following the revolution. One half of the country's physicians migrated to the United States, for example, leaving just 3,000 physicians for the whole country and 16 full-time professors in the single medical school.

The new Cuban government attacked this problem with a logical approach based on relevant medical and public health science grounded in basic principles that have remained unchanged to this day. Those principles are:

- Health care is a right, equally available and free of charge to the individual.
- Health care services are the responsibility of the state.
- Preventive and curative services are integrated.
- The population participates in the development and functioning of the health care system.
- Health care activities are integrated with economic and social development.

Similar principles were established for the field of education, making it free and accessible to everyone at all levels of the educational system.

System Evolution

Early efforts to improve health focused on basic health promotion and disease prevention activities across the population, construction of hospitals and clinics

throughout the country, a more equitable distribution of existing health professionals, and the development of health professions schools sufficient to meet a growing demand for physicians, nurses and dentists. Outcomes were constantly monitored and, with input from the population, the system underwent several dramatic turns in organization and emphasis. The most important of these was the development of the Family Medicine Program in the mid 1980's. Called a "Revolution within a revolution" by the Director of the World Health Organization, this new approach focused on creating a family physician/nurse team for every 120 families (600 to 800 people) in the country. The primary focus of the curricula producing this new brand of health professionals was, and remains, health promotion and disease prevention first, and early diagnosis and treatment second. The Cuban family doctor and nurse became responsible for population health, not just disease and injury diagnosis and treatment. The country's now 22 medical and 34 nursing schools were producing enough health professionals that by the end of the twentieth century 99% of the Cuban population had easy access to almost 14,000 family physician and nurse teams living and working in their communities, as well as a large number of specialists working in 445 polyclinics, 256 hospitals and 13 medical research centers. The country now has over 70,000 physicians (over 33,000 family physicians), 90,000 nurses, and 60,000 technicians, making it one of the globe's best-staffed health systems. At the same time Cuba developed its secondary and tertiary care capacity (example – their first cardiac transplant was performed in 1985), invested in biotechnical research (example – the world's first vaccine effective against Meningococcus B), and built its own pharmaceutical industry (today Cuba produces 85% of the medications it consumes).

Even though Cuba's health professionals continue to cope with shortages in material and equipment, the health status of the country's 11,260,000 people has steadily improved over time. Somewhat remarkably, with minimal exceptions, this trend continued during the so-called "Special Period" of economic hardship after the collapse of the Soviet Union in the early 1990's when Cuba lost 85% of its foreign trade overnight, and the US Government tightened even further its blockade of the island. Today Cuba can boast of an infant mortality rate below 6.0 per 1,000 live births, a maternal mortality rate of 52.2 per 100,000 live births, a life expectancy of 79.5 years for women and 75.8 years for men, and the virtual absence of tropical communicable diseases and other vaccine preventable infections. As they put it, "We live like poor people and die like rich people", a testament to the major causes of mortality in Cuba – heart disease, cancer and stroke.

Cuba's Global Health Diplomacy

A Model for Hope

Cuba's experience is practical proof of population health principles long shared by visionaries in global health. Cuban health authorities and government didn't discover these principles, they simply applied them. Their results are a source of encouragement, especially for people in resource scarce settings. As Dr. Paul Farmer says, *The most important contribution that Cuba has given to global health has been its example. The idea that you can introduce the notion of a right to health care and wipe out the diseases of poverty. Cuba has offered a very stirring example, especially to poor countries, that they could do it: that they could really put in place a comprehensive public health and medical system.* (Paul Farmer, MD, in the film *Salud!*)

Assistance in Medical Education

From early on in the development of the Cuban system, Cuba has offered international assistance in health consisting of training health professionals and sending Cuban health professionals abroad to provide medical care assistance when requested. During the 1960's, in spite of severe shortages at home, Cuba began to train students from developing countries alongside their own. From 1966 through 2004, nearly 4,000 international students graduated from Cuban medical schools. Some of these graduates are found today among the developing world's health ministers and secretaries of health. Cuba also provided assistance to medical education efforts within other developing countries. In 1976 a medical school in Yemen was founded by Cuban professors, and under bilateral agreements in later years, Cuban faculty would go on to found another eight schools of medicine in Africa, Latin America and the Caribbean, and rescue struggling schools in other countries of the Global South, such as Angola and South Africa.

Assistance in Health Services

The first Cuban medical contingent to serve abroad went to earthquake devastated Chile in 1960 when the two governments had no formal relations. Similar disaster relief missions traveled to 16 other countries over the next several decades, but these somewhat ad-hoc aid efforts were eventually augmented by government to government agreements that saw Cuban health professionals (mostly physicians) providing medical care, Cuban style, to underserved populations and regions in Latin America, Africa, the Caribbean and Asia. Since the 1963 request from the Algerian government, bereft of physicians at the end of the French occupation, another 100 governments have initiated pacts with Cuba for a sustained presence of Cuban health professionals in their countries' health care delivery programs; six in the 1960's, 22 in the 70's, 11 in the 80's 47 in the 90's and 15 since 2000. The significant expansion of this effort in the 90's speaks to the growing capacity of Cuba's own health system, which made large numbers of physicians available for international service and reinforced Cuba's commitment to bolster public health infrastructures by providing personnel to deliver primary care services (combining population-based public health principles and prevention with clinical medicine) as the key to improving health status.

External factors also contributed to the increase in Cuban international assistance during the 90's. Cuban medical teams deployed in emergency response in Central America to the devastation of hurricanes Georges and Mitch stayed on at the request of several governments under Cuba's Comprehensive Health Program (CHP). The CHP was created in response to the region's crisis and later expanded to include a total of 27 countries in Latin America, the Caribbean, Africa and Asia. Under these agreements, the host country provides accommodations and food, domestic transportation, a locale for work, and a monthly stipend (usually US\$150-200), while Cuban personnel receive their regular salaries, airfare and other logistical support from the Cuban health ministry. In arrangements outside the CHP, so-called Compensated Cooperation, wealthier countries such as South Africa pay additional hard currency salary, part of which is kept by the professionals and part of which is remitted to the Cuban health ministry. Currently 1,042 health professionals (principally physicians and technicians) are serving in 28 countries under the Comprehensive Health Program, and 3,198 are working in 37

countries under the Compensated Cooperation Program. Cuban presence is consistently associated with large increases in services delivered and often dramatic improvements in population health status.

Ramping Up – Health Services

Since 2000 Cuba has launched four new special international collaborative initiatives. The first focuses on HIV/AIDS in 19 countries; Botswana, Honduras, Mali and Haiti among them. Joint projects in prevention and treatment were developed, and in 2001 Cuba offered African countries 4,000 physicians and other health professionals, medical school professors, a stock of anti-retroviral drugs and diagnostic equipment to help combat the epidemic.

The second began in 2003 when Cuba made a major commitment to Venezuela, a country with great discrepancies between rich and poor, to bolster health services. About 20,000 Cuban family physicians moved to Venezuela to provide health services and health education in medically underserved communities ranging from the shantytowns of Caracas to the jungle riverbanks of the Amazonas State. This arrangement exemplifies a new type of South-South cooperation where each involved country brings the resources at its disposal to the table to be used for social programs bilaterally and throughout the Caribbean and the rest of Latin America. In the case of Venezuela, this is often described as “oil for doctors”.

The third is a vision restoration program that began in mid-2004. An estimated 6 million people in Latin America and the Caribbean have reversible blindness or vision loss due to surgically correctable conditions and are too poor to pay for surgeries in their own countries. Centers in Cuba equipped with the latest in ophthalmologic operating microscopes along with similar ophthalmology centers in Ecuador, Bolivia and Mali, have so far operated on almost ½ million people from 27 different countries.

The fourth is the Henry Reeve Disaster Response Contingent established as a permanent volunteer corps of health professionals given special training in disaster response, and named for an American who fought and died on the Cuban side during their war for independence from Spain in 1898 – an example of self sacrifice for others. Members of this group are ready to be dispatched to disaster areas with just 24 hour notice, and were first mobilized in October 2005 when 2500 traveled with 32 field hospitals for a five month stay in earthquake-stricken Pakistan. President Bush did not respond to an offer to send the contingent to areas hit by Hurricane Katrina in the US, but since Pakistan the Contingent has been dispatched to Guatemala, Indonesia and Bolivia.

Ramping Up – Medical Education

In what must be the most ambitious international medical training effort in the world, the Cubans converted their naval academy to their 23rd medical school, now called the Latin American Medical School. This is, in effect, a companion effort to international cooperative arrangements to bolster access to care that is aimed at building long-term stability into the process by creating a cadre of physicians recruited from underserved populations who would replace Cuban physicians serving overseas. Established in 1999 with a capacity to handle a class of 2000 students, enrollment hit 10,000 from 29 different countries and 101 ethnic groups (including 85 students from the US) in 2005.

No tuition is charged, and the basic curriculum consists of a 6 month to one year premedical bridging course, two years of basic science and four years of clinical rotations provided in all 14 Cuban provinces integrated with traditional Cuban medical students. Students must promise to return to practice in medically underserved areas.

Cuban authorities have concluded that massive training programs are required to produce the 128,000 additional physicians and nurses they believe must be created in the Americas, alone, to meet the basic needs of existing populations. At the first graduation of the Latin American Medical School on August 20, 2005, President Castro announced the country would join with Venezuela to train 100,000 physicians for developing countries over the next decade, including 60,000 new scholarships for Venezuela and 30,000 for the rest of Latin America and the Caribbean.

A “university without walls” model piloted first in Cuba with Cuban medical students continues in Cuba, and has been implemented in Venezuela. Some 13,000 Venezuelan students are studying medicine in primary care settings spending three days a week in community-based classrooms and three days a week seeing patients with their Cuban family physician mentors. It is expected that graduates of the Venezuelan program will eventually replace the Cuban physicians serving there.

Summary

The Cuban system of health services has clearly served the island nation well. Its tradition of reaching out, when requested, to the developing world has earned it respect and gratitude in many quarters. Its growing capacity to send experienced professionals to poor health “hot spots”, to train its own citizens and tens of thousands of students from the developing world, and its alliance with other nations who share its values and are resource rich (Venezuela, Bolivia, South Africa, etc.) provides a fascinating and hopeful example of actual response to the world’s health care crisis. It is a process well worth studying and assisting as the world learns whether the principles Cuba has applied so successfully at home can be transferred in whole or in part to other countries with very different cultural, political and socioeconomic circumstances.

Acknowledgements

The information presented in this document comes from a combination of my own observations over 20 trips to Cuba to look at its health system and information obtained and catalogued by Gail Reed, MS, journalist and development consultant, and International Director of Medical Education Cooperation with Cuba (MEDICC). Ms. Reed has made Havana her professional base for the last two decades and has written extensively on social and economic issues in Cuba. Her access to official data on the Cuban health system and her professional relationship with many of the system’s key players gives her direct access to current information in a very dynamic system.

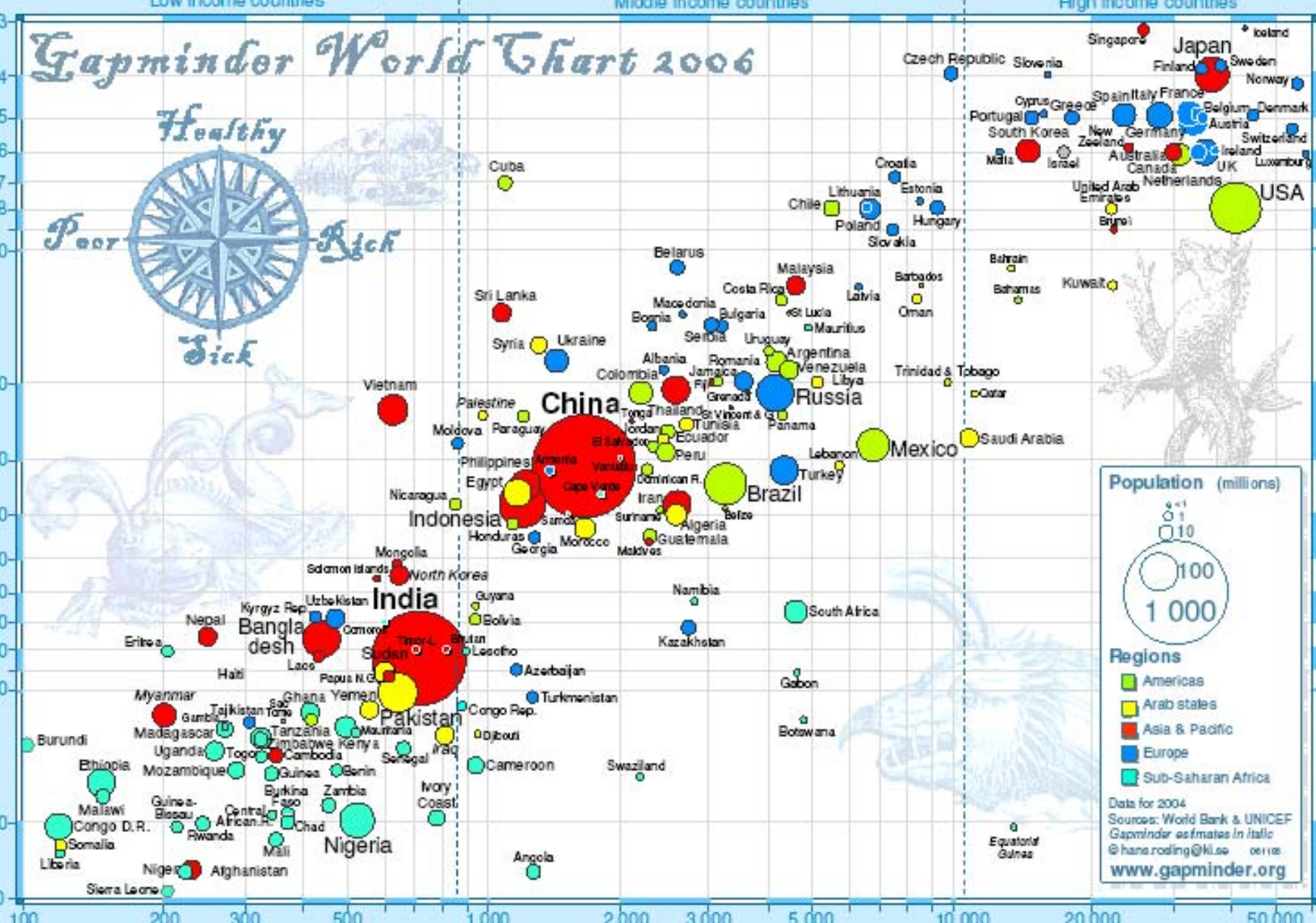
Low income countries

Middle income countries

High income countries

Gapminder World Chart 2006

Health Children dying before age 5 per 1000 live births (log)



Population (millions)

○ 1
○ 10
○ 100
○ 1 000

Regions

- Americas
- Arab states
- Asia & Pacific
- Europe
- Sub-Saharan Africa

Data for 2004
Sources: World Bank & UNICEF
Gapminder estimates in italic
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www.gapminder.org

Money Gross National Income per capita in US dollar, exchange rate (log)

GAPMINDER

Cuban Global Cooperation: Current Situation (2006)

- 1. Cooperation with 155 countries; 1846 organizations of solidarity; and 228 political parties.**
- 2. Over 800 projects in implementation.**
- 3. 37,342 Cubans serve in 111 countries; of those 28,664 (76.8%) do so in the health sector in 68 countries.**
- 4. Literacy program in 20 countries.**
- 5. 25,668 young people from 120 countries study in Cuba.**
 - 20,397 (79.5%) study medicine; 9,488 from 9 countries enrolled in the new community medicine program.**
 - In Venezuela, the same program enrolls 13,000 students.**
- 6. 536 students enrolled in schools founded with Cuban assistance in Gambia, Equatorial Guinea, Eritrea, Guinea Bissau and East Timor.**
- 7. Vision restoration (Operación Milagro) developed in 25 countries in Latin America and the Caribbean, including Cuba.**

Total Personnel Collaborating Abroad, Agency and Geographic Region (April 30, 2006)

Agency	GEOGRAPHICAL AREAS						Total (111 countries)	%
	N. America (2 countries)	Latin America (17 countries)	Caribbean (23 countries)	Africa (40 countries)	Europe (15 countries)	Asia (14 countries)		
Sports Institute	0	6376	69	37	63	17	6562	17.57
Armed Forces Ministry	0	0	0	165	0	0	165	0.44
Higher Ed. Ministry	0	158	5	17	5	0	185	0.50
Education Ministry	0	306	66	15	0	6	393	1.05
Cooperation Ministry	24	169	103	141	59	7	503	1.35
Culture Ministry	3	116	16	0	40	1	176	0.47
Sugar Ministry	0	164	5	15	0	0	184	0.49
Agriculture Ministry	0	263	1	9	0	1	274	0.73
Construction Ministry	0	34	27	76	0	42	179	0.48
Steel Ministry	0	39	18	0	0	0	57	0.15
Total	27	7625	310	475	167	74	8,678	23.2
Public Health Ministry*	2	25,309	991	1,996	5	361	28,664	76.8
Total	29	32,934	1,301	2,471	172	435	37,342	100.0

Cuba's Health Programs: Summary

MODALITY	COUNTRIES	IN-COUNTRY PERSONNEL	PHYSICIANS	%	TECHNICAL PERSONNEL
COMPENSATED COOPERATION	37	1,042	692	66.4	350
COMPREHENSIVE HEALTH PROGRAM	28	3,198	2,238	70.0	960
SUBTOTAL	65	4,240	2,930	69.1	1,310
SPECIAL PROGRAM: VENEZUELA	1	23,629	15,458	65.4	8,171
HENRY REEVE CONTINGENT*	2	737	640	94.4	38
VISION RESTORATION (OPERACIÓN MILAGRO)	18	117	82	70.1	35
TOTAL **	68	28,664	19,110	66.7	9,519

* Henry Reeve Contingent in Indonesia (135) and Bolivia (602).

**Total is 68, since some countries have more than one modality.

GLOBAL HEALTH PROGRAMS: SOCIAL IMPACT



Medical Attention

1. Office visits: 245,516,083 (in 7 years).
2. Home visits: 82,926,918.
3. Lives saved: 1,391,907 (five times the 280,000 lives lost in recent disasters in Central America, Indonesia, Sri Lanka and Pakistan).
4. Surgeries: 1,910,705.
5. Medical and paramedical equipment repaired: 54,263 (for a saving of USD \$ 32,578,800 to the receiving countries)
6. 600 comprehensive diagnostic centers (CDC) and rehabilitation centers (CRC); and 35 high-technology centers (HTC).
 - CDC – 125 completed. CRC – 145 completed, of these 133 operating; 12 in startup. HTC – 4 operating, 4 in startup, 11 in construction, 16 in project phase.
7. Community optical services in Venezuela: 4,318,375 cases seen, resolving health problems of 3,285,821 (76.1%). One of every 8 inhabitants has received this service.



GLOBAL HEALTH PROGRAMS: SOCIAL IMPACT

8. Vision restoration: benefitted 286,478 patients, of whom 20,588 from Latin America, 16,171 Caribbean, and 190,220 Venezuelan (one of 896 inh. of these countries).
9. Henry Reeve Disaster Contingent: 3,854 sent to Guatemala, Pakistan and Bolivia.
10. In Pakistan: 32 mobile hospitals donated by Cuba.

Human Resource Training

1. Since 1961: 45,352 graduates from 129 countries.
 - 30,109 (66,4%) from 41 Sub-Saharan countries.
 - 8,718 (19,2%) from 18 Latin American countries.
2. Cuban medical teams abroad have graduated 2,789 paramedical and technical health workers.
3. Opening of the Caribbean Nursing School in Dominica with 150 students; preparations for second school in Belize.
4. Literacy: 2,327,419 persons learned to read and write in 11 countries. Declared illiteracy-free: Venezuela and Canton Cotacachihi.