

# Public health services, an essential determinant of health during crisis. Lessons from Cuba, 1989–2000

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## Abstract

During the 1990s, Cuba was able to overcome a severe crisis, almost without negative health impacts. This national retrospective study covering the years 1989–2000 analyses the country's strategy through essential social, demographic, health process and health outcome indicators. Gross domestic product (GDP) diminished by 34.76% between 1989 and 1993. In 1994 slow recuperation started. During the crisis, public health expenses increased. The number of family doctors rose from 9.22 to 27.03 per 104 inhabitants between 1989 and 2000. Infant mortality rate and life expectancy exemplify a series of health indicators that continued to improve during the crisis years, whereas low birth weight and tuberculosis incidence are among the few indicators that suffered deterioration. GDP is inversely related to tuberculosis incidence, whereas the average salary is inversely related to low birth weight. Infant mortality rate has a strong negative correlation with the health expenses per inhabitant, the number of maternal homes, the number of family doctors and the proportion of pregnant women receiving care in maternal homes. Life expectancy has a strong positive correlation with health expenses, the number of nursing personnel and the number of medical contacts per inhabitant. The Cuban strategy effectively resolved health risks during the crisis. In times of serious socio-economic constraints, a well conceptualized public health policy can play an important role in maintaining the overall well-being of a population.

**keywords** public health, determinants of health, health services, economic crisis, Cuba, international health

## Introduction

The ongoing worldwide financial and economic crisis is the most serious economic downturn since the 1930s. Over the last decades, a long series of local or regional crisis developed in different parts of the world. UNDP (2003) describes the 1990s as the first decade of globalization, in which an 'unprecedented stagnation and deterioration' of the socio-economic situation took place. The crises of the 1990s aggravated the consequences of the prolonged debt crisis since the beginning of the 1980s, during which structural adjustment policies drastically affected social development and health (UNCTAD 1991; UNDP 1992; UNDP, UNCTAD and World Bank 1997).

Between 1987 and 1990, the Peruvian crisis led to a contraction of per capita GDP by 30%. In Lima, the wages collapsed by 80%. Per capita consumption in 1990 was less than half of that in 1985. Inflation skyrocketed from an annual rate of 86% in 1987 to almost 7500% in 1990 (Paxton & Schady 2004). In Argentina, liberalization measures during the 1990s increased poverty dramatically.

Between 1992 and 1996, incomes fell by 7.1%, by another 13% between 1998 and 2001, and during the crisis of 2001 by a further 30%. Official unemployment rose by 32% between 1992 and 2001 (UNICEF & CEPAL 2006).

The collapse of the Russian economy after the breakdown of the Soviet Union (USSR) led to a 29% drop in GDP and overall income shrank by 43% between 1992 and 1998 (Mroz *et al.* 2004). Russia's gross industrial output of 1996 was only 48% of that in 1989. In the Ukraine, it was 50%, in Tajikistan 35% and in Azerbaijan 41% (De Broeck & Koen 2000). In January 1998, the Indonesian rupiah lost nearly 80% of its value, pushing major industries into bankruptcy. Millions of people lost their jobs, sharply heightening poverty levels (Mann 1998; Sussangkarn *et al.* 1999).

Cuba too suffered a severe crisis after the disappearance of the USSR (Garfield & Santana 1997; Campbell 1999; Carmelo Mesa-Lago 1998; Uriarte-Gaston 2004). The situation was exacerbated by a tightening of the US economic embargo (Kuntz 1994). The country lost approximately 80% of its imports and 80% of its exports.

Between 1989 and 1993, the gross domestic product dropped by 34% and the budget deficit increased to 37% of GDP.

Food and medicine imports slowed down severely, but the nearly complete loss of petroleum imports from the USSR (Deere 1991) had the largest impact. Declines in domestic food production and food imports led to serious food shortages in 1993/94. Daily caloric consumption fell from 3052 to 2099 calories per day between 1989 and 1993 (US Department of Agriculture 2008). The peso lost its parity with the dollar and skyrocketed to exchange rates of 150 pesos per dollar (De Vos 2005). Compared with other countries in crisis during that period, Cuba suffered one of the highest per capita GDP losses (Figure 1) (Maddison 2009).

Throughout the 20th century, crises and poor health have been clearly related, through deteriorating health determinants and worsening access to health services (Phua 2011). A protracted crisis can affect the population’s health by income decline and, in turn, declines in food consumption, leading to rising malnutrition and infant mortality. Income decline might also diminish the use of health services.

Crisis place a greater burden on health systems. Less public spending on health disproportionately affects the

poorest and most vulnerable social groups (Abel-Smith 1986; Musgrove 1987). Effects on health outcomes can be limited if public action compensates threats (Cutler *et al.* 2002). The impact of economic crises on health outcomes was documented in Scandinavia between 1950 and 1980: during economic recession mortality and the incidence, mental disorders rose (Brenner 1987).

Russia’s health crisis after the breakdown of the Soviet Union was dramatic; many diseases that had been eliminated or controlled started spreading again (Rozenfeld 1996). Economic decline was associated with important increases in adult mortality (Shkolnikov & Meslé 1996; Shkolnikov *et al.* 1998; Brainerd 2002). Between 1990 and 1994, age adjusted mortality rates rose by 30% (Notzon *et al.* 1998; Alarcon 1999). Overall economic and social instability, poor nutrition, depression, rising alcohol and tobacco consumption and a gradually deteriorating health system were the main reasons for a drastic decline in life expectancy (Notzon *et al.* 1998). Declining household income during the 1997–1998 economic crisis in East Asia, Thailand and Indonesia lowered the demand for private care and transferred it to the underfunded public sector (WHO 2009).

In Peru, the infant mortality rate (IMR) increased sharply around 1990. Public health sector spending

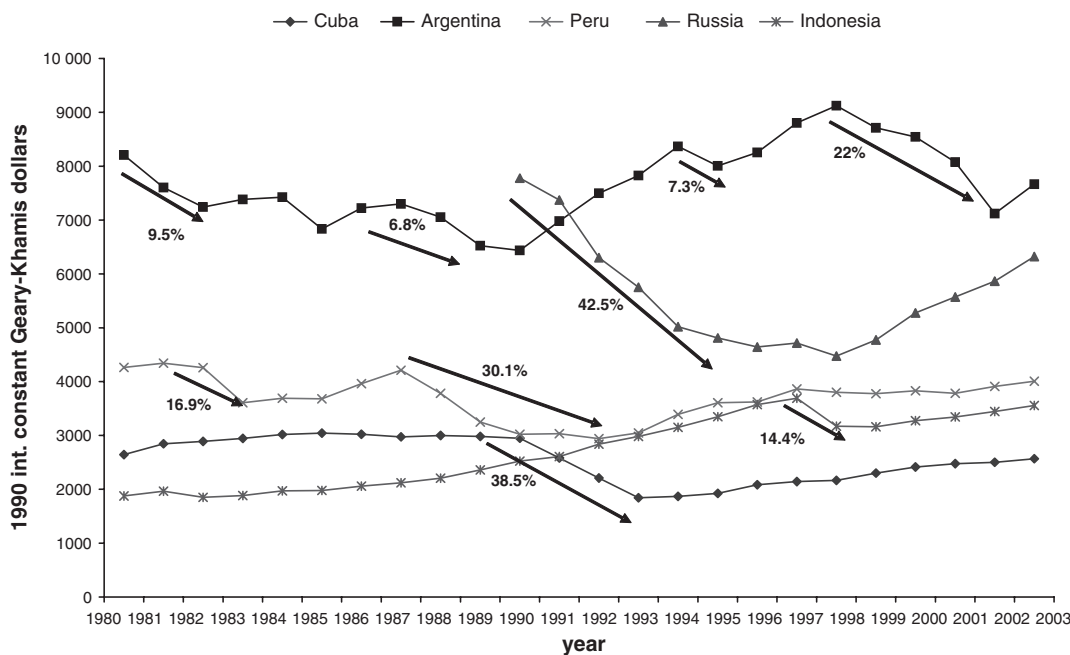


Figure 1 Evolution of per capita GDP in selected countries (1980–2003). Source: Maddison A. Statistics on World Population, GDP and Per Capita GDP, 1-2006 AD ([http://www.ggd.net/maddison/Historical\\_Statistics/horizontal-file\\_03-2009.xls](http://www.ggd.net/maddison/Historical_Statistics/horizontal-file_03-2009.xls)).

declined from 4.3% to 3.0% of the national budget between 1985 and 1990, causing declines in health services use (Paxton & Schady 2004). The 1991 cholera outbreak in Lima (Colwell 1996) spread rapidly (322,562 cases and 2909 deaths reported in 1991) and reached neighbouring countries (PAHO 2003). In 2001, 60% of Argentina's children had no access to health services, and in the following years, health insurance coverage fell from 68% to 55% (UNICEF & CEPAL 2006; Chiara *et al.* 2008).

Since 2008, the worldwide recession has had profound economic, social and health consequences for many countries, such as unemployment, impoverishment and a dramatic drop of social and health care budgets (Stuckler *et al.* 2009, 2010; Marmot 2010).

We here analyse Cuba's endeavours in health during the 1990s. Unlike the European countries now responding to their economic problems by deep austerity mechanisms, the Cuban government sought to maintain social spending and, by all accounts, succeeded. Cuba was able to maintain – and even improve – the overall health status of its population over that period (Evans 2008; Spiegel & Yassi 2004) due to social, economic and sanitary measures the government took to protect the health and well-being of its population (CIP 2008), based on a combined policy of equity and priority for vulnerable groups.

The Cuban strategy is analysed through the evolution of social, demographic, health process and health outcome indicators, and the interrelation between health outcome indicators and other dimensions. We focus on the role of the Cuban health services in the determination of the health situation of the Cuban population between 1989 and 2000. Results are compared with data from other countries that have undergone severe crises over the last few decades.

## Method

In a retrospective study over 1989–2000, Cuban national data were collected on 19 indicators in four dimensions. The National Bureau of Statistics and the National Direction of Statistics of the Cuban Ministry of Health were the main sources of information; other sources were included (American Association for World Health 1997; Castro 1994; Lobe 2001; Minsap 1996; Minsap/OPS 1996; Minsap 1998; Infomed 2006). The final series of indicators was selected from a broader list based (i) on the availability of the information and (ii) as a sample of the overall picture, mainly for health outcomes (Table 1).

Univariate and bivariate analysis were done using the Spearman's rank correlation coefficient. Each indicator

**Table 1** Selected economic, demographic, health outcome and health services indicators for data collection

Economic dimension
Gross domestic product
Average monthly salary (Cuban pesos)
Demographic dimension
Urban population (%)
Population growth rate (per 10 <sup>3</sup> inhab)
Health outcome
Low birth weight (percentage)
Tuberculosis incidence rate (per 10 <sup>5</sup> inhab)
Life expectancy at Birth (years)
Infant mortality rate (per 10 <sup>3</sup> live births)
Health services
Structure
Health expenses per inhab (Cuban pesos)
Number of hospitals
Number of policlinics
Number of maternal homes
Hospital beds per 10 <sup>3</sup> inhab
Human resources
Family doctors per 10 <sup>4</sup> inhab
Nurses per 10 <sup>4</sup> inhab
Services
Emergency contacts per inhab
Medical contacts per inhab
Hospitalizations (per 10 <sup>2</sup> inhab)
Pregnant women in maternal homes (%)

was described through the relative variation from year to year.

## Results

### Economic dimension

As Table 2 shows, GDP diminished by 34.76% between 1989 and 1993. In 1994, a slow but steady recuperation started and continued over the whole period under study. In 1995, the increase was 2.5%, in 1996, it reached 7.5% and in 2000, 5.6%. Nevertheless, in 2000, GDP had only reached 84.5% of its 1989 value. The average monthly salary (in Cuban pesos – not taking into account its sharp devaluation against the US\$) dropped moderately between 1989 and 1993 and then rose continuously. In 2000, the monthly salary was 1.26 times that of 1989.

For the analysis of the economic indicators, limited information was available. Moreover, the relation between the Cuban peso and the dollar is complex: in official transactions, the parity of the US\$ and the Cuban peso is maintained, whereas in the local economy, this parity has been shifting drastically. The value of the Cuban peso fell from 1:1 in 1989 to 150:1 in 1995; the late 1990s economic interventions stabilized its value around 1:25 until today.

Year	Gross domestic product (millions of Cuban pesos)†	Average monthly salary			Population growth rate (per 10 <sup>3</sup> inhab)
		Cuban pesos	Percentage of var 1989	Percentage of urban popul.	
1989	19 586	188	0.00	81.48	0.88
1990	19 008	187	-0.53	84.69	0.89
1991	16 976	185	-1.60	85.09	0.82
1992	15 010	182	-3.19	85.17	0.74
1993	12 777	182	-3.19	85.16	0.72
1994	12 868	185	-1.6	85.12	0.71
1995	13 185	194	3.19	85.33	0.72
1996	14 218	202	7.45	85.67	0.70
1997	14 572	206	9.57	86.04	0.77
1998	14 754	207	10.11	86.19	0.78
1999	15 674	222	18.09	87.11	0.80
2000	16 556	238	26.60	87.63	0.76

**Table 2** Evolution of selected socio-economic indicators, Cuba 1989–2000

Source: Annual of Health Statistics. National Direction of Statistics. Ministry of Public Health 2000.

†Constant 1981 prices.

The double parity – and the double monetary system in the country – renders comparison of health expenses at international level practically impossible, as their value in Cuban pesos reflects 1:1 parity for exported or imported goods such as drugs and medical equipment, and a 1:20 or 1:50 or 1:150 relation – changing over time – for local expenses such as salaries or locally produced goods. This means that the salary increase reflected in the economic indicators is real for the purchase of locally produced food or to pay the energy and telephone bill. However, for most imported goods, the price in Cuban pesos climbed dramatically. In reality, while the Cuban economy in crisis was able to satisfy basic needs – including free health care and education – the overall purchasing power of consumers diminished dramatically. In contrast, the social situation did not suffer the same impact. The State was able to neutralize the negative effect of the crisis to an important degree. Rationing of consumer products was generalized to ensure as much equitable distribution as possible.

From 1993 onwards, economic measures included the extension of independent labour, the cooperation of state farms, the introduction of peasant markets and a controlled opening of the country to foreign capital in the mining and tourism industries. Also, a double monetary system was introduced, as circulation of the dollar was authorized. A dual economy developed – one in Cuban pesos with extremely limited offerings, and one in US\$ (and later in Cuban Convertible Peso) that is accessible to only part of the population (through their specific working situation – tourism, joint-ventures, special bonuses... – or through family support from abroad). This situation

inevitably led to a fracture in the Cuban population between those who have access to hard currency and those who do not.

#### Demographic dimension

During the 1990s, the population growth rate fell, mainly between 1991 and 1993, stabilizing them between 0.70 and 0.72 per 10<sup>3</sup> inhabitants. After 1997, the tendency reversed. Urbanization continued during the whole period and reached almost 76% of the population in 2000 (Table 2).

#### Health services dimension

Cuba's public health system was put under serious strain (Nayeri & Lopez-Pardo 2005; De Vos *et al.* 2005). Table 3 presents results in relation to the National Health System's financing, structure, human resources availability and services offered. Public health expenses per inhabitant (in Cuban pesos) tended to increase, even in 1993, the year of the greatest drop in GDP. At the end of the period under study, these expenses had increased overall by 72%.

The number of hospitals in Cuba, including small rural hospitals and reference hospitals responsible for 150 000 inhabitants, grew from 263 in 1989 to 276 in 2000. The number of polyclinics (serving an average catchment population of 30 000 inhabitants) went up from 420 in 1989 to 440 in 2000. To protect pregnant women from malnutrition and its consequences, the number of maternity homes increased from 148 in 1989 to 258 in 2000. The

**Table 3** Evolution of selected health services indicators, Cuba 1989-2000

Year	Structural indicators					Human resources					Service output indicators			
	Health care exp. per pers.	No. of hospitals	No. of policlinics	Maternity homes	Hospital beds per 10 <sup>3</sup> inhabitants	Doctors per 10 <sup>4</sup> inhabitants	Nurses per 10 <sup>4</sup> inhabitants	Medical contacts per person year	Emergency contacts per person year	Hospital. rate per 10 <sup>2</sup> inhab	Percentage of pregnant women attended in mat. homes			
1989	96.66	263	420	148	6.0	9.22	61.40	6.4	1.9	15.5	24.6			
1990	98.56	266	418	152	6.0	11.18	65.10	6.4	1.9	15.2	24.0			
1991	97.11	267	421	159	6.0	14.08	66.80	6.5	1.8	14.2	26.1			
1992	95.99	270	423	164	6.0	17.09	68.30	6.3	1.7	13.5	27.9			
1993	107.57	277	427	176	6.0	20.21	66.60	5.9	1.6	12.7	29.2			
1994	106.42	278	435	183	6.0	22.96	65.00	6.2	1.6	12.9	32.0			
1995	111.31	281	440	208	6.0	24.81	70.40	6.8	1.7	13.1	33.1			
1996	119.03	281	442	209	6.0	25.81	69.10	7	1.8	12.9	34.9			
1997	125.31	283	440	220	6.1	26.15	73.70	7.1	1.9	13.1	33.6			
1998	132.44	283	440	231	6.0	27.02	74.20	7	1.8	12.5	34.6			
1999	153.52	276	442	241	5.5	26.68	78.30	7.3	1.8	12.3	36.7			
2000	165.99	276	440	258	5.2	27.03	74.30	7.2	1.8	11.9	40.3			

Source: Annual of Health Statistics. National Direction of Statistics. Ministry of Public Health 2000.

number of hospital beds per 10,000 inhabitants remained stable until 1999 and then fell from 6 to 5.2 beds per 10<sup>3</sup> inhabitants.

The number of family doctors grew from 922 to 2703 per 10<sup>4</sup> inhabitants between 1989 and 2000. In 1984, the Cuban government had launched a family medicine programme. Every year, thousands of new medical doctors were trained. This programme continued throughout the crisis. Nursing personnel underwent a less dramatic increase.

The number of medical consultations remained stable between 1989 and 1992 at rather high 6.4 patient contacts per year (pcy). It decreased to 5.9 pcy during 1993, and then increased to 7.2 pcy in 2000. Emergency consultations remained rather stable, whereas the number of hospital admittances dropped from 16 (1989) to 12 (2000) per 100 inhabitants. The percentage of pregnant women receiving care and follow-up at a maternal home increased steadily from 24% to 40%.

#### Health outcomes dimension

Low birth weight and tuberculosis incidence are the most important of the very few indicators that suffered from the crisis situation. IMR and life expectancy exemplify a whole series of health indicators that continued to improve. The low birth weight proportion increased from 7.3% to 9.0% between 1989 and 1993, but then decreased again 6.1% in 2000). Tuberculosis incidence increased from 1991 onwards, and reached its highest level in 1995 (14.2 per 10<sup>5</sup> inhabitants). From 1997, it decreased. It must be mentioned that in 1994, the TB definition changed, now also including sputum negative cases. Using the new definition, the official 1994 figure would have been 14.7 per 10<sup>5</sup> inhabitants, i.e. the real incidence peak (González-Ochoa 2007). Infant mortality continued to fall from 11.1 to 7.2 per 1000 between 1989 and 2000. Life expectancy rose slightly from 74.7 to 76.1 years (Table 4).

#### Observed relations

Health indicators show significant correlation with both socio-economic variables in the study (Table 5, Figure 2): GDP is inversely related to tuberculosis incidence, whereas the average salary is inversely related to low birth weight and IMR and directly to life expectancy. Low birth weight is strongly negatively correlated with the proportion of pregnant women in maternal homes and with health expenses per inhabitant. In decreasing intensity of association, other indicators are the number of maternal homes, number of family doctors and number of nursing personnel. IMR is strongly negatively correlated with health expenses per inhabitant, number of maternal homes,

**Table 4** Evolution of selected health outcome indicators, Cuba 1989–2000

Año	TB incidence (per 100.000 inhabitants)	Percentage of low birth weight	Infant mortality rate	Life expectancy at birth
1989	5.5	7.3	11.1	
1990	5.1	7.6	10.7	74.7
1991	4.7	7.8	10.7	
1992	5.8	8.6	10.2	
1993	7.2	9.0	9.4	
1994	12.0	8.9	9.9	74.8
1995	14.2	7.9	9.4	
1996	13.5	7.3	7.9	
1997	12.2	6.9	7.2	
1998	11.1	6.7	7.1	76.1
1999	10.0	6.5	6.4	
2000	10.1	6.1	7.2	

Source: Annual of Health Statistics. National Direction of Statistics. Ministry of Public Health 2007.

number of family doctors and proportion of pregnant women in maternal homes. Life expectancy has a strong positive correlation with health expenses, number of nursing personnel and number of medical contacts per inhabitant.

## Discussion

Economic problems in Cuba after the breakdown of the Soviet Union were a logical consequence of the integra-

tion of the Cuban economy in Comecon, the economic community of socialist countries around the USSR. Cuba's isolation, caused by the breakdown of the Soviet Union and deepened by the extended US embargo, made it very complex to solve these difficulties. While developing a step-by-step economic response, social and health services policies limited social consequences of the crisis.

The 1984 decision of developing a family doctor programme was strategic in ensuring accessible and holistic community health care. Family doctors were not only trained in curative medicine but also in community strategies for prevention and health promotion. Their preventive efforts are evaluated as having had an important impact on health outcomes. As preventive community activities are time consuming, efforts put in them do not always appear in statistics on services use (contacts per person and per year).

The crisis led to a decrease of population growth rate, linked to a decreasing birth rate. While international migration plays a role (rather limited because of existing constraints), a more important migratory trend is internal, from rural areas to the cities and mainly to the capital.

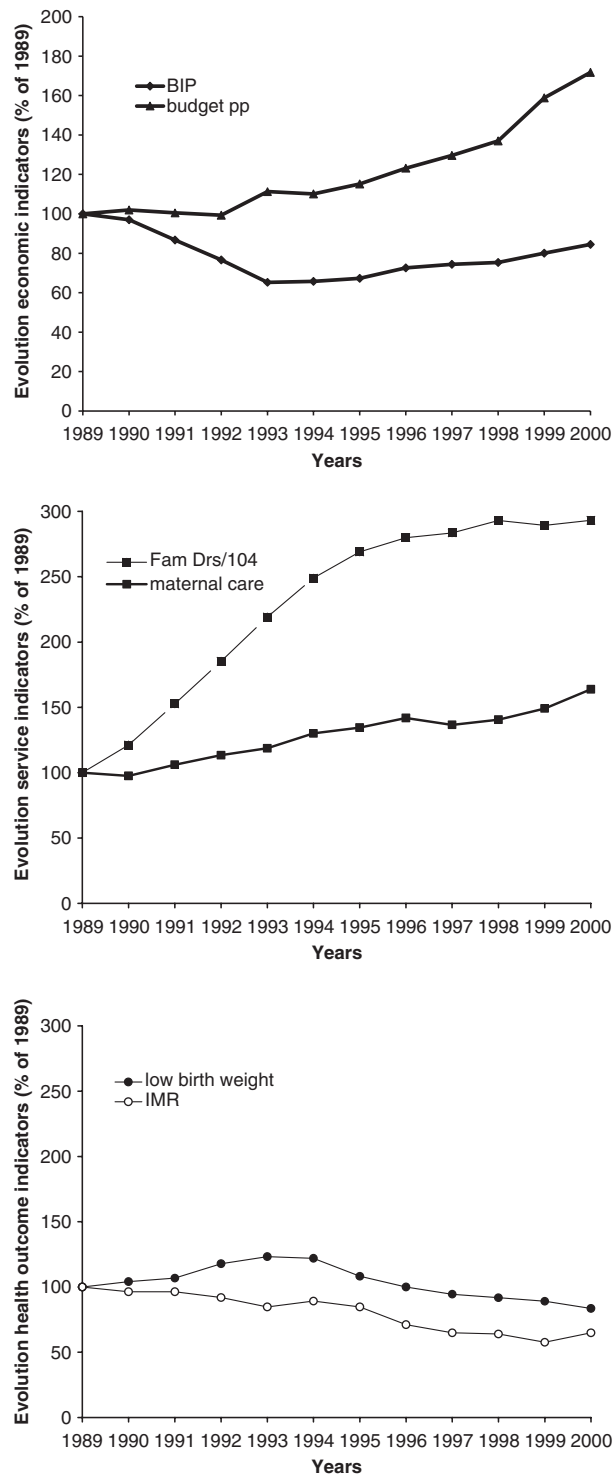
Given the importance of GDP decrease, one might have expected a dramatic deterioration of the Cubans' health. However, the Cuban people managed to come through a profound crisis with minimum effects for their health. Tuberculosis, for example, has been declared by WHO as being a re-emerging disease at world level;

Socio-economic dimension	Health outcome			
	TB incidence	Low birth weight	Infant mortality rate	Life expectancy at birth
GDP	-0.692*	NSA	NSA	NSA
Average monthly salary	NSA	-0.931**	-0.737**	0.99*
Health services dimension				
Per capita health expenses		-0.701*	-0.924**	0.99*
Number of hospitals		NSA	-0.694*	NSA
Number of policlinics		NSA	-0.887**	NSA
Number of maternal homes		-0.634*	-0.956**	0.89**
Doctors per 10 <sup>4</sup> inhab		-0.627*	-0.949**	0.66*
Nurses per 10 <sup>4</sup> inhab		-0.694*	NSA	0.90**
Pregnant women in Mat. homes		-0.758**	-0.928**	0.89**
Emergency contacts per 10 <sup>4</sup> inhab		-0.243**	NSA	NSA
Medical consult. per 10 <sup>4</sup> inhab		-0.297**	-0.326**	0.99**

NSA: no significant association.

\* $P \leq 0.05$ ; \*\* $P \leq 0.01$ .

**Table 5** Spearman Rank correlation coefficient between health outcome variables and the variables of the socio-economic and health services dimensions



**Figure 2** Evolutions of some economic and health indicators, Cuba 1989–2000.

however, the Cuban increase during the 1990s never rose above 14 per 10<sup>5</sup> inhabitants (Herman 2005). Also, low birth weight increased, but never affected more than 10% of births.

How did Cuba achieve these results? The country remained steadfast in trying to fulfil the basic needs of the whole population. Economic and social measures were taken to counter the crisis and, at the same time, to secure social achievements. Before any measure was decided, it was discussed widely in workplaces and neighbourhoods. Only measures supported by a broad social consensus were implemented. The use of the dollar was legalized, certain taxes were introduced, farmers' markets were reintroduced and telephone, gas and electricity prices were put up. The army was called in to take part in agricultural production to supply the local market and reinforce self-sufficiency.

A large degree of equity in relation to important determinants of health was maintained. Nevertheless, some indicators, such as tuberculosis incidence and low birth weight, deteriorated temporarily, mainly as a consequence of the deficient nutritional status of the population, which also led to serious epidemic neuropathy (Román 1994; Almirall *et al.* 1995; Santiesteban 1997).

Health services were an essential part of this strategy. Expenses increased, with more hospitals, more policlinics, more maternity homes, more doctors and more consultations at the front line. By 1989, family doctors covered 49.6% of the population, in 1993, 90% and in 2000, 99.2%. While preventive follow-up – e.g. of pregnant women at maternal homes – increased, hospital admissions decreased. In the late 1990s, when most of the acute threats were over, the number of hospital beds was rationalized (De Vos *et al.* 2010).

The strategy to reinforce the health system through large-scale training of family doctors and a network of doctors and nurses living and working in the neighbourhoods ensured an effective resolution of health risks and problems. Nevertheless, family doctors do not work alone. They are part of an integrated health services system and work with first line policlinics (specialist care, emergencies, laboratory, ...) and refer to hospitals and specialized institutes.

During the crisis, diagnostic support at first line services was very limited. Physical examination and active prevention were central. Wherever possible, hospital-at-home initiatives ensured adequate follow-up of patients in their own environment (Barroso-Utrá *et al.* 2007; De Vos *et al.* 2007; García-Fariñas *et al.* 2008). Also, well equipped emergency services were decentralized to the health areas (De Vos *et al.* 2005, 2008;

García-Fariñas *et al.* 2006). Both programmes ensured quality care and helped to diminish the pressure on the hospitals. Moreover, the Cuban public health system is built on a concept of solid inter-sectorial action and broad participation (Álvarez-Pérez *et al.* 2007a,b, 2008). To reduce maternal malnutrition and low birth weight, pregnant women were referred to collective kitchens of community organizations, state institutions or production units. Education remained a priority (Ibarra & Máttar 1997).

The relation between the socio-economic situation and infant mortality is well established (Silva-Ayçaguer & Duran-Macho 1990; Romero & Landmann-Szwarcwald 2000). Our results show how in Cuba, during the 1990s, this relation was positively 'biased' by the protective role of a well-developed social redistribution and health system, which gave highest priority to the care for mother and child. Ensuring access to health services without any barrier or cost could avoid many of the consequences observed in other countries (Gwatkin 2002; Almeida 2002; López-Acuña *et al.* 2000; Sáinz 2006).

Other countries have also been able to limit the negative health consequences of economic crisis through strengthened health service action. Despite cuts in Finnish health expenditures during a recession in the early 1990s, the publicly funded general hospital system was able to increase services (Keskimä 2003). A comparison of Thailand and Indonesia with Malaysia is interesting. The latter country disregarded the prescriptions of the international financial institutions and followed its own path, extending safety nets and maintaining governmental expenditure in health. Its overall results were far better (Waters *et al.* 2003; Hopkins 2005).

Consequences of crises on wellbeing and health depend on their severity and duration, but the social context in which they take place, the responsiveness of the government and the overall policies that are implemented play an essential role. Perhaps, the most important factor is to the overall governmental policy. In Cuba, there was no place for drastic social cuts. The adaptation to the new context was gradual and collective, with direct participation of the population in decision-making through tens of thousands of neighbourhood meetings since the early 1990s.

An important argument in defence of this Cuban strategy comes from what happened in the ex-USSR, where massive privatization was imposed. An increase in short-term adult male mortality rates ensued, probably mediated by dramatically rising male unemployment rates. Interestingly, association to at least one social organization made this link between privatization and mortality rates disappear (Stuckler *et al.* 2009b, 2010). In the Cuban setting, social

organization was not only important as a 'safety net', it was an essential channel of participation in decision-making.

## Conclusions

Cuba was able to maintain and even strengthen its public health services – especially at the first care level – during the crisis period. This had an important impact on population health. The overall Cuban approach suits the conclusions of the Knowledge Network on Health Systems in its report to the WHO Commission on the Social Determinants of Health. It defines the health system as an important social determinant of health equity, putting emphasis on a primary health care approach while tackling the broader social and political determinants in health (Knowledge Network on Health Systems 2007; WHO Commission on Social Determinants of Health 2008).

In times of serious socio-economic constraints, a well conceptualized social and public health policy – combining adequate curative health services with a broader focus on prevention and multi-sectorial action – can play an important role in helping to maintain the overall health and well-being of a population. A WHO information note on 'the financial crisis and global health' (2009) proposes to make health spending more effective and efficient by ensuring adequate public services. Cuba has shown the possible positive impact of this public approach. Today, the country's economic and social policies continue to adapt to the complex realities of worldwide globalization and ongoing US enmity. Its stubborn search for a radical alternative to neoliberal recipes is an important contribution to the international debate on socioeconomic determinants of health.

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