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## Comparison of health care financing arrangements in Egypt and Cuba: Lessons for health reform in Egypt

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# Comparison of Health Care Financing Arrangements in Egypt and Cuba: Lessons for Health Reform in Egypt

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## **Abstract**

Egypt and Cuba are both lower-middle income countries with a history of socialist rule and which have embarked on economic liberalisation since the 1990s. Health status in both countries is extremely different. While life expectancy of the Cuban population in all age-groups is similar to that of many high-income industrialised countries, health status in Egypt is relatively poor compared to countries with a similar national income and compared to regional comparators. Health care systems in both countries are also markedly different, although both share a socialist origin with centralised administration of funding and delivery, funding mainly from general taxation, and state-employed providers. In this article, health care financing mechanisms in both countries are analysed on their effectiveness, efficiency, and equity, with the objective of identifying the determinants of success in the Cuban health care system from which valuable lessons for current health reforms in Egypt may be derived.

## Zusammenfassung

Ägypten und Kuba sind Länder mit niedrig-mittlerem Nationaleinkommen, die nach mehreren Dekaden sozialistischer Führung seit den 90er Jahren Wirtschaftsreformen im Sinne einer Liberalisierung begonnen haben. Das Gesundheitsniveau der Bevölkerung in beiden Ländern ist jedoch extrem unterschiedlich. Während in Kuba die Lebenserwartung in allen Altersgruppen der Lebenserwartung in vielen industrialisierten Ländern mit hohem Einkommen entspricht, fällt Ägypten im internationalen Vergleich durch seinen unterdurchschnittlichen Gesundheitsstatus auf. Dies sowohl im Vergleich mit anderen Ländern im nahen Osten und in Nordafrika, als auch im Vergleich mit anderen Ländern mit vergleichbarem Nationaleinkommen. Die Gesundheitssysteme in beiden Ländern haben sich in den letzten 20 bis 30 Jahren ebenfalls sehr unterschiedlich entwickelt, obwohl beide ihren Ursprung in zentralistischen Systemen mit Finanzierung durch Steuern und staatlichen Anbietern haben. In dieser Arbeit werden die Finanzierungsmechanismen in beiden Gesundheitssystemen hinsichtlich ihrer Wirksamkeit, ihrer Effizienz und Gerechtigkeit miteinander verglichen, um diejenigen Mechanismen im kubanischen Gesundheitssystem zu identifizieren, die vermutlich entscheidend für den Erfolg sind. Diese Erfolgsfaktoren könnten wertvolle Anregungen für die derzeitige Entwicklung der Gesundheitsreformen in Ägypten bieten.

## 1. Introduction

Egypt's health status is surprisingly poor considering its level of national income <sup>1,2</sup>. Cuba on the other hand achieves an extraordinarily good health status with a comparable national income <sup>3</sup>, and was able to maintain it through a prolonged period of economic crisis in the 1990s <sup>4</sup>. Although both countries are located on different continents and have very different cultures, a number of similarities exist. Notably, both countries have been under socialist rule since the 1950s/1960s and have embarked on economic reforms during the last decade. Both are lower-middle income countries according to the World Bank classification. In contrast to many other low- and middle income countries, both countries have a tradition of training large numbers of health professionals, in particular doctors, and both are net exporters of health professionals.

The Egyptian government currently considers policies to reform health care financing and has started pilot projects with the help of external funding and assistance, notably the World Bank, USAID, and the European Commission.

In this article the Egyptian and Cuban health care financing arrangements are compared in order to determine which successful aspects of the Cuban approach could possibly be translated into the Egyptian context. Health service delivery issues are beyond the scope of this study.

The paper begins with an overview of the two health care systems and their political and socioeconomic environments. A description of the assessment criteria is followed by a comparative analysis of health care financing mechanisms in both countries. The paper concludes with a discussion of the implications of this analysis for the planned health sector reform in Egypt.

## 2. Country situations

### 2.1. Political and socioeconomic environment

Egypt and Cuba are both lower-middle income countries <sup>5</sup>. Since 1990, both countries have introduced measures of economic liberalisation in socialist systems without major changes to their political systems <sup>6,7</sup>. National income levels and income distribution are very similar, although national income estimates for Cuba are somewhat uncertain, as the country does not collaborate with the World Bank or the International Monetary Fund and thus has not been assessed using the same methodology (Table 2.1).

**Table 2.1.** Socioeconomic and demographic indicators for Egypt and Cuba, 2000.

	<b>Egypt</b>	<b>Cuba</b>
<b>Socioeconomic</b>		
Population (millions)	64	11
Area ('000 km <sup>2</sup> )	1001	110
GNI per capita (current US\$)	1530	746 to 2975 (estimated)
Gini coefficient	28.9 (1995)	27 (1978)
Rural population (%)	53	25
Adult illiteracy in males (%)	29	2.3
Adult illiteracy in females (%)	51	2.3
Unemployment	12.5	7.9
<b>Population</b>		
Total fertility rate	3.3	1.6
Crude birth rate	28.4	12.7
Crude death rate	6.4	7.2
Dependency ratio (per 100)	67	45
Percent population below 15 years	35	22
Percent population 60 years and over	6.3	13.4

Sources: 5 8 4,9-11

The demography of the two countries differs markedly. Whereas Egypt struggles to cope with high population growth and associated problems like unemployment of young people, Cuba is facing problems of an ageing society similar to the situation in many developed countries. For other socioeconomic determinants of health there is a wide discrepancy between the two countries, especially concerning gender inequality (Table 2.1.).

## **2.2. Health systems**

### **2.2.1. Egypt**

Egypt has a pluralistic, segmented health system, with many different public and private providers and financing agents. There are four main financing agents: i) the government sector<sup>1</sup>; ii) the public sector, consisting of financially autonomous organisations owned by the government, the largest being the Health Insurance Organisation (HIO) and Curative Care Organisations (CCO); iii) private organisations, such as private insurance companies, unions, professional organisations, and nonprofit non-governmental organisations (NGOs); and iv) households<sup>12,13</sup>. Health care providers in the government sector are the Ministry of Health (MOH), teaching and university hospitals, HIO, and the Ministries of Interior and Defence. Public providers are HIO, CCO, and other public firms. The private sector consists of both nonprofit and profit providers, such as private clinics, hospitals and pharmacies<sup>12</sup>. NGOs are currently one of the fastest growing sectors<sup>13</sup>.

In 1995<sup>2</sup>, health spending totalled E£7.5 billion or 3.7% of GDP, equivalent to E£127 (US\$38) per capita<sup>12</sup>. In 1999 government revenues totalled 23.6% of GDP. Central tax revenues accounted for 15.6%, transferred profits for 3.2% and other, non-tax revenues for 1.8%. Local revenues accounted for 2.9%. Since 1994 total revenues have decreased steadily from 30% of GDP, and tax revenues from 17.9%,

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<sup>1</sup> The government sector is understood in Egypt to refer to the various ministries and departments of the government<sup>12</sup>.

<sup>2</sup> Refers to the Egyptian financial year 1995, i.e. the period from 1 July 1994 to 30 June 1995



respectively <sup>14</sup>. Public financing, mainly from general taxation, contributed 1.6% of GDP compared to private financing which contributed 2.1% of GDP <sup>12</sup>. Social insurance, which accounted for 18% of public funding <sup>12</sup>, is mandatory for formal government and company employees, who contribute 0.5% and 1% of their base salary, and their employers 1.5% and 3%, respectively <sup>13</sup>. 5% of funds were raised by firms, private insurance companies and syndicates, and 51% were spent by households <sup>12</sup>. Foreign donors contributed 3% of funding <sup>12</sup>.

Almost all public monies passed through financial intermediaries before being transferred to providers, whereas more than 90% of household expenditures consisted of direct out-of-pocket payments to private providers and pharmacies <sup>12</sup>. There were three major financing channels <sup>12</sup>:

1. From Ministry of Finance (MOF)<sup>3</sup> to MOH facilities through MOH budget.
2. From Social Insurance Organisation<sup>4</sup> and MOF<sup>5</sup> to HIO.
3. From households<sup>6</sup> directly to private providers and pharmacies.

The use of funds at provider level is visualised in Fig. 2. Less than 60% of MOF funds were actually spent in MOH facilities <sup>12</sup>. The rest was transferred to teaching and university hospitals, HIO and CCO. MOH facilities thus only received 19% of all health sector resources, or 0.7% of GDP <sup>12</sup>. 56% of all resources were spent in the private sector, most of it for the purchase of drugs (63%) or paying for private ambulatory care (17%). Less than 10% of private funds were used to purchase inpatient care <sup>12</sup>.

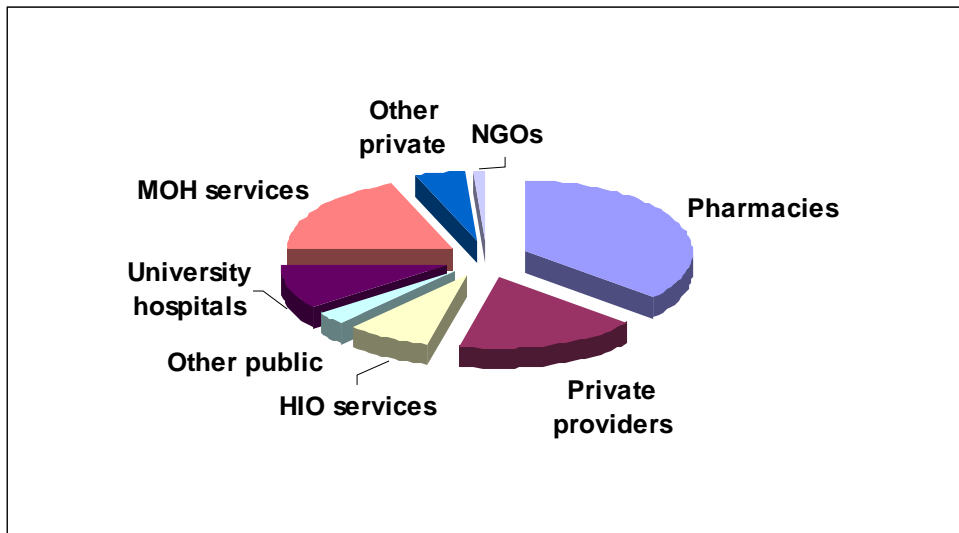
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<sup>3</sup> E£1337 million

<sup>4</sup> E£448 million

<sup>5</sup> E£434 million

<sup>6</sup> E£3780 million



**Figure 2.1.** The Egyptian Health Pound: Use of funds. Source: <sup>12</sup>.

Despite the radical economic policy shift, there has been little change in the overall financing and structure of the health system since 1990. Notable changes were the expansion of social insurance coverage to 10 million schoolchildren in 1993 <sup>13</sup>, and an increase in total health spending from 3.4 to 3.7 of GDP <sup>12</sup>.

### 2.2.2. Cuba

Cuba's health system represents the archetype of a public integrated system, with funding through general taxation, public ownership of all health services, and health professionals who are direct state employees <sup>15</sup>. Financing for the National Health System (Sistema Nacional de Salud - SNS) is almost completely covered by public funds <sup>4</sup>. With the Ministry of Public Health (Ministerio de Salud Pública - MINSAP) as steering agency, it is organised at three levels (national, provincial, and municipal), which mirror the country's administrative structure <sup>16</sup>. Coverage is universal, as all citizens have the right to all health benefits.

Health care provision is exclusively public with a ban on private practice <sup>7</sup>. This includes all kinds of health and social welfare provision, from primary care to drug-exporting companies <sup>16</sup>.

In 1997, health spending totalled Pesos 125.3 million or 6.7% of GDP, equivalent to US\$139 per capita <sup>4,10</sup>. Financing from general taxation contributed 5.5%, private household financing 1.2% of GDP <sup>10</sup>. Private financing for public health services is a new phenomenon in Cuba, which had been introduced in 1990 <sup>10</sup>. It consists of modest out-of-pocket co-payments for drugs prescribed for outpatients, hearing, dental and orthopaedic prostheses, and medical devices such as wheelchairs and crutches <sup>4</sup>.

Before 1990, the Soviet Union and other socialist economies in Eastern Europe represented Cuba's main export markets and source of foreign aid needed because of the economic embargo imposed by the USA <sup>7</sup>. After the collapse of socialism in the Soviet Union and Eastern Europe, Cuba faced a grave economic crisis, during which its GDP decreased by as much as 35% in 1993 <sup>4</sup>, resulting in severe shortages of various basic commodities including food, pharmaceuticals, soap and insecticides <sup>7</sup>. An epidemic of optic and peripheral neuropathy, probably caused by vitamin deficiency, swept the country in 1992/1993 and affected more than 50,000 people <sup>17</sup>. To counteract the health effects of the economic crisis, the Cuban government increased health expenditure steadily as a percentage of public spending from 6.6% in 1990 to 10.9% in 1997 <sup>18</sup>.

### **3. Assessment criteria**

The analysis follows the three E's framework for comparative evaluation of health systems: effectiveness, economy, and equity <sup>19</sup>. Here, effectiveness is defined as improvement in health status <sup>20</sup>. Economy is defined as efficiency at the macro- and micro-economic level, where aspects of productive and allocative efficiency are assessed. Both vertical and horizontal equity aspects will be considered. Horizontal equity will be assessed according to the ability to pay principle, but not the benefit principle, and according to the principle of equality of opportunity <sup>22</sup>. The ability to pay principle requires payment to be organised not according to the benefit received, but in such a way that individuals pay according to their means, whereas the benefit principle requires that those who benefit from a service should pay for it, and that the amount paid should in some way be related to the benefit received <sup>21</sup>.

### **4. Comparative analysis**

#### **4.1. Effectiveness**

##### **4.1.1. Health status improvement**

The effectiveness of health care to improve health on a population level is not directly measurable, as observed improvements in population health cannot be attributed to any single determinant. Furthermore, there is good evidence that other factors' contribution towards good health is more important than that made by health care, such as education, safe water, sanitation, and housing <sup>23,24</sup>. Thus, a general description of the health status in Egypt and Cuba is given here (Table 4.1), together with a summary of health trends over the last two decades (Table 4.2). This is not meant to imply that health care is necessarily the driving factor behind those changes.

**Table 4.1.** Basic health status indicators in Egypt and Cuba

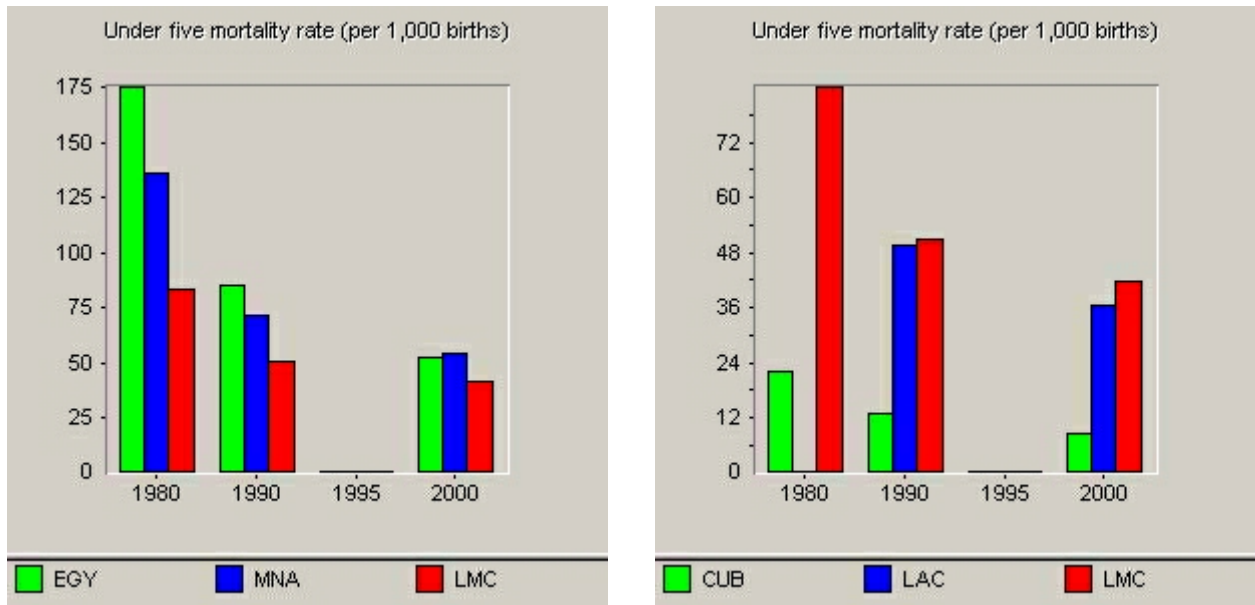
	Year	Egypt	Cuba
<b>Health status</b>			
Life expectancy at birth in years (male)	2001	64.2	74.7
Life expectancy at birth in years (female)	2001	65.8	79.2
Infant mortality rate per 1000 live births	1998	51	9
Maternal mortality ratio (per 100000)	1998/1997	170	22
Probability of dying (per 1000)			
▪ under age 5 years (male)	2001	46	11
▪ under age 5 years (female)	2001	44	8
▪ between ages 15 and 59 years (male)	2001	230	142
▪ between ages 15 and 59 years (female)	2001	160	90
Healthy life expectancy (HALE) in years at birth (male)	2001	56.4	64.7
Healthy life expectancy (HALE) in years at birth (female)	2001	57.0	68.5

Source: 25, 18

**Table 4.2.** Health trends in Egypt and Cuba, 1978-1998

	Egypt	Cuba
<b>Infant mortality rate</b>		
1978	131	23
1998	51	9
% change (1978-1998)	-61,1	-60,9
<b>Male life expectancy at birth (years)</b>		
1978	53	71
1998	65	74
% change (1978-1998)	22,6	4,2
<b>Female life expectancy at birth (years)</b>		
1978	55	75
1998	68	78
% change (1978-1998)	23,6	4,0

Source: 25



**Fig. 4.1.** Under five mortality rates per 1000 births in Egypt and Cuba in comparison to regional rates and all lower-middle income countries, 1980-2000

Source: 26

Cuba and Egypt are on very different levels of the health development curve. Health status in Cuba was already comparable to a country belonging to the Organization for Economic Cooperation and Development (OECD) in 1978 and continued to improve at a rate comparable to OECD countries despite the severe economic crisis. In Egypt, substantial health improvements have occurred in the 1980s and 1990s, such as the reduction in infant mortality by more than 60% (Table 4.2). The country was also very successful in controlling infectious diseases<sup>27</sup>. However, compared to other countries at its level of income, Egypt's health indicators were and remain poor<sup>1,2,12</sup>, whereas Cuba's health status still exceeds the health status of countries of comparable income and the health status of regional comparators, best demonstrated by under-five mortality (Fig. 4.1).

## 4.2. Efficiency

### 4.2.1. Macro- efficiency

Macro-efficiency refers to the proportion of national income devoted to health care<sup>21</sup>. According to economic theory, health services should be funded up to the point when the value of the last health intervention equals the marginal value derived from the next best alternative use to which the resources involved could be put<sup>22</sup>. As in reality neither can be measured on a system level, there is considerable uncertainty about what constitutes the appropriate level of funding for a given country. Pragmatic approaches consist in comparing national health expenditure with i) regional averages, or ii) averages for countries with similar national income, whilst taking effectiveness into account. Table 4.3 summarises the two approaches for Egypt and Cuba.

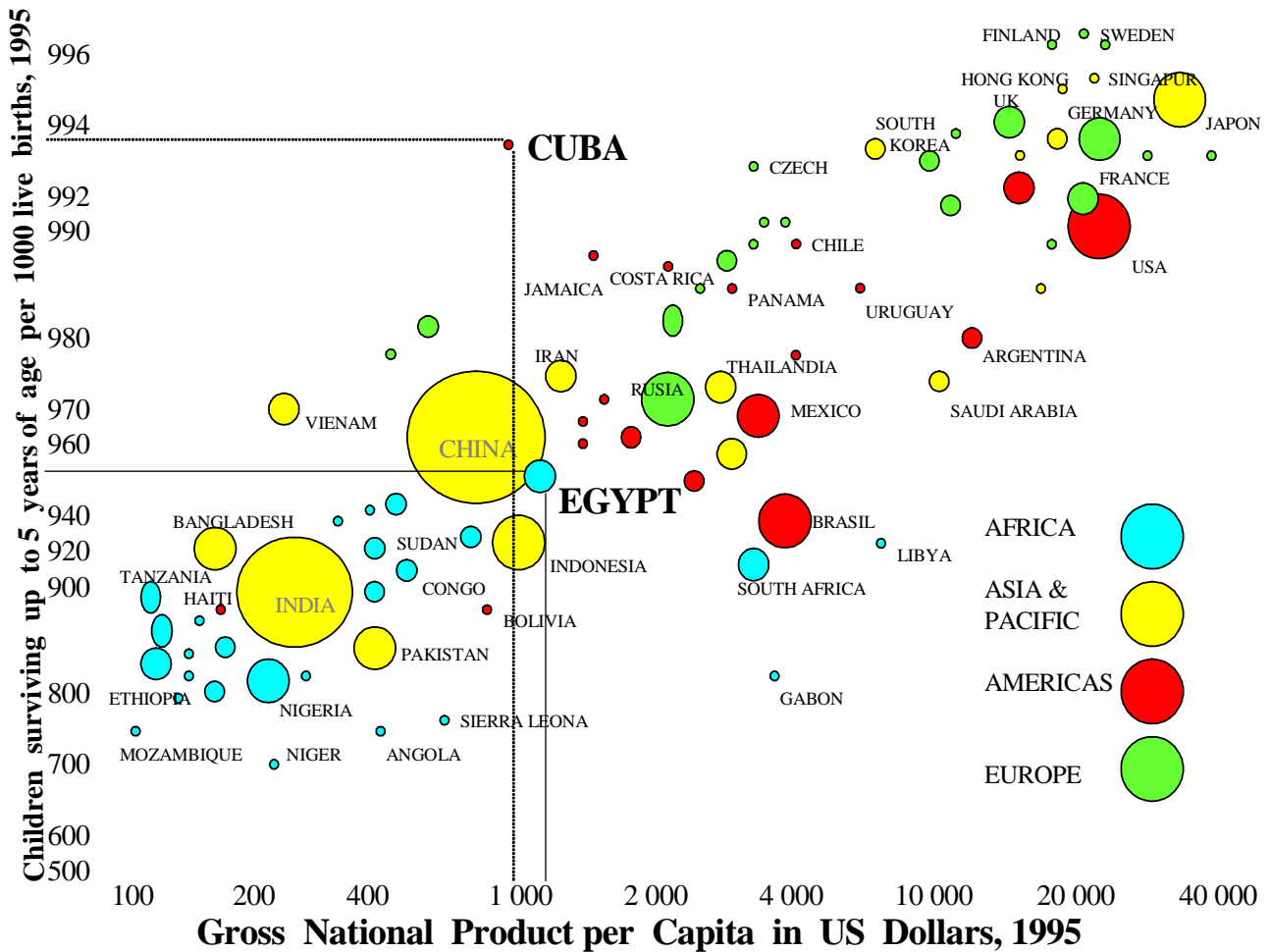
**Table 4.3.** Total health spending and life expectancy in Egypt and Cuba compared to regional averages and the average for all lower-middle income countries, latest available data (1990-2000)

	<b>Total health spending % of GDP</b>	<b>Life expectancy at birth years</b>
<b>Egypt</b>	3,8	67
Regional average (MENA)	4,6	68
<b>Cuba</b>	6,7	77
Regional average (LAC)	6,5	70
Lower-middle income country average	4,7	69

Sources: 10,26,28

With total health care spending at 3.8% of GDP, Egypt spends on the lower side of what is seen in lower-middle income (LMI) countries, and less than most countries in the Middle East & North Africa (MENA) region. Its life expectancy lies below the regional and LMI average. With a total health expenditure of 6.8% of GDP, Cuba

spends just above the regional average and attains one of the highest life expectancies in the developing world (Fig. 4.2).



**Fig. 4.2.** Under-5 survival and per capita gross national product in 177 countries with more than 100.000 inhabitants. Source: Hans Rosling, Division of International Health Care Research, Dept. of Public Health Sciences, Karolinska Institute, Sweden, 1997, cited in 29.

#### 4.2.2. Micro- efficiency



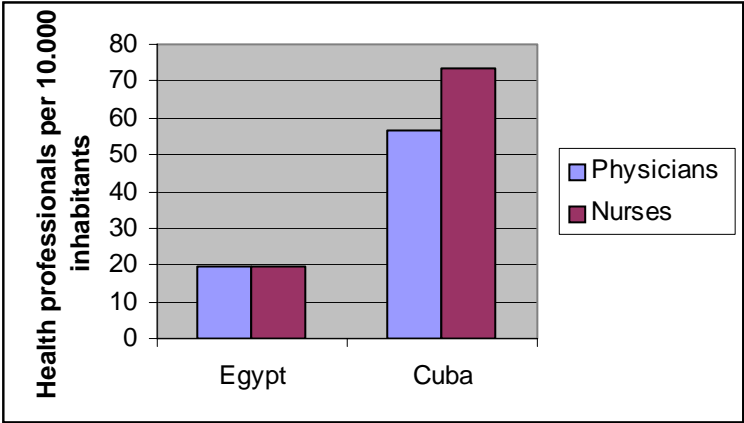
Micro-efficiency refers to the health system's ability to use whatever resources it has to maximum effect <sup>21</sup>. Assessment of micro-efficiency is organised under two heads: productive and allocative efficiency.

**4.2.2.1. Productive efficiency**

Productive or internal efficiency is achieved when the maximum possible improvement in outcome is obtained from a given level of resource inputs or when costs are minimised to obtain a given level of output <sup>20,30</sup>. Prerequisites for productive efficiency are effectiveness and technical efficiency. Technical efficiency, which answers the narrow question of whether the same or a better outcome could be obtained by using less of one type of input and which is a prerequisite for productive efficiency <sup>30</sup>, will not be analysed separately.

*Health professionals input mix*

In Egypt absolute levels of doctors and nurses are 3 to 4 times lower than in Cuba.

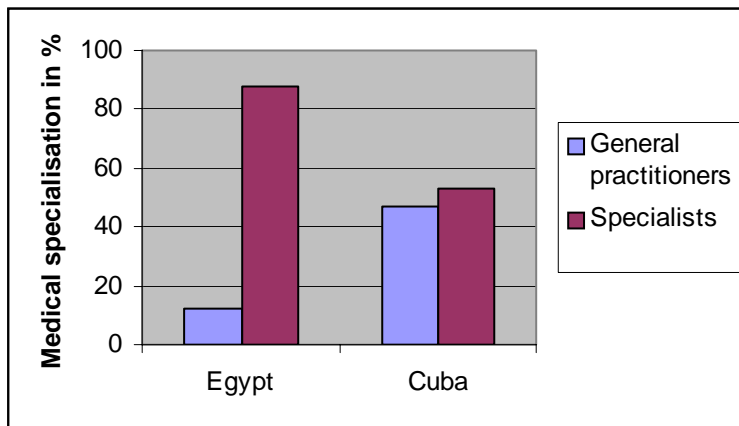


**Fig 4.2.** Number of health professionals per 10.000 inhabitants in Egypt and Cuba

Sources: 13,18

Furthermore, there are as many doctors and nurses, whereas in Cuba nurses outnumber doctors (Fig. 4.2). This indicates economic inefficiency in input mix in

Egypt as services that could be provided by nurses at lower cost are provided by doctors. The inefficiency in input mix is even greater for general versus specialist medical care, as primary care services in Egypt are mainly provided by specialists (Fig. 4.3).



**Fig. 4.3.** Degree of medical specialisation in Egypt and Cuba

Sources: 13,18

### *Hospital management*

The average hospital occupancy rate of 49% in Egypt is clearly inefficient<sup>31</sup>. This is even worse in public hospitals where rates average 40% compared to 60-70% in private hospitals<sup>31</sup>. The severity of inefficiency of such low occupancy rates in public hospitals is made clear, if one takes into account that private hospitals in Egypt already struggle to remain profitable at 60-70% occupancy rates<sup>31</sup>. The average occupancy rate in Cuba of 71%<sup>18</sup> is approaching that of many countries in Western Europe which range between 61% in the Netherlands to 84% in Switzerland<sup>32</sup>.

### *Coordination between providers and across subsectors*

In Egypt, financing and management is completely fragmented with 29 different public agencies involved<sup>31</sup>. This precludes efficient and equitable risk pooling as well as a consistent policy focus or consistent incentives for efficiency<sup>31</sup>. Duplication of services and administrative structures is common.

Cuba on the other hand has one integrated system under central control. This brings with it a different set of inefficiencies typically seen in large public institutions, like a mismatch between central planning and local need resulting in waiting lists, which the government tries to counterbalance through a decentralisation process and improvements in information flows between the different levels of the system<sup>18</sup>.

### *Incentives for efficient institutional and provider behaviour*

The fragmentation and subsequent lack of coordination of the Egyptian financing system result in strategic behaviour among provider institutions<sup>31</sup>. On the individual provider level, public salaries are so low that multiple job-holding is quasi-universal among Egyptian doctors and the potential for earnings in the private sector is also modest given the relative over-supply of physicians<sup>33</sup>. There is indirect evidence, that some doctors limit their commitment to public services to work in private practice<sup>33</sup>.

Cuban health professionals are all state employees and private practice is banned. Although some perverse incentives like self-referrals to private practice are thus not seen, the usual inefficiencies associated with low remuneration levels and public salaries are to be expected, like inappropriate referrals, low motivation and reduced courtesy towards patients<sup>20,34</sup>.

### *Availability of medical equipment, supplies and adequacy of buildings*

There are reports from both countries that both adequacy of health care facilities and supply with essential drugs or maintenance of medical equipment is problematic<sup>18,31</sup>. These problems have intensified in Cuba during the recent economic crisis, in particular repair of high-tech medical equipment is a big problem<sup>18</sup>.

#### **4.2.2.2. Allocative efficiency**

Allocative or external efficiency refers to the way resources are divided between alternative uses within the health sector<sup>22</sup>. It implies productive efficiency<sup>30</sup>. The theoretical foundation of allocative efficiency rests on the Pareto criterion: a resource allocation is efficient if it is impossible to move to an alternative allocation which would make some people better off and nobody worse off<sup>35</sup>. Among other conceptual difficulties, strict adherence to this principle would preclude changes that would make many people much better off at the expense of a few made slightly worse off<sup>30</sup>. An operational utilitarian decision rule is often used instead: allocative efficiency is achieved when resource allocation maximises social welfare<sup>30</sup>.

### *Incentives to provide cost-effective procedures*

Economic theory would predict that in Egypt, where most primary care services are provided in the private sector, preventive services with positive externalities like immunisations are undersupplied as price signals do not reflect the social and financial costs of production<sup>36</sup>. Indeed only 79% of children receive the complete Expanded Programme of Immunisation (EPI) schedule in Egypt<sup>9</sup> compared to 99% in Cuba<sup>18</sup>. As payments in the private sector are predominantly fee-for-service, supplier-induced demand is likely to occur in Egypt.

Other measures to encourage cost-effective behaviour are taken in Cuba. For many prevalent conditions standardised treatment plans have been developed<sup>18</sup>. An

essential drug list with 904 compounds is applied <sup>18</sup>, whereas in Egypt irrational and over-prescribing is an important problem which is reflected in pharmaceutical consumption and spending being 50% higher than in comparable countries <sup>31</sup>.

#### *Distribution of expenditure on different levels of care*

In Egypt, public health is poorly targeted, as the focus is on expensive tertiary care <sup>31</sup> and primary care is largely left to the private sector. The reverse is true in Cuba, where the hallmark of the system is the integration of public health into service delivery, in particular through primary care services <sup>29</sup>. In Cuban primary care, one family doctor, often with a nurse partner, cares for around 150 families, whom they know intimately and put as much effort in keeping them healthy as in providing care when they are sick <sup>29</sup>.

### **4.3. Equity**

#### **4.3.1. Vertical equity**

Vertical equity is concerned with the redistribution of income or consumption from the rich to the poor <sup>22</sup>.

Health care financing in Egypt is highly inequitable with 57% of expenditures being paid by households, mostly in the form of direct out-of-pocket payments to providers <sup>12</sup>. Out-of-pocket payments are the most regressive type of contribution to health care. Even the distribution of the 43% public spending is regressive. The poorest income quintile receives 16.4% of public health expenditures compared to 23.6% for the richest quintile <sup>37</sup>. Less than 40% of the general population, and only 15% of those over 15 years of age benefit from social insurance coverage <sup>13,31</sup>. Social insurance with nearly 50% contribution from general revenues resembles more a subsidised public finance scheme than a true insurance, which only benefits formal sector workers <sup>12</sup>, and even excludes spouses and children of employees <sup>13</sup>. As

with other forms of insurance, both adverse selection and patient and provider moral hazard are likely to occur in Egyptian health insurance schemes. A positive feature is the protection from catastrophic illness costs through the safety net offered by MOH services.

Cuba on the other hand finances 83% of health services out of general taxation <sup>10</sup>, which is the most progressive way to finance services. User charges only exist in the form of modest co-payments for drugs and medical supplies. User fees were only put in place during the economic crisis to raise funding and not as a measure to curb demand. Payments are very limited to avoid catastrophic illness costs and minimise financial barriers to access, and an exemption scheme for the poor is operated <sup>18</sup>.

#### **4.3.2. Horizontal equity**

Horizontal equity concerns goals like minimum standards for goods or services, for which supply in a free market would not meet social demand because of failure of one or more of the standard assumptions as is the case in health care, or equal access to them and the closely related concept of equality of opportunity <sup>22</sup>.

For Egypt, there is plenty of evidence for horizontal inequity by income, gender, and geography. Because of the high percentage of out-of-pocket payments, ability to pay is a major barrier to accessing health services. MOH, the different social insurance organisations, and private providers all offer different benefit packages, which is counter the goal of equal treatment for equal need. Public spending is strongly biased towards males, who receive 20% more per capita funding than females, although utilisation rates are higher for women like in most countries <sup>37</sup>. This is largely due to the pronounced pro-male bias in HIO spending, where males receive almost three times the level of benefits as women <sup>37</sup>. Per capita public spending is 67% higher in richer urban areas compared to poorer rural regions <sup>31</sup>.

There is also an important geographic disparity of service delivery in Egypt. Utilisation rates for ambulatory and hospital care are nearly double in urban compared to rural regions <sup>38</sup>. These inequities in financing and delivery are certainly

one reason for infant and child mortality being three times higher, and maternal mortality being five times higher in rural compared to urban areas <sup>31</sup>.

Cuba on the other hand is one of the few developing countries achieving real universal coverage. This is exemplified by 100% of women receiving prenatal care and attended deliveries by trained personnel <sup>18</sup> compared to 39% of mothers receiving prenatal care and 46% attended deliveries in Egypt <sup>9</sup>. There is little variation in health indicators and health care utilisation between urban and rural populations. For instance, in 2001 infant mortality ranged from 4.4 to 9 deaths per 100.000 births in the 14 provinces and the Isla de la Juventud, with urban rates (Habana City with 6.7 deaths) close to the average of 6.2 deaths <sup>39</sup>. Data on health expenditure or health status variation by income class are not available. However, major disparities are unlikely given the overall social structure in Cuba.

## **5. Implications of key findings**

From the comparison between Egypt's and Cuba's health systems, valuable lessons can be learned for health sector reform in Egypt. Although both countries made a rhetoric commitment to universal coverage and access to care <sup>13,18</sup>, only Cuba designed its health system to achieve these goals.

The first lesson is that it is possible to achieve excellent health status that is equitably distributed in a lower-middle income country. This was only possible, because the Cuban government committed sufficient public funds to health care.

Egypt's current total and public spending on health is clearly macro-inefficient, and its government would have to raise public spending on health substantially.

At the same time, it would have to make sure that the prevailing inequities in financing are reduced. Vertical equity can only be improved through a reduction in out-of-pocket payments and an increase in the provision of services funded through mechanisms based on solidarity and risk pooling. From the two main options that

already exist in Egypt, general taxation and social insurance, funding through taxation is more progressive and has been chosen in Cuba.

The second lesson is that the current fragmented financing and provision system creates more inefficiencies than a single, public integrated system, which of course is not without problems. Parallel subsystems are clearly micro-inefficient as they create perverse incentives, duplication of services, and higher administration costs as well as lower purchasing power of fundholders. This is best exemplified by the 40% occupancy rate in public hospitals, which are often located side-by-side with HIO and private hospitals.

The third lesson is that if too much leeway is left to the private sector, services will not be provided in an externally efficient or equitable way. Cuba went to the extreme of banning private medical practice, successfully. The political feasibility of such an extreme measure in Egypt is probably low. However, much stronger regulation of the private sector is urgently needed. An impressive amount of resources in this underfunded system is wasted for inappropriate and expensive pharmaceuticals and for providing tertiary care of low cost-effectiveness, whereas the most basic, highly cost-effective interventions are not available to everyone. The emphasis on cost-effective, basic public health interventions into primary care has been very successful in Cuba. Prospective provider payments, both on an institutional and individual level, that provide incentives for efficient behaviour have to be implemented. Alongside other measures such as treatment guidelines, essential drug lists, and quality assurance mechanisms, which are all practised in Cuba, should be instituted.

The fourth lesson is that horizontal equity in financing and delivery is key to good health. Cuba made a particular effort to overcome financial and geographic barriers to accessing health care. This involves again the minimisation of out-of-pocket payments, but also a process of active redistribution of funds and delivery to disadvantaged regions and groups.

Finally, health care cannot be seen in isolation. Equitable investment in other sectors, in particular education, may be even more important in improving population health than health care itself 1,23.



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