Bridging the divide: global lessons from evidence-based health policy in Mexico

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During the past 6 years, Mexico has undergone a large-scale transformation of its health system. This paper provides an overview of the main features of the Mexican reform experience. Because of its high degree of social inequality, Mexico is a microcosm of the range of problems that affect countries at all levels of development. Its health system had not kept up with the pressures of the double burden of disease, whereby malnutrition, common infections, and reproductive health problems coexist with non-communicable disease and injury. With half of its population uninsured, Mexico was facing an unacceptable paradox: whereas health is a key factor in the fight against poverty, a large number of families became impoverished by expenditures in health care and drugs. The reform was designed to correct this paradox by introducing a new scheme called Popular Health Insurance (Seguro Popular). This innovative initiative is gradually protecting the 50 million Mexicans, most of them poor, who had until now been excluded from formal social insurance. This paper reports encouraging results in the achievement of the ultimate objective of the reform: universal access to high-quality services with social protection for all.

More than ever before, the world needs comprehensive responses to complex problems. Few other settings illustrate this need as clearly as the national and global efforts to improve health. Three-fifths of the way into the deadline for the Millennium Development Goals, most countries are still struggling to sustain a course of action that will achieve the desired results.[1] Yet these are deadlines and results that no one can afford to miss.

In particular, ministers of health all over the world are facing unprecedented challenges as they seek to become effective stewards of their national health systems. Disease profiles are becoming increasingly diversified and complex, while pressure grows to develop health systems that respond to the needs and expectations of the population with equity, quality, and financial protection for all.

For almost 6 years, Mexico has been immersed in a process of transformation of its health system that may hold important lessons for other developing nations. Mexico is a heterogeneous middle-income country with a population of more than 100 million. Its high degree of social inequality means that it represents the gamut of health problems affecting the world. Like most developing countries, Mexico faces a protracted and unequal epidemiological transition[2] that is adding new layers of complexity to the patterns of disease, disability, and death. Through a web of multiple causation, these countries must deal with a double burden of ill health: on the one hand, the unfinished agenda of infections, malnutrition, and reproductive health problems; on the other, the emerging challenges represented by non-communicable diseases (along with their associated risk factors such as smoking and obesity), by mental disorders, and by the growing scourge of injury and violence.[3]

The complexity in health conditions is mirrored by the intricacies in the organisation, financing, and management of health systems. We know that performance of health systems varies hugely between countries, even those with the same level of income and health expenditure.[4] Dependent on such performance, a society may face either a virtuous or a vicious cycle between its level of development and the workings of its health system. The conclusion is clear: policies for health are social choices, and the ways in which they are formulated and implemented matter very much in determining which of these cycles occurs.

The only way to deal with such growing complexity is to go beyond several dichotomies that have become barriers to progress, including the division between vertical and horizontal approaches, between sectoral and intersectoral policies, between analysis and advocacy, and between national and global efforts. In this paper, I examine the way in which a comprehensive reform has explicitly aimed to bridge the divide in each of these false dilemmas.

In the design, implementation, and evaluation of its reform, Mexico has made intensive use of the best available evidence, which has been derived from national analysis and knowledge-related global public goods,[5] such as systematic comparisons of the experiences of other countries, measurement methods, and conceptual frameworks. In particular, Mexico has assimilated lessons from innovations introduced in many other countries around the world, while making its own experiences available to other countries. Clearly, countries cannot simply adopt, but must adapt international experiences to their own specific social, financial, and cultural realities. Yet there is a worldwide search for better ways to address the complex challenges of our times. Because of the gaps in our knowledge, every reform initiative should be seen as an experiment, the effects of which must be documented for the benefit of every other initiative, both present and future. This effort requires a solid investment in research on health systems.[6] Each innovation constitutes a learning opportunity. Not to take advantage of these opportunities condemns us to rediscover at great cost what is already known or to repeat past mistakes. To reform we need to inform, otherwise one is likely to deform. By making

our experience available to the international community, we hope to contribute to a process of shared learning among countries that will be essential to achieve our common health goals.

New dynamics of poverty and health

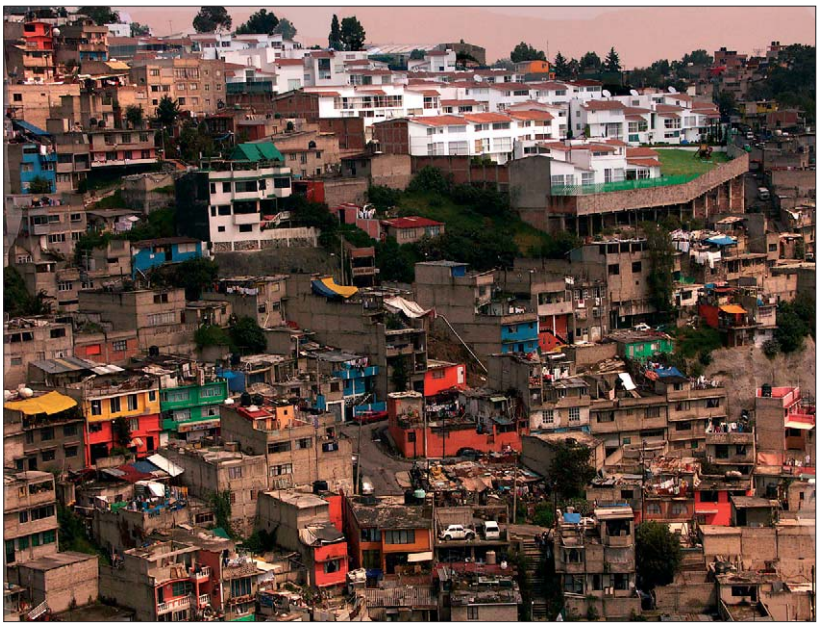
The need for the Mexican reform stemmed from the growing pressures placed on the health system by the double burden of disease. This dynamic process has become familiar to most developing countries. In health we are victims of our own success. The improvement in basic health conditions fuels the epidemiological transition by enhancing the survival of children to reach ages at which non-communicable diseases are more prevalent. Because the rate of this change is unequally distributed between different social groups, populations end up facing the double burden of disease. A reality too often overlooked in the search for equity is that problems only of the poor, like many common infections and malnutrition, are no longer the only problems of the poor, who also have the highest rates of many non-communicable diseases, mental disorders, injury, violence, smoking, obesity, and other risk factors.

In Mexico, as in many other developing countries, the health system had been unable to keep up with the growing financial pressures posed by this double burden. Although social insurance was introduced in 1943, it had been limited to salaried employees in private firms or in public-sector institutions, and to their families. This arrangement excluded the self-employed, the unemployed, and those who were out of the labour market or worked in the informal sector of the economy. The net result was that by 2000, half of Mexican families, most of them poor, had no social protection against the financial consequences of ill health.

Similar realities throughout the developing world are posing an unacceptable paradox: even though better health is one of the most effective ways of fighting poverty,[7] medical care can itself become an impoverishing factor for families when a country does not have the social mechanisms to assure fair financing that protects the entire population.

Panos Pictures

Raising the flag on the Zocalo, Mexico City



Still Pictures

Rich and poor homes, Mexico City

Empowerment through evidence

The reform of the Mexican health system was designed to correct such a paradox. It did so by investing heavily in the generation and application of relevant knowledge, in what is probably a textbook case of evidence-based policy.[8] Indeed, the combination of internationally adopted methods of measurement with national analysis revealed critical realities that required solutions. Thus, the calculation of national health accounts showed that more than half the total expenditure in Mexico was out-of-pocket.[9] This situation proved to be a direct result of the fact that, as previously mentioned, about half the population had no health insurance.[10] Furthermore, out-of-pocket expenditures were shown to be regressive, since they represented a higher proportion of income in poor households than in richer ones.[11]

These findings were unexpected, because the Mexican health system was generally assumed to be based on public funding. Instead, the analysis for 2000 revealed that in one trimester almost 1·5 million households had an economic catastrophe, were driven below the poverty line, or were forced deeper into poverty by out-of-pocket spending.[12,13] In this way, sound evidence made the public aware of a reality that had hitherto been outside the policy debate—namely, that health care itself could become a direct cause of impoverishment. Other studies have shown a similar situation for most developing countries, in which every year hundreds of millions of people fall into a poverty

Reuters

Mexican women wait for health service cards given out at clinic in southern town of Metlatonoc

trap because they do not have social protection against the financial consequences of illness.[14,15]

In the case of Mexico, this realisation shifted the agenda by generating a different perspective on the operation of the health system. Policymakers extended their focus to include financial issues that proved to have a great effect on the provision of health care and on poverty in Mexican households.

Another global public good that helped to make the local case for reform was the WHO framework for the assessment of health-systems performance.[16] This framework highlighted fairness of financing as one of the intrinsic goals of health systems. As a result of its high degree of out-of-pocket spending, Mexico did very poorly on the international comparative analysis of fair financing. Instead of generating a defensive reaction, this poor result spurred detailed country-level analysis in 2001 that showed that catastrophic expenditures were concentrated in poor and uninsured households. Such analysis was based on data from the national income and expenditure surveys for Mexico—yet another global public good. These surveys are produced by many countries in the world, and provide homogeneous datasets that are very valuable for cross-national comparisons, but they have not been fully exploited for health-policy formulation.

From evidence to action

The careful interplay between national and international analyses generated the advocacy instruments to promote a major legislative reform to establish a system of social protection in health, which was approved by a large majority from all political parties in the Mexican Congress. Having come into effect on Jan 1, 2004, the new system will gradually expand to protect 12 million uninsured families (close to 50 million individuals) over 7 years, thus achieving universal coverage by 2010. The vehicle for achieving this aim is a public, voluntary scheme called Popular Health Insurance, or *Seguro Popular*. Although the transition period may seem ample, it demands a major organisational effort to enrol 1·7 million families per year. Now in its third year of implementation, the *Seguro Popular* has elicited an enthusiastic response from the population, so that by the end of 2006 it will have enrolled the targeted 5·1 million families (about 22 million people).[17]

To ensure that such an expansion of coverage is adequately funded, the reform introduces a new financial scheme based on explicit costing of entitlements. In this way, the law now stipulates a budgetary obligation to meet the expected demand from each enrolled family. The net result is that public funding will increase by a full percentage point of the gross domestic product over 7 years, mostly from federal general taxes supplemented by state-level contributions. This growth in funding is affordable, since the starting point for total health expenditure was a mere 5·6% of gross domestic product in the year 2000, a level that was insufficient to deal with the pressures posed by the double burden of disease.

The financial benefits of the reform are already becoming evident. From 2001 to 2003, public-health expenditure per-head for the uninsured population was growing at an average rate of only 5·2% per year in real terms—not enough to keep up with the pace of the demographic and epidemiological transitions. By contrast, during the first 3 years of the reform (2004–06), the real average growth rate has more than doubled to 12·3% per year. According to the new legal provisions, such a rate is projected to be sustained at close to 10% per year until 2010. Thanks to the reform, during the present administration, the budget of the Ministry of Health has more than doubled, which translates into a real increase, after discounting inflation, of 69%.[18]

The additional funding is spearheading a major effort to realign incentives throughout the health system. Enrolment in the new scheme is now the basis for allocating federal funds to states, which are responsible for the delivery of services. In this way, the old model of bureaucratic budgeting, which subsidised providers without regard to performance, is being replaced by democratic budgeting, whereby money follows people to assure the best balance between quality and efficiency.

To achieve this aim, the macro-level financial reform is being complemented by a micro-level management reform, which is strengthening delivery capacity through a series of specific interventions, such as long-term planning of new facilities, technology assessment, efficient schemes for drug supply and rational prescription practices, human resource development including managerial training, outcome-oriented information systems, facility accreditation, provider certification, quality improvement in the technical and the interpersonal dimensions of care, and performance

benchmarking in states and organisations. These aspects of the health system have needed extraordinary strengthening to better serve the poorest populations living in the most marginalised areas. Additionally, they are all are critical components of the stewardship role that ministries of health must fulfil with increasing proficiency.

Entitlements and priorities

The element that brings together the financial and the managerial reforms is a specific package of benefits, which has been designed with cost, effectiveness, and social acceptability as the guiding criteria. Apart from serving as a priority-setting method, the package is a means of empowering people by making them aware of their entitlements and is also a key instrument for accountability on the part of providers.

An antecedent to this approach was an innovative initiative implemented in the mid-1990s to enhance the basic capabilities of families living in extreme poverty. Initially called *PROGRESA* and later renamed *Oportunidades*, this programme creates incentives for families to invest in their children's human capital through cash transfers that are provided on the condition that families fulfil particular elements of co-responsibility, such as sending children to school rather than work, providing them with a specially formulated nutritional supplement, and attending a clinic to receive a specified package of interventions for health promotion and disease prevention. These interventions include basic sanitation, reproductive health, nutritional and growth surveillance, and specific prevention measures mostly for communicable diseases, but increasingly also for high blood pressure, diabetes, and injury. From its inception, the programme has had an evaluation component that has been robust enough to attribute substantial improvements to the various interventions and has also generated evidence to fine-tune implementation.[19,20]

However, even as *Oportunidades* was proving its value in reducing poverty and improving health, the beneficiaries were experiencing new disease burdens, while their expectations for higher quality of care were growing. Ironically, a substantial proportion of the cash transfer received by poor families from *Oportunidades* was being used to finance care that was not included in the initial basic package of interventions, which was mostly focused on the pre-transitional pattern of disease burden.

On the basis of the successful platform provided by *Oportunidades*, social protection for poor families needed to be expanded through *Seguro Popular*. The net result has been a remarkable increase in the scope of benefits. From the original *Oportunidades* basic package of only 13 interventions, the *Seguro Popular* now encompasses more than 250, which include all interventions at the primary and secondary levels of care.

Searching for the diagonal

The explicit package of benefits provides a means to bridge the divide represented by one of the artificial dichotomies mentioned previously—namely, between the vertical approach focusing on specific disease priorities, and the horizontal approach aimed at strengthening the overall structure and functions of the health system. To go beyond this false dilemma, we need to extend the geometry metaphor and search for what has been called the diagonal[21]—a strategy in which explicit intervention priorities are used to drive the necessary improvements into the health system.[22]

The comprehensive package of benefits of the *Seguro Popular* serves as a tool to implement the diagonal approach by strengthening overall health system capacity through clearly identified priorities. Efforts to

Still Pictures

Visiting teacher discussing sexual health with fifth form students, Mexico City

Reuters

HIV-positive Mexicans protest outside the Mexican Institute for Social Security to demand that the government provide antiretroviral drugs, 2001

reduce maternal mortality illustrate this point. Having already achieved greater than 95% coverage with one of the most complete immunisation schedules in the world, the next frontier for equity was to close the social gaps in maternal mortality—the Millennium Development Goal for which Mexico needs to improve the most. Therefore, a special initiative was launched to address this top priority by focusing the various financial and managerial components of the reform on a set of community and hospital-based interventions. Initial evaluations reveal an important acceleration in the rate of decline of maternal mortality, from an average reduction of only 1·8% per year between 1990 and 2000 to 3·9% per year between 2000 and 2005. Clearly, this positive result might be attributable to other factors as well as the special initiative, yet the net outcome is that the faster pace of progress during the past 5 years translates into a 20% reduction in the absolute number of maternal deaths.[23]

In addition to primary and secondary level interventions, the budgetary increases during the 7-year phase-in stipulated in the new law allow for the coverage of an expanding set of high-cost interventions, defined through a transparent and collective priority-setting mechanism. The most dramatic example has been the programme against HIV/AIDS. Thanks to the active participation of civil society organisations, between 2000 and 2006 the Mexican Congress has approved a 14-fold growth in the budget devoted to this programme. The additional resources have been used to sustain a strategy based on three pillars: prevention, campaigns against discrimination, and universal access to comprehensive treatment including antiretrovirals. AIDS treatment has been targeted for a special track of accelerated universal coverage. Thus, every uninsured person in need of treatment is eligible for immediate enrolment into the *Seguro Popular*. Whereas in 2000 the Ministry of Health was providing antiretroviral therapy to only 2386 uninsured people, at present 15750 patients receive treatment free of charge, along with the rest of the benefits of the *Seguro Popular*.

The same scheme of accelerated universal coverage applies to childhood cancer (which is already the second cause of death among school-age children),[24] cancer of the cervix (with a 22% drop in mortality among women over 25 years of age since 2000),[25] and cataract surgery (a highly cost-effective solution to the main cause of adult-onset blindness),[26] among other interventions. Each provides yet another opportunity to enhance health-system performance through the attainment of explicit priorities.

Expanded coverage by the *Seguro Popular* is already being reflected in more financial protection for poor families. Comparisons between several rounds of the National Income and Expenditure Surveys show reduction by a third in the number of households from the poorest 20% of the population affected by catastrophic health-care payments.[25]

Still Pictures

Reform of the Mexican health system has included steps to reduce smoking

Protecting investments in prevention

The benefits of the new system are not restricted to curative actions. For the first time in Mexico, the new system has created a separate Fund for Community Health Services, which protects the budget for health promotion and disease prevention interventions. A peril in financial reforms is that enhanced access to curative services might be achieved at the expense of the budget for community-based interventions, which often do not generate spontaneous demand by the public. The separate fund was established to avoid this type of distortion, which adds to the cost of curative care by neglecting cost-effective programmes for prevention and early detection. A complementary instrument is a scheme of health cards with a gender and life-course perspective, which records necessary preventive measures for each age and sex group. In fact, compliance with these measures is a co-responsibility requirement for enrolment into the new insurance scheme.

The renewed emphasis on prevention is yielding positive results for both components of the double burden of disease. On the side of the unfinished agenda, top priorities have included tuberculosis (with a 30%

Panel: **The ABCDE of successful reform**

Agenda

The first ingredient for success is to advance the health agenda amidst competition for attention and public resources. Especially in their interaction with ministers of finance, health officials can make use of global evidence showing that, in addition to its intrinsic value, a well-performing health system contributes to the overall welfare of society by relieving poverty, improving productivity, increasing educational abilities, developing human capital, generating employment, protecting savings and assets, enhancing competitiveness, and directly stimulating economic growth with a fairer distribution of wealth.

Budget

By placing health at the centre of the broader development agenda of a country it is possible to endow it with the degree of priority that it deserves. Such priority enhances the negotiating power of ministers of health in their quest for increased budgetary support. In too many developing countries, current investment is simply not enough to face the growing demands placed on health systems by the double burden of disease. The Mexican experience shows the value of legislating specific entitlements and the associated resource requirements. Use of evidence on the value of health for development can help convince policy makers to mobilise more money for health, but the capacity to deliver more health for the money must also be demonstrated (Ramalingaswami V, personal communication).

Capacity

There is no substitute for long-term investments in capacity building. These efforts should be focused on two main areas. The first refers to health-service delivery, through investments in physical infrastructure and, most importantly, in human resources. The second has to do with the development of institutions that can undertake the necessary research to generate sound evidence for policy. In Mexico, the current reform has reaped the benefits of 20 years of sustained efforts to establish and nurture organisations such as the National Institute of Public Health and the Mexican Health Foundation. These centres of excellence have produced relevant research and policy analysis, trained researchers who occupy key policy-making positions, and done independent and credible evaluations.

Deliverables

A key ingredient to garner public support for a reform is to identify and communicate its specific benefits. The best way to do so is to focus on priority diseases and risk factors. In this way, the public can link abstract financial and managerial notions to concrete deliverables. A fundamental lesson from the Mexican experience is that health-system capacity can be built up through the scale-up of effective preventive and therapeutic interventions against specific priority problems.

Evidence

Evidence derived from scientific knowledge has an empowering effect to transform health systems. There is a growing international consensus that the creation and diffusion of knowledge is one of the major driving forces for health progress.[33,34] While research is a value in itself, an essential part of culture, knowledge also has an instrumental value as a means to improve health. This improvement is achieved through three mechanisms. First, and most obviously, knowledge gets translated into new and better technologies, such as drugs, vaccines, and diagnostic methods. Second, knowledge is also gained by individuals, who use it to structure their everyday behaviour in key domains like personal hygiene, feeding habits, sexual behaviour, and child-rearing practices. In this way, knowledge can empower people to modify their lifestyles and promote their own health. The power derived from knowledge also allows individuals to become informed users of services and citizens conscious of their rights. Third, knowledge becomes translated into evidence that provides a scientific foundation for decision-making both in the delivery of health services and in the formulation of public policies.

reduction in mortality over the past 5 years attributable to improvements in case detection and treatment success), malaria (60% reduction in the number of cases), cervical cancer (32% increase in Pap smears, with the highest rate of growth among poor women), and child survival.[25] Notably, of the 60 priority countries identified by UNICEF, Mexico is one of the seven that are on track to meet the Millennium Development Goal for child survival.[27]

On the side of the emerging challenges, results can be assessed through two National Health and Nutrition Surveys, done in 2000 and in 2005–06, which include detailed questionnaires on use of services as well as clinical and laboratory measurements. During the period between the two surveys (which corresponds to the present administration), there has been a major increase in the use of early detection services for several non-communicable diseases, most notably hypertension (52% increase in blood-pressure measurement) and breast cancer (71% increase in the use of mammography).[28]

Healthy policies

Preventive actions should be part of a strategy to bridge yet another divide, in this case between sectoral and intersectoral policies. Indeed, a key component of the

stewardship role that must be undertaken by ministers of health is to mobilise all instruments of public policy, not just the ones under their direct control. Health cannot be seen simply as a specific sector of public administration, but must be understood as a social objective. Therefore, to develop health policies in the strict sectoral sense is not enough; we also need healthy policies that mobilise interventions from other sectors, to pursue the social objective of better health.

For this reason, the Mexican reform has included an unprecedented effort to strengthen environmental health services, regulatory actions to protect the public, and more generally the set of intersectoral interventions that define a healthy policy capable of modifying the broader determinants of disease. To do so, the Ministry of Health has undergone a major reorganisation leading to the establishment of a new public-health agency charged with protection against health risks through food safety, definition of environmental and occupational standards, regulation of the pharmaceutical industry, and control of hazardous substances such as alcohol and tobacco. Smoking, in particular, has been the subject of a comprehensive policy that has included a steep increase in excise taxes, a ban on publicity in electronic media, a substantial increase in the size of warning labels on cigarette packs, and a seven-fold growth in the number of smoking cessation clinics. As a consequence, comparison of the two National Health and Nutrition Surveys shows a 17% reduction between 2000 and 2005 in the proportion of male teenagers who smoke.[28] Additional public-health investments have centred on enhancing human security through epidemiological surveillance and improved preparedness to respond to disease outbreaks, disasters, and pandemics.

Global public goods for local decision-making

The assessment experience gathered by the *Oportunidades* programme is being applied to the current health-system reform. In addition to its technical aspects, rigorous evaluation has political value to assure the continuity of innovations through changes in administration. In the case of *Oportunidades*, scientific evidence persuaded the present government not only to continue with the programme, but also to expand it. The encouraging results shown by the continuing assessment of *Seguro Popular* will hopefully serve once again to maintain the reform through the change of government scheduled for the end of 2006.

A hallmark of the Mexican experience has been a substantial investment in research to design the reform, monitor progress towards its implementation, and assess its results. This is a clear example of the possibility of use of science to promote social change by harmonising two core values of research: scientific excellence and relevance to decision-making.[29]

The Mexican case also shows that the dilemma between local and global research is a false one—yet another divide to be bridged. The process of globalisation can turn knowledge into an international public good that can then be brought to the centre of the domestic policy agenda to address a local problem.[30] Such application, in turn, feeds back into the global pool of experience, thus generating a process of shared learning between countries.[31] Assuring that this virtuous process actually takes place is an essential function of WHO, which it fulfils by mobilising international collective action for the common good of all countries.[32]

The ABCDE of successful reform

The Mexican experience provides a wealth of lessons that can be summarised in five elements (panel). It shows the possibility of bridging one more divide: between analysis and advocacy. As Donabedian has stated: "…the world of ideas and the world of action are not separate, as some would have us think, but inseparable parts of each other. Ideas, in particular, are the truly potent forces that shape the tangible world".[35]

The path is clear: sound evidence must be the guiding light for designing, implementing, and evaluating programmes in national governments, bilateral aid agencies, and multilateral organisations. This is the path that will lead to more equitable development through better policymaking for health.

Conflict of interest statement

J Frenk is the Minister of Health for Mexico and as such has led the design and implementation of the reform process described in this paper.

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