

SNP Best-set Typesetter Ltd.

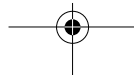
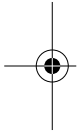
Journal Code: BIOT

Proofreader: Elsie

Article No.: 019

Delivery Date: 29 March 2006

Page Extent: 18pp



Chapter 19

SOCIAL VALUES EMBEDDED IN HEALTH SYSTEMS: INFECTIOUS DISEASE IN MEXICO AND CUBA

TIM ANDERSON

This paper discusses the implications, for infectious disease control, of distinct social values embedded in health system organising principles. The Mexican and Cuban health systems are taken as examples of neighbouring but widely divergent systems, producing different public health outcomes. The paper will look at the organising principles of these two systems, along with their programs and outcomes in relation to five of the most important and dangerous infectious diseases: tuberculosis, HIV/AIDS, diarrhea, measles, and malaria. It will then consider what broader lessons might be drawn from the Mexican and Cuban experiences.

Mexico has pursued a federal and neoliberal system based on tripartite social insurance, private ‘partnerships’, and competitive service provision. Cuba, on the other hand, has maintained a public system, with guaranteed free and universal access, full public registration and centralised public coordination. How have such systems approached the world’s most dangerous infectious diseases?

In recent decades both countries have made substantial progress in dealing with these five diseases, but Cuba has maintained a superior performance, despite a lower income and less absolute financial resources. This at first seems to contradict the broad international correlation between income levels and health outcomes. It also poses questions for suggested OECD (Organisation for Economic Cooperation and Development) ‘pro poor’ policies for developing countries, which place an emphasis on ‘scaling up resources and private investment’,¹ including competitive service provision and expanded ‘choice’ in health services.²

¹ OECD. 2003. *Poverty and Health: DAC guidelines and reference series*. Organisation for Cooperation and Development and the World Health Organisation. Paris.

² Jeffrey Sachs (chair). 2001. *Macroeconomics and Health: Investment in Health for Economic Development: Report of the Commission on Macroeconomics and Health*. World Health Organisation. Geneva.

Important research³ has demonstrated that general income levels (and therefore also economic growth) are not as strongly correlated with the most significant advances in public health (ie. reduction in major categories of mortality) as are the education of women and the implementation of appropriate technology. The question of the contribution of other social and organisational factors in reducing mortality and morbidity levels is left open. However it is well established, for example, that major reductions in maternal mortality are much more strongly linked to the presence of a skilled birth assistant than to expensive facilities or high technology.⁴

What then of infectious disease? In most poor and developing countries, tuberculosis, HIV/AIDS, diarrhea, measles, and malaria are major killers. These five diseases are highly controlled in most wealthy or 'low mortality' countries, yet (along with maternal-infant conditions and nutritional disorders) each kills many hundreds of thousands of people worldwide each year. In 2002, for example, HIV/AIDS killed 2.8 million, Tuberculosis 1.6 million, diarrhea 1.7 million, malaria 1.2 million and measles 760,000.⁵ How might the organisation of health policy, beyond the bland demands for 'broad based economic growth',⁶ be linked to significant advances in combating these diseases?

Most of the serious infectious diseases that affect developing countries are no longer the main health problems of wealthier countries. Nor are they the main problems of Mexico and Cuba. However these two countries have recently been wrestling with these 'preventable' diseases with varying degrees of success. Because of their divergent systems, and the divergent outcomes, a comparative study might be enlightening.

ORGANISING PRINCIPLES OF THE MEXICAN AND CUBAN HEALTH SYSTEMS

The structure of the Mexican health system might be summed up as a near 50-50 public-private mix in finance, a multi-institution mix

³ J. Wang et al. 1999. Measuring Country Performance on Health: selected indicators for 115 countries. in World Health Organisation. *World Health Report* [this study was supported by the World Bank].

⁴ Vincent De Brouwere and Wim Van Lerberghe. 2001. Safe Motherhood Strategies: a Review of the Evidence. in *Studies in Health Services Organisation and Policy*. 17, 2001: 7-28.

⁵ WHO. 2003. World Health Report 2003. www.who.org: Table 2.

⁶ e.g. World Bank. 2004. *World Development Report 2004*. www.worldbank.org. [see in particular Chapter 8 'Health and nutrition services: spotlight on Costa Rica and Cuba'].

Social Values Embedded in Health Systems 317

of tripartite insurance, competitive service provision between and within the private and public spheres, and the notion of consumer choice in selection of health services.⁷ The Cuban system, on the other hand, is an overwhelmingly public and centrally coordinated system, based on free and universal citizen access to services, with full registration of the population and allocation of primary health service providers within family doctor districts.⁸

The Mexican health system combines several tripartite social security insurance bodies (with contributions from employees, employers and government), a public system and a large private sector. It has substantial resources and expertise, but is structurally fragmented and includes highly unequal access to services. By law, all formally employed Mexican workers must belong to a social security institution. The IMSS (Mexican Institute for Social Security) is by far the biggest of these, covering about 40% of the population, including workers' families.⁹ However a major problem with the insurance system is that those without formal employment, and thus without cover, constitute around 40% of the Mexican adult population.¹⁰ The total insured population is probably a bit over 50 million, with the uninsured also around 50 million. About 5.4% of the country's GDP (gross domestic product), half of this private, is spent on health services.¹¹

Each insurance institution has its own funding arrangements, facilities, doctors, nurses and auxiliary personnel. They could in many respects be separate empires, except that the federal government in recent times has begun to play a larger coordination and funding role. Coverage remains incomplete and uneven. In the states of Chiapas and Guerrero, only 17.6% and 20.3% are enrolled, while in Coahila and Nuevo Leon, 69.7% and 65.9% are enrolled.¹² The uninsured have to rely on the public system, or pay their way into a diverse and largely unregulated private system. In recognition of these deficits, IMSS family schemes and the federally funded

⁷ PAHO. 2002. Profile of the health services system: Mexico. Program on Organisation and Management of Health Systems and Services. Division of Health Systems and Services Development. Pan American Health Organisation. 2nd edition. April.

⁸ MINSAP. 2000–04. Anuario Estadístico de Salud. La Habana.

⁹ *ibid.* pp. 5, 13.

¹⁰ INEGI surveys in OACNUDH. 2003. *Diagnóstico sobre la situación de los Derechos Humanos en México*. Oficina del Alto Comisionado de las Naciones Unidas para los Derechos Humanos en México. México DF. pp. 79, 82–83.

¹¹ PAHO. 2002. *op. cit.*, note 7, pp. 5–6.

¹² PAHO 2002. *op. cit.*, note 7. p. 5.

Table 1. Distinct themes in Mexican and Cuban health policy

<i>Mexico</i>	<i>Cuba</i>
Private-public mix	Public system
Tripartite insurance subscription	Free and universal coverage
Competitive service provision	Central coordination
Consumer choice	Registration and allocation

IMSS-Solidarity scheme have been developed in recent years, in an attempt to expand coverage by making use of IMSS resources.¹³

The private health system is far more expensive, involving much higher doctor's wages. While consuming half the country's health-care resources, it provides only 30% of the systems beds and 32% of the consultations,¹⁴ and focuses mainly on curative medicine. The public health system spends more than twice as much as the privatised social security systems on preventive care.¹⁵

Resource distribution in this segmented system has some extraordinarily inefficient features. The PEMEX (Mexican Petroleum) system for state petroleum workers, for example, appears to consume a third the resources of the ISSTE (State Workers Social Security Institute) system for other state employees; yet the latter covers 16 times as many workers. The system's most important resources, furthermore, are not fully utilised. One survey found that roughly 27% of doctors and 43% of nurses were 'unemployed, inactive or employed in other activities'.¹⁶ Resources are also distributed unevenly. Mexico's average doctor to population rate is about 2 per 1000 people; but in Mexico and Chiapas states the rates are 0.8 and 0.9, while in Mexico City the rate is 3.2.¹⁷

Both the Federal Government's 'Health Sector Reform Program' for 1995–2000 and the 'National Health Program for 2001–2006' stressed equitable outcomes as a central objective, but relied on the

¹³ Secretaría de Salud. 2001. *Programa Nacional de Salud, 2001–2006: la democratización de la salud en México; hacia un sistema universal de salud*. Plan social de desarrollo. Mexico City.

¹⁴ Secretaría de Salud. 2003. *Información Epidemiológica de Morbilidad*. Vigilancia Epidemiología Semana 50. 8 al 14 de diciembre del 2002. Secretaría de Salud, Mexico. www.salud.gob.mx/epide/

¹⁵ OECD. 1998. *OECD Economic Surveys 1998: Mexico: health care reform*. Organisation for Cooperation and Development. Paris, p. 101.

¹⁶ PAHO. 2002. *op. cit.*, note 7. p. 8.

¹⁷ *ibid*, p. 7.

Social Values Embedded in Health Systems 319

same fragmented, semi-privatised system to deliver such outcomes. The broad objectives included improving health conditions, reducing inequalities in health and delivering justice in health financing.¹⁸ The connection between poverty and poor health was recognised: 'poor health generates, deepens and helps to perpetrate poverty'. Diseases of infection, malnutrition and reproduction had been largely supplanted by the 'non transmissible' or first world diseases (heart disease, cardiovascular, cancers, tobacco) as the major causes of death.¹⁹ However, the major infectious diseases still have a significant impact on certain sections of the Mexican population.

The institutions of the Cuban health system, drawing on a sustained political focus on health and the mass training of health workers, comprise the Ministry of Public Health (MINSAP), a family doctor system, the Polyclinic system, the country's public hospitals, the medical training system and the pharmaceutical and research institutions. Reinforcing the importance of health policy in Cuba, MINSAP has high standing in Government, and the Health Minister at National, Provincial and Municipal levels is also the designated Vice-President of that level of government.²⁰

The family doctor system was created in 1984 to establish 100% primary care coverage at a local level. This system now involves one or more doctors in a small office serving between 120–160 families, or 600–800 persons;²¹ in 2004 about 32,000 of the country's 68,000 doctors were working in family doctor clinics.²² The entire population has health registration through the institution of the local family doctor. Family doctors are charged with promoting health, preventing illness, providing early diagnosis and generally attending to the needs of families.²³ There are few resources in these small offices (usually with an attached residence) other than a doctor, nurses and some medicines. Health education includes such things as dietary matters and water purification, in those few parts of the island where there are no improved water sources. The family

¹⁸ Secretaria de Salud. 2001. *op. cit.*, note 13. pp. 19, 28.

¹⁹ *ibid.*, pp. 33, 55.

²⁰ José Portilla. 2004. Interview with this writer. Havana. 27 May [Dr Portilla is an official with the External Relations branch of the Ministry of Public Health].

²¹ Francisco Rojas Ochoa. 2003. Situación, sistema y recursos humanos en salud para el desarrollo en Cuba. *Rev Cubana Salud Publica*. 2003; 29(2): p. 163.

²² Portilla 2004, *op. cit.*, note 20.

²³ Ernesto Mario Bravo. 1998. *Development within Underdevelopment? new trends in Cuban medicine*. Editorial José Martí, La Habana: 20.

doctor clinics are coordinated under local work groups, which are in turn under a Municipal administration.²⁴

The Polyclinics are intermediate health centres, at a municipal level, which have substantial resources. They carry out many of the functions of hospitals in other countries, but have no live-in patients. They may have 4–6 beds but a maximum stay is 8 hours. Polyclinics have maternal and other specialist doctors—in fact about 80% of specialist services—as well as dentists, an ambulance service (which now carries doctors, as well as paramedics) and test labs.²⁵

The Cuban system is strong on planning and evaluation, regularly setting performance goals. Reviews of practice and teaching have reinforced the need to intensify primary care, and to back up these primary services with a strong organisation carrying all necessary specialist services.²⁶ A 1996 review of policy called for: reinforcement of the primary care priority, through the family doctor and nurse; a revitalization of hospital attention; a reactivation of technology and research programs; a consolidation of the medicines and natural medicines program; and priority to certain specialist areas, the maintenance of social assistance (including food support) and the ambulance system.²⁷

Cuba now has a comprehensive system of biomedicines, including vaccines which cover at least 95% of the population.²⁸ The country effectively eliminated polio (1992), malaria (1967), diphtheria (1969), postpartum meningitis (1989), and measles (1993). There is also effective suppression of tuberculosis meningitis and neonatal tetanus, and no incidence of mumps meningitis or rubella congenita. Leprosy is not in the country, and there are vaccines for meningococci, Hepatitis B and leptospirosis.²⁹ Dengue fever was introduced into the country on three occasions (1981, 1997 and 2002), but intense campaigns have eliminated it. Tuberculosis is largely suppressed, but occasionally resurges, mainly amongst older people.³⁰

²⁴ Portilla 2004, *op. cit.*, note 20.

²⁵ *ibid.*

²⁶ Bravo. 1998. *op. cit.*, note 23, p. 21.

²⁷ Abelardo Ramirez Marquez y Guillermo Mesa Ridel. 2002. El proceso de desarrollo del sistema nacional de salud en Cuba. *Revista Bimestre Cubana*. Vol XCI. enero-junio 2002. Epoca III. No 16 La Habana. p. 159.

²⁸ PAHO. 2003b. Country Health Profile: Cuba. Pan American Health Organisation. www.paho.org/English/sha/prflcub.htm. [data updated to 2002].

²⁹ *ibid.*; and Ramirez Marquez y Mesa Ridel. 2002. *op. cit.*, note 27, p. 159.

³⁰ Portilla 2004, *op. cit.*, note 20.

Social Values Embedded in Health Systems 321

Cuba's economic depression of the 1990s, triggered by the collapse of its trade relationship with the Soviet Union, combined with a sustained US economic blockade to put serious pressures on the health system. Despite this, the Cuban system retains its public and universal character, with just a few private expenses creeping in, by way of private part-payment for imported items such as wheelchairs, glasses and hearing aids.³¹

MANAGING INFECTIOUS DISEASE

A combination of sources provides a reasonable pool of data for tracking morbidity and mortality outcomes from infectious disease, over one recent decade, in the two countries. The outcomes can conveniently be discussed, disease by disease, in association with the programs employed to manage these diseases.

I. TUBERCULOSIS

Tuberculosis is a parasitic bacillus ingested through particles in the air. BCG (tuberculosis bacillum) vaccination does not seem to affect the transmission of the disease, but as it offers high protection against the most severe forms of the disease it is recommended for very young children. Vaccination is not used for HIV infected patients because it could initiate active disease in them.³²

Both Mexico and Cuba have made substantial progress in reducing levels of tuberculosis in recent years. By 1999 both countries had near complete vaccination for one year olds, but vaccination occurs earlier in Cuba where the infection rate has remained almost half that of Mexico, and with far less disparities throughout the country. There is also an even lower chance of dying from tuberculosis in Cuba. In the year 2000, when Mexico's tuberculosis infection rate was double that of Cuba's, its death rate was more than six and half times higher (Table 2). By this stage Mexico had substantially reduced its deaths, from over 4,000 per year in the mid

³¹ PAHO 2003b, *op. cit.*, note 28.

³² Markku Kuusi. 1994. Tuberculosis. in Kari S. Lankinen, Staffan Bergström, P. Helena Mäkelä & Mikka Peltomaa. *Health and Disease in Developing Countries*. MacMillan. Oxford. P. 183; & WHO. 2004. WHO pushing to rapidly scale-up measures to fight TB and HIV. World Health Organisation. 21 January. www.who.org.

Table 2. Incidence of major infectious diseases, Mexico and Cuba

		1990–91	1995	1997	1999	2000	2001–02
Tuberculosis infection & death rates per 100,000							
Mexico:	Infection	14.7	18.7	20.6	17.2	15.7	
	Death	6.5	4.4	3.8	3.3	2.6	
Cuba:	Infection	5.1	14.2		10	8	7.6 (02)
	Death					0.39	0.32 (01)
HIV infection rate per 100,000							
Mexico		3.7	4.8				3.32
Cuba		0.03	n.a.	0.16		0.15	
Diarrheal death rate per 100,000							
Mexico		22	10.5		6.6		
Cuba		3.5	5		3.4		
Measles infection rates per 100,000							
Mexico							0
Cuba		0.2	0	0	0	0	0
Malarial infection rate per 100,000							
Mexico		18.6	5.4				4.14
Cuba*		4.19	0		0.12	0.34	

Sources: UNDP 2004 (see note 65); BVS 2003 (note 33); PAHO 2003a & 2003b (see notes 41 & 28); SS 2001a (see note 36); MDS 2002 (see note 35); and MINSAP 2000–04 (see note 8); Notes: @ Mexican statistics for TB infection (and nutrition) are ambiguous and unreliable; *Cuba says all malarial cases since the 1980s are from travelers; # blank cells mean data is unavailable.

1990s, to just over 2,500 deaths in 2000. In Cuba, just 44 people died from tuberculosis in 2000.³³

In an international equity study of tuberculosis control in 1990, worldwide, disadvantaged groups were about two and a half times more likely to be ill from tuberculosis than advantaged groups. However Mexico's ratio was 6.7, even more than Brazil at 5.3, but less than Chile at 8 and Jamaica at 25.1.³⁴ According to Mexican Ministry of Health figures, a regional inequality ratio of 5.7 persisted in tuberculosis infection rates, in 2002.³⁵ 62% of those presenting with TB symptoms were at IMSS services, 28% at the public hospital system (SSA), 8.5% through IMSS-Solidarity and less than 1% through the ISSTE. However about 55% of primary treatments were at Public Hospitals (SSA).³⁶ The Health Secretariat claims a

³³ BVS. 2003. Anuario estadístico de Salud de Cuba 2003. Biblioteca virtual de salud. bvs.sld.cu/anuario/.

³⁴ WHO. 1999. *World Health Report 1999*. www.who.org. p. 114.

³⁵ MDS. 2002. Vigilancia Epidemiológica. Semana 50, 08 al 14 diciembre del 2002. Ministerio de Salud. www.salud.gob.mx/epide/. C5.

³⁶ Secretaria de Salud. 2001a. *Programa de Acción: Tuberculosis*. Mexico. p. 29.

Social Values Embedded in Health Systems 323

guarantee of free treatment for all TB sufferers, 'integration of groups [and] . . . continuing evaluation'.³⁷

There was also a surge in tuberculosis in Cuba in the mid 1990s, during the economic crisis, with infection rates rising from a low of 5.1 per 100,000 in 1990 to a high of 14.2 in 1995, before subsiding against to 7.6 in 2002. In 1994 a Tuberculosis Prevention and Control Program was enhanced, to refocus treatment of the disease. The largest group of Cuban cases was in the over-65s, with a rate of 38.9 per 100,00 in 1996, mostly pulmonary tuberculosis.³⁸ There is greater geographical equality in Cuba. Of the 860 cases in 2002 about 85% of which were pulmonary tuberculosis; a quarter were in Havana and the rest were spread fairly evenly over the country. Only Havana, Villa Clara and Ciego de Avila had 1.5 to 2 times higher rates (10.3, 9.7 and 13.3 per 100,000) than the national rate for that year (7.6).³⁹

II. HIV/AIDS

Acquired Immune Deficiency Syndrome is caused by the Human Immunodeficiency Virus (HIV), and is spread through blood, sexual activity and from mother to fetus.⁴⁰ Prevention has focussed on the risk factors—principally education on avoiding unprotected sex but also use of unhygienic needles. Treatment includes specialist care and monitoring, expensive anti-retrovirals and medication for opportunistic secondary diseases. There is as yet no vaccine against HIV, and the cost of AIDS treatment in one year can be simply unaffordable in many poor countries.

The disease is significant in Mexico. In Mexico in 1997 there were 29,962 AIDS cases, of which 16,636 had died and 11,208 were still alive — the status of more than 2000 was unknown. The mode of transmission was reported in over 70% of cases, and of these it was sexually transmitted in 86.5% and by blood transfusion in 13.5%.⁴¹

³⁷ *ibid.*, pp. 35, 42, 46.

³⁸ PAHO. 2003b. *op. cit.*, note 28.

³⁹ BVS. 2002. *op. cit.*, note 33.

⁴⁰ David Tarantola. 1994. The AIDS Pandemic. in Kari S. Lankinen, Staffan Bergström, P. Helena Makela. & Mikka Peltomaa. *Health and Disease in Developing Countries*. MacMillan. Oxford. p. 193.

⁴¹ PAHO. 2003a. Country Health Profile: Mexico. Pan American Health Organisation. www.paho.org/English/sha/prflmex.htm. [data updated for 2001].

The highest rates of infection have been amongst homosexual men, male prostitutes and intravenous drug users.⁴² HIV infection rates for children are also quite high: 2.71 per 100,000 for children under one year, compared to 3.32 for the whole population, in 2002.⁴³

HIV Infection by blood transfusion was a major problem in Mexico in the late 1980s, as there was a market for the sale of blood and testing processes were poor. Infection by blood transfusion fell from 350 in 1988 to zero by 1999, as the sale of blood was banned and greater testing of donations and transfusions was introduced.⁴⁴ In 1997–98 the Federal Government allocated funds to prevention, attention and other HIV/AIDS programs, but again this was spread through the IMSS/Public/Private system, over which the Government claimed to maintain ‘integrated attention’. This coordinated program had as its focal points blood transfusion prevention, perinatal prevention, sexual prevention, integrated attention to patients and mitigation of damage.⁴⁵

HIV/AIDS infections have remained at a very low rate in Cuba. The first cases in the mid 1980s, were amongst heterosexual aid workers, returning from Africa. They were subject to an initial quarantine period, a practice which was discontinued in 1989. During the 1990s the HIV infected population became mainly male and homosexual, and from 1993 to the 2000s an outpatient care program moved most patients from care centres (sanitoria) back to their homes and workplaces. The Cuban strategy involves intense epidemiological study, testing of high risk groups, and community education. After initial problems in accessing antiretroviral drugs, full anti-retroviral treatment was provided free of charge to all AIDS patient by 2003.⁴⁶

International debate over Cuba’s treatment of persons living with AIDS (and especially the use of sanatoria) was heavily influenced by general US polemics against Cuba, and seems to have

⁴² José Izazola Licea. 2000. *Sistemas de información de respuestas nacionales contra la SIDA*. ONUSIDA. Mexico DF. p. 16.

⁴³ Secretaría de Salud. 2003. Información Epidemiológica de Morbilidad. Vigilancia Epidemiología Semana 50, 8 al 14 de diciembre del 2002. Secretaría de Salud. Mexico. www.salud.gob.mx/epide/. p. 337.

⁴⁴ Secretaría de Salud. 2002. *Programa de Acción: VIH/SIDA e infecciones de transmisión sexual (ITS)*. Mexico. p. 18.

⁴⁵ *ibid.* pp. 19, 29.

⁴⁶ Jorge Perez et al. 2004. Approaches to the Management of HIV/AIDS in Cuba. Case study: perspectives and practice in antiretroviral treatment. World Health Organization. Geneva; & PAHO. 2003b. *op. cit.*, note 28.

Social Values Embedded in Health Systems 325

overshadowed proper recognition of Cuba's system of epidemiological vigilance. Widespread HIV testing began in 1986. By 1993, 12 million tests had been conducted, and these tests were reinforced by sexual contact tracing.⁴⁷ Despite the apparent efficacy of this approach, some analysts attacked the vigorous testing program and the initial quarantine policy, as violating the rights to privacy and freedom of movement.⁴⁸ In 1989 Cuba's mandatory quarantine policy was changed to allow patients independent leave from the sanatorium. In 1993 a further policy change introduced the choice for patients between living in a sanatorium or at home. None of these changes stopped the flow of US-based accusations of supposed breaches of rights under the Cuban system. However, both WHO and informed US reports have confirmed that Cuban policies towards persons living with AIDS are consistent with its general policies towards epidemics and involve no breach of rights (in particular freedom of movement, or privacy) under international norms and laws.⁴⁹

One critical US observer noted that, following diagnosis, patients were free to leave a sanatoria 'if they were healthy, had completed the HIV training course [which includes components on "sexual responsibility"] and were enrolled for social services'. If they had health problems they could leave, but this was not recommended. By 2003 almost half of all infected Cubans still lived in sanatoria, by choice.⁵⁰ This choice seems to be influenced by the relatively good conditions and richer diet available at the sanatoriums.⁵¹ Resident patients are free to come and go, and receive daily visits from family and friends. However, by November 2005, with the expansion of an outpatient care system backed by community workers, only 11% (25

⁴⁷ N. Sheper-Hughes. 1993. AIDS, public health and human rights in Cuba. *Lancet*. 342:965–967; E. Perez-Stable. 1991. Cuba's response to the HIV epidemic. *Am J Public Health*. 81:563–567; & Helena Hansen and Nora Groce. 2003. Human Immunodeficiency Virus and Quarantine in Cuba. *JAMA*. 290: 2875.

⁴⁸ e.g. R. Bayer & C. Heaton. 1989. Controlling AIDS in Cuba. The logic of quarantine. *N Eng J Med*. 1989 Sept 21: 321(12): 829–30; & Sheper-Hughes. 1993. *op. cit.*, note 47.

⁴⁹ Jorge Perez et al. 2004. *op. cit.*, note 46; Paul Farmer. 2003. Pestilence and Restraint: Guantanamo, AIDS and the Logic of Quarantine. in *Pathologies of Power. Human Rights and the New War on the Poor*. University of California Press. Berkeley. p. 75; & Aviva Chomsky. 2000. The Threat of a Good Example: Health and Revolution in Cuba. in J.Y. Kim et al. 2000. *Dying for Growth*. Common Courage Press, Maine, 331–357.

⁵⁰ Hansen and Groce. 2003. *op. cit.*, note 47.

⁵¹ Tim Holtz. 1997. Summary of issue of HIV-AIDS in Cuba. APHA Cuba Tour. August 1997. www.cubasolidarity.net/; & Bauza, Vanessa and Tim Collie. 2001. HIV positive Cubans get care but live in quarantine. South Florida Sun-Sentinel. 7 July. p. A4.

of 223) of HIV positive patients in Havana's Plaza municipality were living in a sanatoria.⁵²

By November 2005 there were 32 doctors assigned to HIV/AIDS work, 5422 cases of persons living with HIV, 1,405 deaths and 1454 AIDS cases.⁵³ It has been suggested that the reasons for Cuba's very low rate of HIV infection (20 times less than that of Mexico) include social isolation, improved education, health and housing, and 'aggressive HIV screening and subsequent contact tracing and counseling of infected individuals'.⁵⁴ The isolation factor seems unlikely, as there has been no quarantine since 1989 and, from the mid-1990s, millions of tourists have been visiting the island.

Cuban production of HAART (highly active anti-retroviral treatment) drugs began in 2001, and by 2003 there was 100% HAART coverage of the 1,450 AIDS patients. As a result, deaths from AIDS fell markedly. There were 141 deaths in 2000, and about 70 in 2003.⁵⁵

III. DIARRHEAL DISEASES

Diarrheal diseases are intestinal infections caused by a range of bacteria, viruses and parasites. The major problems are wasting and dehydration, so fluid therapy (oral rehydration therapy, ORT) is the major treatment. Prevention focuses on hygienic conditions, proper nutrition, access to clean (usually chlorinated) water, safe sewage disposal, sanitation and high standards of food preparation, including refrigeration. Improved child nutrition, proper hygiene education (especially of mothers) and good access to medical support are also valuable in reducing the incidence of diarrhea.⁵⁶

In Mexico there was a surge of diarrheal disease in the 1990s, which has not yet properly abated. In 1997 the illness rates rose to 6800 per 100,000, and as of 2001 they remained up in this range.⁵⁷

⁵² MINSAP. 2006. HIV statistics for Plaza Municipality, 1986–2005 (to November 2005). Vedado (Havana).

⁵³ Centro Nacional de Prevención de las ITS/VIH/SIDA. 2005. National HIV statistics. Vedado. Havana. data up to 22 November 2005; also Portilla. 2004. *op. cit.*, note 20.

⁵⁴ Hansen and Groce. 2003. *op. cit.*, note 47.

⁵⁵ Perez et al. 2004. *op. cit.*, note 49. pp. 3–6.

⁵⁶ Timo Vesikari and Benjamin Torun. 1994. Diarrheal diseases. in Kari S. Lankinen, Staffan Bergström, P. Helena Mäkelä & Mikka Peltomaa. *Health and Disease in Developing Countries*. MacMillan. Oxford. pp. 135–146.

⁵⁷ OACNUDH. 2003. *op. cit.*, note 10. p. 70.

Social Values Embedded in Health Systems 327

According to the U.N., the proportion of the Mexican population with access to safe drinking water was 73% in 1997.⁵⁸ The Mexican Department of Health, however, claims that 84.3% had such access in 1999.⁵⁹ While infection rates have remained high, medical treatment has improved, so that the serious consequences of diarrhea, particularly for children, was mitigated. There was increased use of oral rehydration salts,⁶⁰ and clearly also some improved access to skilled assistance and education. Death rates from the disease in Mexico dropped by more than half over the 1990s.

In Cuba there was also a surge in diarrheal illness and deaths in the 1990s, but from a much lower base. Treatment is close at hand, so the seriousness of the disease is generally low. However diarrheal illness shows up large health inequalities between provinces in Cuba, probably reflecting the differences in sewage, water supply and general living conditions. In 2001 inter-provincial differences in mortality by intestinal infection ranged from 1.1 and 1.5 in Sancti Spiritus and Matanzas, to 4.3 and 4.8 in Ciego de Avila and Guantanamo – a differential of 4.4 : 1.⁶¹ Despite improvements in Mexico in the 1990s, and Cuba's economic problems, the Cuban diarrheal death rate was still half that of Mexico.

IV. MEASLES

Measles is a major killer of children, but it is a disease that can be largely controlled through vaccine. Control measures have focussed on (i) early effective immunisation, (ii) systematic vaccination at all health institutions, (iii) vaccination campaigns targeting outbreak areas, (iv) annual campaigns, and (v) good surveillance systems.⁶²

Mexico was slow to extend its vaccination program but now has near universal coverage. The 54% vaccination rate in 1987 rose to 97% by 1997. With fuller vaccination rates there was a 'drastic

⁵⁸ *ibid.*

⁵⁹ Secretaria de Salud. 2001. *op. cit.*, Note 13, p. 180.

⁶⁰ PAHO. 2003a. *op. cit.*, note 41.

⁶¹ BVS. 2003. *op. cit.*, note 33.

⁶² Peter Aaby and Badara Samb. 1994. Measles and its control: dogmas and new perspectives. in Kari S. Lankinen, Staffan Bergström, P. Helena Mäkelä & Mikka Peltomaa. *Health and Disease in Developing Countries*. MacMillan. Oxford. pp.163–176; & WHO. 1999. *op. cit.*, note 34.

reduction' in the disease.⁶³ Cuba had 99% vaccination by 1987.⁶⁴ Both countries now have over 95% vaccination,⁶⁵ and both appear to have eliminated the disease. However in 2004 several dozen cases were reported in the Mexican capital, the Yucatan peninsula and the state of Mexico. There was a quick response, with the Director General of the National Centre for Child and Adolescent Health saying these cases, though few, were 'a matter of national security'.⁶⁶

In Cuba, the 43 deaths from measles in 1970 were reduced to 3 deaths by 1980. The disease has now been eliminated; there have been no registered cases since 1993.⁶⁷ However measles vaccine is still part of basic treatment for all children.⁶⁸

V. MALARIA

The malaria parasite is transmitted from person to person through the bite of the female anopheles mosquito. In most places, 'eradication' has proven impossible, and the mosquito and parasite have developed resistance, respectively, to insecticides and drugs. Current best practice anti-malarial strategy focuses on better drainage, separating mosquito pools from housing, greater use of bed nets, personal repellents and protective clothing, better access to affordable drugs, early treatment, the strengthening of health systems, and spraying in high risk areas.⁶⁹ Treatment of individual cases has involved a series of prophylactic and therapeutic drugs that have tried to keep up with developing parasite resistance.⁷⁰

Malaria was historically a great problem in Mexico. It has been controlled to a large extent, though with significant regional exceptions. A strong resurgence in the early 1980s led to an abandoning of 'eradication' attempts and a recognition that malaria had become a 'disease of poverty and marginalisation' that had to be tackled through a combination of vigilance, vector control, improved

⁶³ PAHO. 2003a. *op. cit.*, note 41.

⁶⁴ WHO. 1999. *op. cit.*, note 34. Annex Table 1.

⁶⁵ UNDP. 2004. Human Development Report 2003. www.undp.org.

⁶⁶ APRO. 2004. Aumentan casos de sarampion. *Voz de Caribe*. 27 abril. C5.

⁶⁷ BVS. 2002. *op. cit.*, note 33.

⁶⁸ Portilla. 2004. *op. cit.*, note 20.

⁶⁹ Secretaria de Salud. 2001c. *Programa de Acción: Enfermedades transmitida por vector*. Mexico [includes malaria program], pp. 54–65.

⁷⁰ WHO. 1999. *op. cit.*, note 34. pp. 55–61.

Social Values Embedded in Health Systems 329

housing and sanitation, education, and improved diagnosis and treatment.⁷¹

However in 2002 malaria was still in seventeen of Mexico's thirty-two states, most strongly in the southern state of Chiapas, where several thousand new cases are registered each year.⁷² A federal 'Action Plan' from 2001 focuses on the worst hit states, with emphases on improved housing, covering watercourses, dealing with various reservoirs for larvae, and the detection and treatment of infections.⁷³ Unfortunately the demand for improved housing in Mexico is massive, with a reported 4.2 million new or improved houses needed nationwide, including 290,000 in Chiapas.⁷⁴

Cuba says it eradicated malaria (not the mosquito) by the late 1960s, but since then there have been occasional imports. New malaria cases in Cuba have been introduced by travelers from South and Central America. The Cuban approach to the disease began with vector control (dealing with stagnant water residues, and targeted spraying) but with a recognition that the mosquito could not be 'eradicated'.⁷⁵ The advantage of the current Cuban system of full registration and vigilance is that every case of the disease can be tracked down and medicated. When there are no carriers, the anopheles mosquito cannot transmit the disease. Such control in a malaria prone region (every country around Cuba has significant malaria) is the result of a very high level of organisation and vigilance.

However there were three Dengue outbreaks (a similar mosquito-born disease) in Cuba in 1981, 1997 and 2002; each one from imported cases. More than 150 people died in 1981, and 12 more in 1997.⁷⁶ In 2002 the disease appeared again in the Santiago region. After 77 days of hard work by thousands of people, the threat was removed. There were no deaths.⁷⁷

⁷¹ Jaime Grajales Albores and Ruperto Quintero Cabanilles. 1997. *Cronicon del Paludismo: cronicon de los aspectos mas relevantes de la lucha contra el Paludismo en Mexico y Chiapas*. Mexico. pp. 65–73.

⁷² Secretaria de Salud. 2003. Información Epidemiologica de Morbilidad. Vigilancia Epidemiologia Semana 50, 8 al 14 de diciembre del 2002. Secretaria de Salud. Mexico. www.salud.gob.mx/epide/; & Secretaria de Salud. 2001. *op. cit.*, note 13. pp. 191–192.

⁷³ Secretaria de Salud 2001c. *op. cit.*, note 69. pp. 54–66.

⁷⁴ Director General of Housing in OACNUDH. 2003. *op. cit.*, note 10. p. 102.

⁷⁵ Portilla. 2004. *op. cit.*, note 20.

⁷⁶ PAHO. 2003b. *op. cit.*, note 28.

⁷⁷ Portilla. 2004. *op. cit.*, note 20.

DISCUSSION

Cuba's generally superior performance in disease control seems underwritten by its universal and guaranteed access to services, along with high levels of well trained health workers. Cuba has a doctor to population rate of almost 600 in 100,000, while Mexico's rate is 200.⁷⁸ Mexico's uneven insurance coverage lets it down, and an expansion of supplementary private services is unlikely to filter through strongly to the worst affected regions. Mexico's recent schemes to extend insurance coverage through associate and family schemes seems to have made little progress and indeed carry significant financial risk.⁷⁹ The centrality of assured access to health outcomes is hardly surprising. Of all the wealthy OECD countries, only the USA does not have guaranteed universal access to services, and it has the worst health indicators of the wealthy group. US infant and maternal mortality figures are well above the average of the top ten OECD countries.⁸⁰ Conversely, good health indicators in the wealthy countries are not only linked to high income levels, but in almost all cases to guaranteed universal access to services.

The Cuban system of full registration of its population, combined with centralised coordination, must contribute to its high levels of epidemiological vigilance. This in turn has helped its follow up services with tuberculosis, HIV/AIDS and diarrhea sufferers. Mexico, by contrast, attempts its epidemiological vigilance and coordination at a federal level, but through a variety of unequal agencies, and generally at state level. Registration and vigilance must also figure high in Cuba's remarkable suppression of malaria, as complete suppression requires targeted fumigation and the identification and medication of every case of malaria. Cuba's HIV infection rate is remarkably low but, contrary to popular belief, this is not mainly due to the early quarantine policy of the late 1980s. More critical is the maintenance of high levels epidemiological vigilance, through ongoing testing, patient registration, tracing of sexual contacts and counseling. To this must be added universal and free access to health care and (since 2001) antiretroviral medications.

⁷⁸ PAHO. 2003a. *op. cit.*, note 41; & PAHO 2003b. *op. cit.*, note 28.

⁷⁹ Victor M Soria. 2004. Pensions in Mexico: a long term risk. *Voices of Mexico*. Issue 66. Jan–March. Mexico. pp. 53–58; & PAHO 2003a. *op. cit.*, note 41.

⁸⁰ UNDP. 2004. *op. cit.*, note 65.

Social Values Embedded in Health Systems 331

With the removal of the quarantine period in 1993, rights concerns over the Cuban HIV program now focus mainly on privacy and the strong pressures for 'contact tracing', along with required classes in 'sexual responsibility'. Many independent observers suggest such that this approach is justified on public health grounds. The human rights formulation of this question would be whether an intrusion on privacy (or freedom of movement) were 'arbitrary'. That is, does it contain 'elements of injustice, unpredictability, unreasonableness, capriciousness and unproportionality', as well as lack of due process.⁸¹ Containing the spread of HIV infection is certainly a valuable public policy, so arguments that the program violated rights would have to demonstrate that some elements of arbitrariness applied, or that there were other effective means of controlling the disease.

The one area where Cuba's indicators showed weakness, including significant regional inequality, was in rates of diarrhea. This is likely related to the run down of the quality of housing and sewage infrastructure, particularly in the 1990s and especially in some of the eastern provinces. This is one area where significant resources are necessary, and where Cuba's limited resources (seriously aggravated by the US blockade) impose constraints on its health system. Much the same could be said for Mexico, except that here the problem is extremely unequal levels of housing and infrastructure, rather than absolute resources. Interstate inequality can be high, but local level inequality can be higher. In one comparison between Mexican counties, researchers found that some well off counties had 25 times the per capita expenditure on health, 20 times the improved water sources, twice the sewage facilities, far fewer hospital births and three times the literacy rate of the poorest counties.⁸² This inequality must have a serious impact on national figures for diarrhea, nutritional deficiencies and tuberculosis.

This Mexican-Cuban comparison allows us to reflect on the importance of distinct social values embedded in the organisational

⁸¹ M. Nowak. 1993. *UN Convention on Civil and Political Rights: CCPR Commentary*. N.P. Engel. Kehl, Germany. pp. 172–3; & Human Rights Committee. 1994. General Comments (Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies). UN Doc HRI/GEN/1/Rev.1. GC16.

⁸² Rafael Lozano; Beatriz Zurita; Francisco Franco; Teresita Ramírez; Patricia Hernández and José Luis Torres. 2000. Mexico: Marginality, Need and Resource Allocation at the County Level. in Rockefeller Foundation. *Challenging Inequities in Health: from ethics to action*. <http://www.rockfound.org/Documents/424/chapter19.pdf>. pp. 284–290.

principles of developing countries' health systems. In particular, universal access and epidemiological vigilance appear to rate much higher than theoretical notions of consumer choice and the simple calls for infusions of capital.⁸³ Mexico presents an example of expanding resources but limited health outcomes in a semi-privatised and fragmented system, with attempts to justify inequalities through such market slogans as 'competitive service provision' and 'consumer choice' in health services. The comparison reinforces the centrality to infectious disease control of social equity through guaranteed universal access to shared services, and the damaging impact of serious regional inequalities in infrastructure as well as health services. The links between social inequality, unequal access to services and poor health outcomes have been noted by others.⁸⁴ The concern is long standing and was behind the WHO's call, a quarter of a century ago, for 'health for all'.⁸⁵

⁸³ e.g. Sachs. 2001. *op. cit.*, note 2.

⁸⁴ e.g. Norman Daniels; B Kennedy; I. Karachi. 1999. Why Justice is good for our health: the Social determinants of health policy. *Daedalus* 128(4): 215–251.

⁸⁵ WHO. 1978. Alma-Ata 1978: *Primary Health Care*. Health for All Series No. 1. World Health Organisation. Geneva.