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# Limited Financial Resources Need Not Mean Poor Health Outcomes

By José Miyar MD

Esteemed Dr Gill Samuels, Chair of the Foundation Council of the Global Forum for Health Research;

Dr José Ramón Fernández, Vice President of the Council of Ministers;

Dr José Ramón Balaguer, Minister of Public Health;

Distinguished leaders and specialists of the Global Forum;

Representatives of the World Health Organization and the Pan American Health Organization;

Distinguished visitors accompanying us who have shared the unfolding of this very important event, dedicated to the extraordinary role of science and innovation as essential factors for achieving health for all peoples.



This event has been characterized by rich exchanges, valuable experiences and the worthy objectives we have in common, shared in an atmosphere of friendship, understanding, respect and fraternity. For Cuba, it has been a great honor to receive you.

Once again, I would like to salute the initiative to hold this Forum in our country, giving us the opportunity to deepen our quest for better health for the world's peoples, and to reaffirm that working together, a better world is possible. For our part, we have opened our arms, minds and hearts to join you in pursuit of these objectives, enhanced by the diverse points of view and thoughtful opinions expressed here.

This meeting has been held at a time of transcendental importance for humanity. The world is immersed in a devastating economic crisis that has shaken the entire global economy to its core.

Unrestrained expansion of extreme poverty amidst a world population expected to reach 7 billion by 2012—growth almost entirely in Third World countries—is a challenge for all those who, like us meeting here today, struggle to put science and innovation to work for everyone.

Add to this the danger of the environmental crisis, its destructive consequences, and the grave threat it represents for all the world's peoples. Expansion of extreme forms of marginalization, devastating poverty, the food crisis, and lack of access to something as elemental as water for billions of the Earth's inhabitants are realities derived from the abysmal difference between rich and poor countries; between wasteful and egocentric nations, whose consumerism has brought on the creeping destruction of vital life processes on our planet, and the immense majority in the underdeveloped world for whom the most basic living conditions have not been ensured.

Just a few weeks ago, we were privileged to receive in Cuba the Director General of the World Health Organization, Dr Margaret Chan. Her brilliant conceptualization of health services, and the fundamental importance and priority accorded by the WHO to primary care as the pillar of health systems, strengthened the organizational principles Cuba has applied over many years. These are expressed in the polyclinics, family doctors, and the community itself participating in and receiving the standard and quality of care to which we all aspire.

The state of health of the world's people—like the state of the planet itself—will determine the future course of humanity.

Just over 30 years ago, the Declaration of Alma-Ata on primary health care established the goals of "Health for All". But today, humanity is far from achieving these goals, and even though some countries have advanced in developing their health systems, this is often accompanied by disparities and exclusions from access to care. Other countries have fallen behind, among other reasons, as a consequence of the changes engendered by a globalized world, plagued by economic crisis and climate change, and by lack of political will. In these countries, public health systems are disappearing altogether, and human capital is rapidly being lost due to brain drain and active recruitment by more developed countries.

Even today, most health systems in the world depend on the least equitable form of service provision: among other things, direct fee-for-service payments by patients themselves or their families in order to receive essential curative care. In low- and middle-income countries, over half of all health expenditures come right from the pockets of the 5.6 billion people living there. This system deprives many families of the care they need because they simply cannot afford it—not even essential, inexpensive and highly effective prevention measures such as vaccination against over ten diseases.

In today's global context, even in countries with greater economic resources, the need to regain a primary care perspective is reaffirmed daily, not simply as an organizational concept for health services, but as a set of values and principles that orient health systems towards populations at risk, promote equitable access to services, and notably improve quality and efficiency at lower cost.

As indicated in various presentations at this event, Cuba's health system rests fundamentally on the concept of bringing services closer to the population and on active public participation based essentially on primary health care. This approach has resulted in vast improvements in the quality and efficiency of the main health programs at household and neighborhood levels. Primary health care is complemented by and integrated with hospitals, institutes and other services at higher levels of care, including those representing the most advanced science, research and technology.

Today, Cuba's primary health care network includes 499 polyclinics throughout the country and 32,289 family physicians, the majority of whom are fully integrated in communities. The rest of the system complements and supports health programs implemented at the primary level.

As noted in reports by the WHO and other international agencies, Cuban public health has clear achievements to its credit, reflected in the country's main health indicators and other outcomes amply described in various sessions of this event. These outcomes are the result of:

First of all, the political will of the revolutionary leadership, which prioritized health and understood it as an immediately attainable right and not a far-off consequence of economic development. In fact, we see that improved population health is a prerequisite for economic development, not the reverse.

Second, attainment of social justice. No effective health policy is possible in an unjust society, divided between a wealthy few and a great mass of marginalized poor. The standards of health attained in Cuba—on par and sometimes better than those in highly developed nations, despite the country's low GDP per capita—eloquently demonstrate that health is more sensitive to equity than to wealth. If what one has is distributed well, then health indicators improve.

Third, the concept of "health coverage". All health services must be available to everyone. It is a scientifically proven fact that broad coverage is the main factor determining impact of any health intervention.

Fourth, the priority afforded to developing human resources for health, which has given us the highest ratio of health professionals per capita of any country, and made possible extensive international solidarity in the health sector.

Another key aspect of Cuban public health outcomes has been their underpinning in science. Beginning in the 1960s with accelerated assimilation of the world's best medical and health knowledge, this scientific foundation was later extended to the establishment of the Ministry of Public Health's research institutes, then to development of medical specialties, and finally in the 1980s, to creation of the Western Havana Scientific Pole and Cuba's biotechnology industry. The revolutionary leadership has always

given full support to the health system's scientific development, even in the worst years of the US economic blockade.

The impact of biotechnology on public health merits particular reflection in the context of this Forum, as an expression of the triple interaction among science, industry and the health system. Biotechnology is a very young scientific, technological and industrial sector, started mainly in the United States at the end of the 1970s. It was developed almost simultaneously in Cuba, with the first center opened by President Fidel Castro in 1981. He was in fact the one who, as early as January 1960, declared that "the future of Cuba must be a future of men and women of science, of thought". He conceived the project, and, together with numerous scientists and other experts, developed Cuban biotechnology as an advanced branch of science and technology, and as an industry with enormous potential. His persistence, vision, confidence and personal support facilitated notable advances in this field, as in many of the country's other essential activities.

Today, over 10,000 scientists, engineers and technology experts work in dozens of research and production centers in Cuba's biotechnology and high-end pharmaceutical industries. National research has enabled introduction of more than 150 products, some quite novel, into the health system, as well as exports to over 50 countries, making these industries an important export sector of the economy. Such an achievement, resulting from the connection between science, production and the economy, would be important in itself. But there is something more important, especially in the context of this Forum: the distinguishing feature of Cuban biotechnology is its profound connection with the health system, resulting in a concrete impact that has improved health indicators in the whole population.

### Health impact is a much more demanding indicator than development of a new product

Biotech firms in other countries—mainly in wealthier countries where some 5,000 companies are located—develop products, and some of these make profits from their sale. But it is not clear that they have made an impact on population health indicators. Health impact is a much more demanding indicator than development of a new product: it requires that products successfully pass rigorous trials leading to registration, that industrial scale-up of their manufacture is possible; and what's more, that there is a health system capable of putting these products within reach of all who need them and of inserting them in "technological health packages" in combination with other interventions to solve specific health problems.

The fact that Cuba has a highly effective recombinant hepatitis B vaccine is an achievement. But a much greater achievement is that the incidence of hepatitis B has reached zero among children and has dropped drastically in adults. This illness, wreaking havoc worldwide, is on its way to eradication in Cuba.

The fact that Cuban biotechnology produces antigens for eight vaccines used in a mass childhood vaccination program against 12 diseases is an achievement. But a greater achievement is the nearly 100% coverage of Cuban children—free of charge—by these vaccines, including those for meningococcal meningitis and *Haemophilus influenzae* type b (Hib), for which Cuba's vaccine is the first in the world using a synthetic antigen. As a result, in-

cidence and mortality from these diseases are almost zero, and infant mortality has decreased to 4.7 per 1000 live births in 2008. Vaccination and a host of comprehensive health programs, along with additional measures adopted by the health system, have already led to elimination of 5 diseases in Cuba and control of a number of others.

Another achievement of Cuban biotechnology is national production of recombinant erythropoietin; but a greater achievement is that this high-cost product is available to 100% of patients with chronic kidney disease and other serious diseases requiring it.

Production of immunodiagnostic systems, assisted by computers and reagents, is also an achievement of Cuban science. But a greater achievement is that 100% of pregnant women are tested with modern prenatal diagnostic methods capable of screening for over 20 conditions, and that transmission of viral diseases through blood transfusions has been eliminated.

And we could cite many other examples.

The concept is that for the Cuban biotech industry, population health and health programs, science must achieve products, but what comes after is not simply a “commercial operation”, but rather a commitment to introduce the new technology into the health system with broad coverage and to evaluate its impact on health indicators.

Concrete examples are the links between the Finlay Institute, which produces our vaccines, and other biotech centers with the Ministry of Public Health’s vaccination programs; the link between the Immunoassay Center and the national Maternal-Child Health Program; and between the Molecular Immunology Center and national programs for control of cancer and other devastating noncommunicable chronic diseases, through application of their achievements in the primary health care system.

What we are addressing is the false dichotomy between high-tech health care (often reserved for elites) and low-tech primary health care (for the broad population). The key is developing

both to serve everyone. Moreover, the two strategies should mutually strengthen each other, resulting in a health system that is high-tech and at the same time offers ample coverage based on strong primary care. That is the secret. This also requires building national capacity for scientific research, production and application.

Is this difficult? Without a doubt. It takes a lot of effort and commitment, but not so much money. Limited financial resources do not condemn a country to poor health if the resources are distributed and used well, and if we train health and science workers committed to their mission and their people. If there is one contribution Cuba can make in this field it is to prove that **it can be done**.

I believe that an essential result of this event should be to suggest to the WHO that a fundamental goal for the international community should be to support those countries whose health services have been devastated and that have lost personnel by ensuring them the minimum resources necessary to attain the goals proposed here.

Cuba, a poor and underdeveloped country, has borne the brunt of nearly half a century of a brutal economic blockade. During the same 50 years, in a world plagued by exploitation, inequality, poverty and injustice, it has demonstrated that the moral and ethical value of solidarity dignifies and elevates those who practice it. Such solidarity is at the heart of our internationalism, guiding our commitment to cooperation with dozens of countries in the Third World through programs that reach and benefit millions of poor people, representing the highest degree of humanism a country can offer to this world.

Thank you. 

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*Editors’ Note:* Remarks delivered by Dr José Miyar, Cuban Minister of Science, Technology & the Environment, at the plenary session of Forum 2009: Innovating for the Health of All, November 20, 2009, Havana, Cuba.